

# National Studies on Assessing the Economic Contribution of the Copyright-Based Industries



Creative Industries Series No. 1



WORLD  
INTELLECTUAL  
PROPERTY  
ORGANIZATION



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## Preface

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Dr. Kamil Idris  
Director General  
of WIPO

The creative sector today has firmly established itself as a vital component of our lives, contributing substantially to economic, social and cultural development. Research has provided solid evidence of the growing importance worldwide of the creative industries, which are deeply rooted in copyright protection. While contributing to cultural diversity and the enhancement of social values these industries are at the same time generating wealth, creating jobs and promoting trade. The true value and potential of the creative sector have often been underestimated and insufficiently analyzed.

Mindful of this growing trend, the World Intellectual Property Organization (WIPO) published in 2003 a *“Guide on Surveying the Economic Contribution of the Copyright-Based Industries”*. The Guide summarized existing experiences in assessing the economic contribution of the copyright-based industries to national economies and offered guidelines to those studying the creative outputs in economic terms. While the intention of the *Guide* was to produce a harmonized approach to economic surveys in this field, it goes further in providing governments, research institutions and civil society in general with a practical tool to independently evaluate the contribution of their copyright sector.

This first publication in the Creative Industries series presents the results of five national studies, representing the contribution of the creative sector in Singapore, Canada, Latvia, the United States of America and Hungary. The surveys were carried out on the basis of the recommendations contained in the WIPO *Guide*. The results in all five countries speak for themselves. The reader will find convincing evidence of the substantive contribution of copyright-based activities to economic growth.

Countries from different continents have engaged in similar surveys, which will be published in future publications in the Creative Industries series. The experience gained in this process will be used to adapt the recommendations to different country situations and provide additional practical advice to future research. I highly recommend this first WIPO collection on the subject of the importance of the intellectual property system for economic development.

A handwritten signature in black ink, appearing to be 'Kamil Idris', written in a cursive style.

Dr. Kamil Idris  
Director General  
of World Intellectual  
Property Organization

May 2006



# The Economic Contribution of Copyright-Based Industries in Singapore

THE 2004 REPORT

COPYRIGHTS INDUSTRIES THE SINGAPORE REPORT 5

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October 2004

The IP Academy was established in January 2003 to be the focal point for Singapore's education and research in the field of IP. It plays a key role in developing and broadening knowledge and capabilities in IP creation, exploitation, protection and management, via two key strategies:

The first is to provide continuing education and lifelong learning opportunities for IP professionals, business organizations, research institutions, and other IP creators and users in Singapore and the region.

The second is to undertake quality interdisciplinary research on IP to provide unique commercial insights on IP issues to industry and businesses to improve their ability to protect, manage and exploit IP, and to support both local and regional development of best practices and policy in relation to IP issues and rights.

It has also formed various strategic local and international partnerships with established IP institutions, bringing together IP expertise from industry, academia and private practice to exchange ideas on IP.

# Economic Contribution of Copyright-Based Industries in Singapore

## *Executive Summary*

The development of copyright based industries and their contribution to the economy have been of much interest to researchers as evidenced by the increasing number of studies in recent times. One of these is a cross-disciplinary project jointly commissioned by the IPA (IP Academy of Singapore) and IPOS (Intellectual Property Office of Singapore) in November 2003 to NUS Consulting to conduct a pilot study applying WIPO's new framework for estimating the economic contribution of copyright based industries in Singapore in terms of output, value added, employment and foreign trade.

The study found that in 2001 Singapore's copyright based industries generated S\$30.5 billion of output and S\$8.7 billion of value added. This amounted to 5.7% of GDP. Employment in these industries stood at 118,600 or 5.8% of Singapore's workforce. The size of GDP of the copyright based industries was close to that of the construction industry which produced S\$9.3 billion in value added, amounting to 6% of Singapore's GDP. Productivity in copyright based industries was estimated at S\$73,597 of value added per worker, which was almost the same as the national average of S\$75,281. Foreign trade generated by copyright based industries in terms of domestic exports of copyrighted goods and materials was S\$3.5 billion or the equivalent of 2.3% of GDP.

Stronger growth than the economy's average annual rate of 7.6% was noted in the copyright based industries, giving an average of 8.9% per annum in real value added from 1986 to 2001. Consequently, the contribution of the copyright based industries to Singapore's GDP expanded from 4.7% to 5.7% over the same 15-year period. Employment in the copyright based industries also

expanded faster than in the overall economy, averaging 5.2% per annum versus 3.5% for national-wide employment. The relative share of copyright based employment thus rose from 4.6% to 5.8% over the 15-year period.

The copyright based industries appear to be more volatile than the overall economy as a 1.9% decline in GDP between 2000 and 2001 corresponded to a 9.5% drop in the value of the copyright based industries. This phenomenon could be substantiated through future research on a regular basis.

The group of nine core copyright industries was analyzed for its linkages with the rest of the Singaporean economy. The estimated output multiplier of the core copyright industries is 1.7661, of which 0.6685 comprised the direct and indirect value added from one unit increase in output of core copyright industries. Every S\$1 million of core copyright output would provide employment for 6 persons directly and 5 persons indirectly in ancillary activities, giving an employment multiplier of 11.

As a group, the core copyright industries have a greater impact on the economy - in terms of generation of output, GDP and jobs - than an average industry as reflected in their multipliers which are above the national averages. Among the core copyright industries, the industry encompassing music, theatrical production and opera has the second highest output multiplier (2.0840), and the highest value added (0.8630) and employment (26) multipliers.

It is hoped that this pilot study, adopting WIPO's comprehensive framework, will provide the essential impetus for future studies along similar lines, thereby enabling meaningful comparative analyses of copyright based industries across countries or economies. The study findings will also serve as vital inputs for decision-making on the importance of copyright activities as a key driver for the continued economic and social growth of Singapore.



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## I. Introduction

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### A. Background

The creation of knowledge in a competitive new age economy depends to a large extent on the copyright protection of intellectual property. Copyright laws are necessary for holders to derive an economic benefit through the utilization of their works. Copyright protection aims to optimize resource allocation efficiency, thereby enhancing the welfare and growth of a nation. Prospective creators are encouraged in the development and transfer of their works to the industries requiring them.

The interaction between law and economics has often been of interest to scholars. The importance of copyright based industries has been recognized by a growing number of international studies conducted in recent times. Copyright and other related rights are defined in each country's legislatures which are mostly consistent with the provisions provided within the Berne Convention. Copyright is defined as "the rights in literary and artistic works" and is an important aspect of intellectual property for it encompasses every form of production in the literary, scientific and artistic form regardless of mode or expression. The concept of copyright protection is only afforded to the expression of the idea and not the idea itself.

To raise awareness of the importance of copyright based industries in Singapore, IPA (Intellectual Academy of Singapore) and IPOS (Intellectual Property Office of Singapore) jointly commissioned NUS Consulting in November 2003 to conduct the first pilot study applying WIPO's new framework for estimating the economic contribution of copyright based industries in Singapore. The study was conducted with the technical assistance of Professor J J M Theeuwes of the Netherlands and Senior Counselor Dimiter Gantchev of WIPO (World Intellectual Property Organization).

### B. Objective

The study aims to measure the relative size of copyright activities in Singapore. It encompasses the following:

- A brief description of the copyright laws in Singapore;
- The estimated economic contribution of copyright based industries to the Singaporean economy in terms of output, value added and employment from 1986 to 2001;
- Foreign trade in copyrighted goods and materials;
- Comparison with other international studies; and
- Linkages of core copyright industries with the rest of the economy, as measured by their direct and indirect economic impact in terms of output, value added and employment, based on input-output methodology.

### C. Scope

#### 1. Copyright-Based Industries

WIPO (World Intellectual Property Organization) has defined copyright-based industries comprehensively and grouped them into four main categories by degree of dependence on copyright activities as discussed below. A total of 29 industries is identified in the four categories (Table IC.1). This study applied WIPO's methodology and measured the economic contribution of these industries in terms of output, value added, employment and foreign trade. Except for the core copyright industries where the copyright output is 100%, copyright factors<sup>1</sup> were used to apportion the share of copyright in each of the non-core copyright industries.

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<sup>1</sup> Copyright factors are ratios that reflect the percentage of copyright activities in the industry's output and are estimated through a combination of interviews, surveys and numerical methods.

(i) Core Copyright Industries

These are industries primarily involved in the creation, manufacture, production, broadcast and distribution of copyrighted works and have a substantial level of copyright activity. Alternatively, they could be defined as industries that would not be in existence if not for their copyright subject matter. These industries are substantially involved in copyright activities and divided into nine separate industries. Examples of industries in the core copyright group are the press and literature, software and databases, and motion picture and video industries.

(ii) Interdependent Copyright Industries

Industries involved in the manufacture, performance, broadcast and communication in order to support and facilitate the creation of copyrighted works and other protected subject matter, belong to this group. An example would be the transmission of entertainment programmes through television. The level of copyright activity in these interdependent copyright industries is significant. Examples of the seven industries in this group are: computers and equipment and TV and radio industries.

(iii) Partial Copyright Industries

These industries are characterized by a portion of the activities which are related to copyright through manufacture, performance, exhibition, broadcast, communication or distribution and sales. The partial copyright group consists of nine industries. Examples of partial copyright industries are furniture, architecture, engineering and surveying and jewelry and coins.

(iv) Non-Dedicated Support Industries

Industries where part of the activities are related to broadcast, communication, distribution and sales in protected subject matter and not included in the core copyright industries belong to this group. Also known as the distribution industries, examples of three industries in the non-dedicated support group are the general wholesale and retail trade and general transportation industries.

**Table IC.1:** Composition of Singaporean Copyright-Based Industries  
(WIPO Methodology<sup>2</sup>)

Core Copyright (9)	Interdependent Copyright (7)	Partial Copyright (10)	Non-Dedicated Support (3)
<p><b>a. Press and Literature</b></p> <ol style="list-style-type: none"> <li>1. Authors, writers, translators</li> <li>2. Newspapers</li> <li>3. News and feature agencies</li> <li>4. Magazines/periodicals</li> <li>5. Book publishing</li> <li>6. Cards, maps and other published materials</li> <li>7. Pre-press printing of books, magazines, newspapers, advertising materials</li> <li>8. Wholesale and retail of press and literature (bookstores and newsstands)</li> <li>9. Libraries</li> </ol> <p><b>b. Music, Theatrical Productions and Opera</b></p> <ol style="list-style-type: none"> <li>1. Composers, lyricists, arrangers</li> <li>2. Printing and publishing of music</li> <li>3. Production and manufacturing of music</li> <li>4. Wholesale/Retail of music</li> <li>5. Artistic/literary creation and interpretation</li> <li>6. Performance and allied agencies</li> </ol> <p><b>c. Motion Pictures and Video</b></p> <ol style="list-style-type: none"> <li>1. Writers, directors, actors</li> <li>2. Motion Picture and Video production and distribution</li> <li>3. Motion Picture exhibition</li> <li>4. Video rental and sales</li> <li>5. Allied services</li> </ol> <p><b>d. Radio and Television</b></p> <ol style="list-style-type: none"> <li>1. National Radio and broadcasting companies</li> <li>2. Other Radio and Television broadcasters</li> <li>3. Independent producers</li> <li>4. Cable television (systems and channels)</li> <li>5. Satellite television</li> <li>6. Allied services</li> </ol> <p><b>e. Photography</b></p> <ol style="list-style-type: none"> <li>1. Studio and Commercial Photography</li> <li>2. Photo agencies and libraries</li> </ol> <p><b>f. Software and Databases</b></p> <ol style="list-style-type: none"> <li>1. Programming, development and design, manufacturing</li> <li>2. Wholesale/Retail of prepackaged software</li> <li>3. Database processing and publishing</li> </ol> <p><b>g. Visual and Graphic Arts</b></p> <ol style="list-style-type: none"> <li>1. Artists</li> <li>2. Art galleries and other wholesale and retail</li> <li>3. Picture framing and other allied services</li> <li>4. Graphic Design</li> </ol> <p><b>h. Advertising Services</b></p> <p><b>i. Copyright Collecting Societies</b></p>	<p><b>a. TV sets, Radios, VCRS, CD Players, Cassette Players, Electronic Game Equipment and other similar equipment</b></p> <ol style="list-style-type: none"> <li>1. Manufacture of television, radio receivers and associated goods</li> <li>2. Wholesale of radio and television sets, sound reproducing and recording equipment except electrical and electronic components</li> <li>3. Retail sale of radio, television sets, sound reproducing and recording equipment</li> </ol> <p><b>b. Computers and Equipment</b></p> <ol style="list-style-type: none"> <li>1. Manufacture of computing and data processing equipment, accessories, and peripheral equipment</li> <li>2. Wholesale of computer hardware and peripheral equipment</li> <li>3. Wholesale of computer accessories</li> </ol> <p><b>c. Musical Instruments</b></p> <ol style="list-style-type: none"> <li>1. Wholesale of musical instruments, record albums, cassette tapes and laser discs</li> <li>2. Retail sale of musical instruments, record albums, cassette tapes and laser discs</li> </ol> <p><b>d. Photographic and Cinematographic Instruments</b></p> <ol style="list-style-type: none"> <li>1. Manufacture of optical instruments and photographic equipment</li> <li>2. Wholesale of photographic equipment and supplies</li> <li>3. Retail sale of cameras and other photographic goods</li> </ol> <p><b>e. Photocopiers</b></p> <ol style="list-style-type: none"> <li>1. Manufacture of photocopying equipment</li> <li>2. Wholesale of office machines and equipment</li> </ol> <p><b>f. Blank Recording Material</b></p> <ol style="list-style-type: none"> <li>1. Manufacture of blank magnetic tapes, diskettes and cds</li> <li>2. Retail sale of blank recording material in household appliances and equipment</li> </ol> <p><b>g. Paper</b></p> <ol style="list-style-type: none"> <li>1. Manufacture of pulp, paper and paperboard</li> <li>2. Wholesale of other intermediate products, waste and scrap</li> <li>3. Retail sale of paper and other crafts</li> </ol>	<p><b>a. Apparel, textiles and footwear</b></p> <ol style="list-style-type: none"> <li>1. Manufacture of wearing apparel except fur apparel</li> <li>2. Manufacture of made-up textile articles except apparel</li> <li>3. Manufacture of footwear</li> <li>4. Wholesale of textiles, clothing, footwear and leather goods</li> <li>5. Retail sale of textiles, clothing, footwear and leather goods</li> </ol> <p><b>b. Jewelry and coins</b></p> <ol style="list-style-type: none"> <li>1. Manufacture of jewelry and related articles except custom jewelry</li> <li>2. Wholesale of other household goods</li> <li>3. Other retail sale in specialized stores</li> </ol> <p><b>c. Other crafts</b></p> <ol style="list-style-type: none"> <li>1. Retail sale of paper and other crafts</li> <li>2. Wholesale of handicrafts and fancy goods</li> </ol> <p><b>d. Furniture</b></p> <ol style="list-style-type: none"> <li>1. Manufacture of furniture and fixtures</li> <li>2. Wholesale of furniture and fittings</li> <li>3. Renting and leasing of furniture and other household equipment</li> </ol> <p><b>e. Household goods, china and glass</b></p> <ol style="list-style-type: none"> <li>1. Manufacture of household goods and glass</li> <li>2. Manufacture of knitted and crocheted fabrics and articles</li> <li>3. Manufacture of rattan processing and other products of wood</li> </ol> <p><b>f. Wall coverings and carpets</b></p> <ol style="list-style-type: none"> <li>1. Manufacture of wall coverings and carpets</li> <li>2. Manufacture of other articles of paper and paperboard</li> <li>3. Other retail sale in specialized stores</li> </ol> <p><b>g. Toys and games</b></p> <ol style="list-style-type: none"> <li>1. Manufacture of toys and games</li> <li>2. Wholesale of toys and games</li> <li>3. Retail sale of toys and games</li> </ol> <p><b>h. Architecture, engineering, surveying</b></p> <p><b>i. Interior design</b></p> <p><b>j. Museums</b></p>	<p><b>a. General wholesale and retailing</b></p> <ol style="list-style-type: none"> <li>1. Wholesale trade and commission trade, except of motor vehicles and motorcycles</li> <li>2. Wholesale of household goods</li> <li>3. Wholesale of machinery, equipment and supplies</li> <li>4. Other wholesale</li> <li>5. Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods</li> <li>6. Non-specialized retail trade in stores</li> <li>7. Other retail trade of new goods in specialized stores</li> <li>8. Retail trade not in stores</li> </ol> <p><b>b. General transportation</b></p> <ol style="list-style-type: none"> <li>1. Transport via railways</li> <li>2. Other land transport</li> <li>3. Water transport</li> <li>4. Air transport</li> <li>5. Cargo handling</li> <li>6. Storage and warehousing</li> <li>7. Other supporting transport activities</li> <li>8. Activities of travel agencies and tour operators</li> <li>9. Activities of other transport agencies</li> <li>10. National post activities</li> <li>11. Courier activities other than national post activities</li> </ol> <p><b>c. Telephony and internet</b></p> <ol style="list-style-type: none"> <li>1. Telecommunications</li> </ol>

<sup>2</sup> Adapted from WIPO, "Guide on surveying the Economic Contribution of the Copyright-Based Industries", Publication No. 893(E) pp 75-80



## D. Methodology

### 1. Data

#### (i) Data Collection

Official data series were purchased from both DOS (Department of Statistics, Singapore) and EDB (Economic Development Board of Singapore). The use of national statistics was regarded as the primary source of data, supplemented by unofficial industrial data.

#### (ii) Selection of Data Period

The years selected for analysis ranged from 1986 to 2001. The time period selected was based on the following elements:

- 1987 marked the incorporation of the Copyright Act in Singapore and it would be more interesting to measure copyright activities with the above-mentioned Act in force.
- 2001 was the most recent year for which industrial statistics were available at the commencement of the study.
- Observations of short-term cyclical changes and long-term trends were important.

#### (iii) SSIC Classification System

The industrial classification used in WIPO's framework was based on the ISIC (International Standard Industrial Classification), which relied on the United Nation's classification of industrial activities. Singapore has its own SSIC (Singapore Standard Industrial Classification) and these activities are classified from a list representing general industrial activity to the most detailed 5-digit item classification. We shall use wholesale of jewelry as an illustration (Table ID.1).

**Table ID.1:** Example of SSIC Classification System

Classification	Description	Code
Section	Wholesale and retail trade	G
Division	Wholesale trade and commission trade	50
Group	Wholesale of household goods	503
Class	Wholesale of personal effects	5032
Item	Wholesale of jewelry	50321

The SSIC adopted the basic framework and principles of ISIC which ensured the general compatibility when mapping out the required activities embedded in the copyright based industries for Singapore. The priority was first to seek out exact matching of the activities in the SSIC with the ISIC. If this failed, a near equivalent based on the description of activities was accepted even though the classification codes differed.

## 2. Groundwork

### (i) Literature Review

A literature review was first carried out in November 2003 and was essential to a better understanding of the various methods used and results obtained by other international studies. This was fundamental in developing a thorough understanding of the study requirements in relation to WIPO's recommendations.

### (ii) Industry Survey

This was to estimate the degree of copyright activities in the interdependent, partial and non-dedicated support industries. The first mail survey in mid-March 2004 covered 2,000 firms followed by a second round in mid-April 2004 to a further sample of 1,000 firms. The survey questionnaire requested both quantitative and qualitative information, the major aspects being:

- Principal type of business engaged in by the firm
- Turnover in 2002 and number of creative full- and part-time employees
- Receipts/payments for intellectual property in the form of royalties, patents, license fees, and their proportion in turnover/expenditure
- Significance of copyright activities to firm's daily activities.

The respondents' views on the above-mentioned issues were useful in determining the copyright factors. A total of 115 responses (4%) out of 2,887 firms (excluding those undelivered) were received. In light of the level of knowledge required in addressing questions related to copyright activities and the paucity of quantitative information available in most organizations, a third round of the survey was not carried out. Instead interviews were conducted to obtain additional information.

### (iii) Interviews

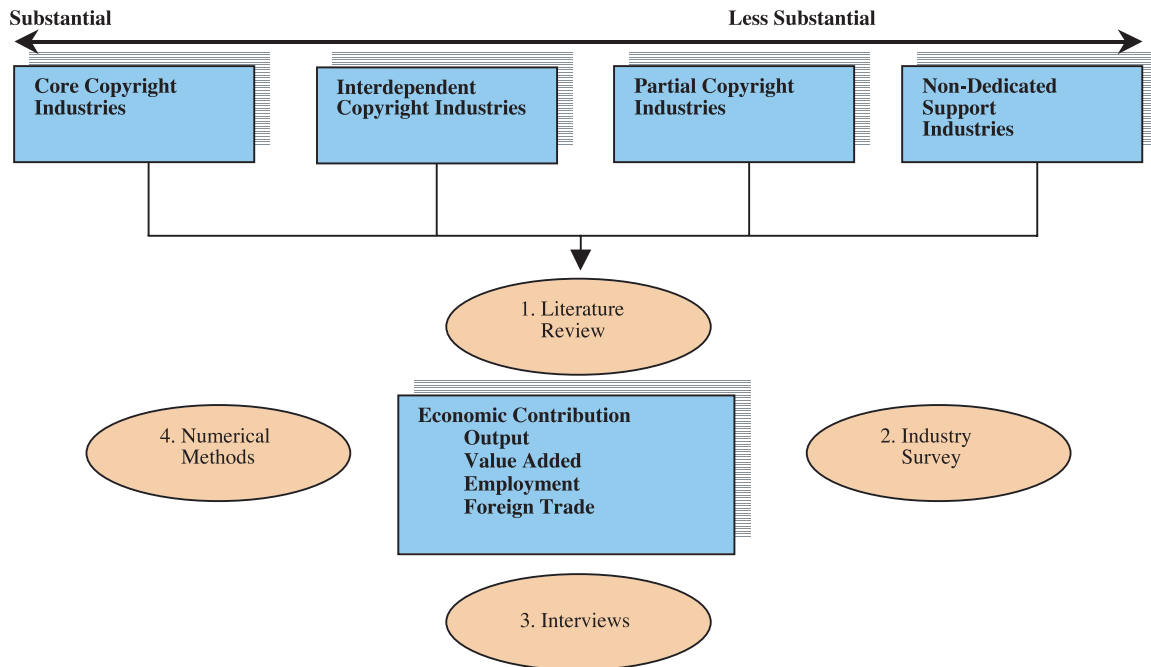
A total of 10 personal interviews were conducted during the two months of May and June 2004 with large companies, especially those in the group of interdependent copyright industries. This was useful in getting an in-depth understanding of the level or degree of copyright activities in these firms.

### (iv) Numerical Methods

Quantitative methods (details of which are provided in the technical notes of Section VI) were applied in combination with the interviews and surveys. This was done to obtain the copyright factors for partial copyright industries and non-dedicated support industries.

Table ID.2 depicts the framework used for estimation of the economic contribution of copyright based industries to the economy.

**Table ID.2:** Estimation of the Economic Contribution of Copyright Activities



**Step 1: Literature Review**

Understanding the importance of copyright industries and their economic contributions from previous studies.

**Step 2: Industry Survey**

Design of questionnaires for surveying smaller-sized companies to derive copyright factors in determining the appropriate level of economic contribution attributable to non-core industries.

- Interdependent Copyright
- Partial Copyright
- Non-Dedicated Support.

**Step 3: Interviews**

Analysis of the involvement of copyright/creative activities and their correlation to the research and development climate of the large companies through in-depth interviews with the various stakeholders.

- Interdependent Copyright
- Partial Copyright.

**Step 4: Numerical Methods**

A combination of numerical methods and intuitive qualitative analysis was utilized to derive copyright factors for the non-dedicated support industries where information and data are scarce. Adoption of factors from previous studies must be adjusted to reflect the characteristics of the Singaporean economy in terms of:

- Manpower Capability
- Infrastructure
- Research and Development Climate.

**Step 5: Economic Contribution**

The economic contribution of the total copyright based industries in Singapore is the aggregate of the core and non-core industries and will be measured by the following four variables:

- Output
- Value Added
- Employment
- Foreign Trade.

Official Data were purchased from the Department of Statistics and Economic Development Board.

### 3. Estimation Issues

#### (i) Estimating Economic Contribution

The economic contribution of the copyright based industries can be estimated on either a broad or narrow basis. The former encompasses both core and non-core copyright industries while the latter would only consist of the core copyright industries and their associated activities. On the other hand, the narrow method would deal only with the issue of horizontal<sup>3</sup> integration while the broad approach would have an added dimension of vertical estimation.

#### (ii) Completeness versus Reliability

Any researcher must face the challenge of determining the measurable parameters of copyright based industries. There is a trade-off between completeness and reliability. As the coverage of copyright based industries enlarges to cover non-core copyright industries, data reliability becomes lower. There might be a tendency to overstate one's findings by including the non-core industries while the reverse might be true if only the core copyright industries were included. This would be even more apparent in countries where the non-core copyright industries form a significant portion of the nation's economy.

#### (iii) A Conservative Approach

A prudent view was highlighted by WIPO which was applied consistently in our study by adopting conservative<sup>4</sup> copyright factors in apportioning the contribution by the non-core industries arising from their involvement in copyright activities. This would maintain credibility in our findings even though it may result in a slight understatement of the significance of copyright based industries.

## E. Organization of Report

The rest of the report is organized as follows:

- Section II describes copyright law in Singapore with its recent trends and developments
- Section III deals with the direct economic contribution, foreign trade of copyrighted goods and comparison of the study findings with other international findings
- Section IV covers the economic impact (direct and indirect) of the core copyright industries and the multipliers through input-output methodology
- Section V provides the conclusions on our findings
- Section VI contains the technical notes and details on the methodologies of the study.

<sup>3</sup> Horizontal estimation depicts the measurable boundaries of what should be measured with respect to each group of industries, i.e. which industries should be included in the core copyright industries. Vertical estimation deals with the segregation of copyright industries by rationale of their function or behavior, i.e. the split between core and non-core copyright industries.

<sup>4</sup> Richard Watt (2004), "A Comment: The Copyright Factors", Review of Economic Research on Copyright Issues, 2004, vol. 1(1), pp 71-78.



## II. Copyright Law Trends and Developments

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### A. *Milestones in the Development of Copyright Law*

The tenth of April, 1710 marked the birth of the first copyright law in the world when the Statute of Anne came into force in the United Kingdom. For the first time, rights were granted to authors; hitherto, the law had only granted limited rights to printers to make copies of specified works which they had generally purchased outright from authors (leaving the latter with no further economic rights in those works). Along with the granting of economic rights to authors, the Statute also introduced the concept of a limited period of monopoly.

Less than two centuries later, the adoption of The Berne Convention for the protection of Literary and Artistic Works in 1886 represented the next milestone in the development of copyright protection: as between contracting states (the Convention being a multilateral treaty) each state would grant copyright protection to the works of the nationals of the other contracting states. The principle of "reciprocity" was born. However, since the Convention was binding only on contracting states -- the USA did not become a party until 1989 -- the recognition of copyrights of foreign nationals, in practical terms, was somewhat watered down.

The next significant milestone on the road to development of copyright protection internationally was the conclusion of the TRIPS Agreement on Trade-Related Aspects of Intellectual Property Rights, 1994. Like the Berne Convention, the principle of "reciprocity" formed the basis of the TRIPS Agreement; the significant difference was that the TRIPS Agreement was binding on all member states of the World Trade Organization, thus giving rights owners the expectation of something more closely approaching worldwide protection.

The TRIPS agreement was primarily an attempt at globalization of intellectual property law, requiring member states to implement certain minimum standards of protection for intellectual property rights, and to extend such protection in favour of nationals of all other member states. With regard to copyright, there were some minimum requirements:

- The copyright term to extend to 50 years after the author's death
- Copyright to be granted automatically without formalities such as registration and renewal
- Computer works to be deemed as literary works and given the same protection as the latter.

Largely driven by the TRIPS Agreement, the last 10 years have seen a significant movement towards greater harmonization of intellectual property laws, including copyright law, amongst the member nations of the WTO.

The trend to provide for intellectual property protection in free trade agreements will certainly contribute to the next phase of development. Most notable is the FTA signed between the US and Singapore in May 2003 which has an IP Chapter that, in some cases, set a standard of protection for intellectual property higher than that required by TRIPS; for example, the duration of copyright protection under this FTA must generally be 20 years longer.

## **B. Copyright Law in Singapore**

### **1. Overview<sup>5</sup>**

The law of copyright in Singapore is governed by the Copyright Act of 1987 (Cap 63). Since it came into force in 1987, the Copyright Act has been amended several times, most recently in 2004 to implement the IP Chapter in the US-Singapore Free Trade Agreement. Its present form bears little resemblance to the Statute of Anne, save that the original concepts of giving recognition to authors and of limiting the period of monopoly still form the cornerstones of the legislation. The provisions in the Copyright Act presently meet, and in some cases exceed, the minimum standards set out in the TRIPS Agreement.

As expressed in the Copyright Act, copyright is fundamentally a set of rights granted to the creators of works. These rights may be exercised only by the creators or with their authority during a specified period of time, and thus allows them to control the commercial exploitation of their works during this time.

### **2. Protection of Authors' and Entrepreneurial Works and Ownership Rights**

Under the Copyright Act, copyright may subsist in two broad categories of works, referred to in this article as "authors' works" and "entrepreneurial works".

Authors' works comprise:

- Literary works (computer programs and compilations are deemed to be literary works)
- Dramatic works
- Musical works
- Artistic works

Entrepreneurial works comprise:

- Sound recordings
- Cinematographic films
- Cable programmes
- Television and sound broadcasts
- Published editions of works

For copyright to subsist in an author's work, it has to be original. There is no requirement of originality in respect of entrepreneurial works. An original work is one created by the author (and not copied from another), employing a certain degree of skill and labour. The originality threshold is fairly low, and the work need not be "creative" in the normally understood sense of the word.

There are no formal registration requirements to secure copyright protection in Singapore. However, in order for a work to enjoy such protection, the required "connecting factors" have to be established. Broadly speaking, the requirement is that of a connection with Singapore, i.e. the work must first be published or made in Singapore, or the author or maker of the work must be a Singaporean citizen or resident. The requirement of a connection with Singapore has now been extended to include a connection with any member state of the World Trade Organization or the Berne Convention.

Ownership of a work generally rests with the author or maker of the work. One notable exception to the general rule is that if a work is made or created in the course of the author's employment, then his employer is entitled to any copyright subsisting in that work. The scope and duration of copyright in the various works are described briefly in Tables IIB.1 and IIB.2 below:

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<sup>5</sup>Collin Ng and Partners, "A Primer on Intellectual Property Rights in Singapore", pp 4-7.

**Table IIB.1<sup>6</sup> : Ownership Rights and Duration in Literary and Artistic Works**

Category	Description	Ownership Rights	Duration of Protection
1. Literary works	<ul style="list-style-type: none"> <li>Written works</li> <li>Lyrics in songs</li> <li>Articles in newspapers and journals</li> <li>Source codes for computer programmes</li> <li>Web pages and content in multimedia productions</li> </ul>	<ul style="list-style-type: none"> <li>Reproduction of the work</li> <li>Publishing the work</li> <li>Performing the work in public</li> <li>Broadcasting the work in public</li> <li>Including the work in cable programme</li> <li>Adaptation of the work</li> </ul>	<ul style="list-style-type: none"> <li>Life of the author plus 70 years</li> <li>If the work is published after death, it will last for 70 years after the original date of publication</li> </ul>
2. Dramatic works	<ul style="list-style-type: none"> <li>Scripts for films and plays</li> <li>Choreographic scripts for shows or dance routines</li> </ul>		
3. Musical works	<ul style="list-style-type: none"> <li>Musical scores</li> </ul>		
4. Artistic works	<ul style="list-style-type: none"> <li>Paintings</li> <li>Sculptures</li> <li>Drawings</li> <li>Engravings</li> <li>Photographs</li> <li>Buildings and models of buildings</li> </ul>		

**Table IIB.2: Ownership Rights and Duration in Other Subject Matter**

Category	Description	Ownership Rights	Duration of Protection
1. Sound recordings	<ul style="list-style-type: none"> <li>Tapes, compact discs or any form of recording</li> </ul>	<ul style="list-style-type: none"> <li>Make a copy of the sound recordings</li> <li>Rent out the sound recording</li> </ul>	<ul style="list-style-type: none"> <li>70 years from the end of the year of the release of the sound recording or film</li> </ul>
2. Cinematograph films	<ul style="list-style-type: none"> <li>Includes videos and digital video discs</li> </ul>	<ul style="list-style-type: none"> <li>Make a copy of the film</li> <li>Cause the film to be seen in public</li> <li>Broadcast the film</li> </ul>	
3. Cable programmes	<ul style="list-style-type: none"> <li>ESPN and HBO networks</li> </ul>	<ul style="list-style-type: none"> <li>Make a recording of the cable programme</li> <li>Broadcast and re-broadcast</li> <li>Cause the broadcast to be seen or heard by a paying audience</li> </ul>	<ul style="list-style-type: none"> <li>50 years from the end of the year of making broadcast or programme</li> </ul>
4. Broadcast	<ul style="list-style-type: none"> <li>Includes satellite and encrypted broadcasts</li> </ul>	<ul style="list-style-type: none"> <li>Make a recording of the broadcast</li> <li>Re-broadcast</li> <li>Include the broadcast in a cable programme</li> <li>Cause the broadcast to be seen or heard by a paying audience</li> </ul>	
5. Published editions of a work	<ul style="list-style-type: none"> <li>Literary, dramatic, musical or artistic works</li> </ul>	<ul style="list-style-type: none"> <li>Exclusive right to make a reproduction of the reproduction</li> </ul>	<ul style="list-style-type: none"> <li>25 years from the end of the year in which the edition was first released</li> </ul>
6. Performances	<ul style="list-style-type: none"> <li>By performers such as actors, dancers, musicians, singers and comedians</li> </ul>	<ul style="list-style-type: none"> <li>Right to prevent unauthorized recordings of the performances and the distribution and sale of unauthorized recordings</li> </ul>	<ul style="list-style-type: none"> <li>50 years from the time the first performance was given</li> </ul>

<sup>6</sup> Tables IIB.1 and IIB.2 are adapted from <http://www.ipos.gov.sg>.

### 3. Infringement and Remedies

#### (i) Copyright Infringement

Copyright infringement takes place in Singapore when a person does, or authorizes the doing of, any act which the copyright owner has the exclusive right to do, without his consent. Copyright is also infringed by commercial dealings in unauthorized copies of copyrighted works such as selling and importing, without the consent of the owner.

#### (ii) Defences

Certain acts do not constitute copyright infringement. Some of the important ones are:

- Fair dealing with a work for research or private study;
- Fair dealing with a work for criticism or review;
- Fair dealing with a work for reporting of current events.

#### (iii) Remedies

The main remedies for copyright infringement are:

- An injunction
- Surrender of infringing articles
- Damages or an account of profits.

#### (iv) Offences

It would be a criminal offence for a party to deal commercially with infringing copies of a work where that party knows, or ought reasonably to know, that the copies were an infringement at the relevant time. Offenders are liable to pay fines of up to S\$100,000 and/or to imprisonment of up to 5 years.

### 4. Protection of Performers

Since 16 April 1998, "copyright-like" protection has been made available in respect of performances. Generally, all live performances (including improvisations) are covered if the required "connecting factors" are established. Broadly speaking, the requirement is that the performance be given in Singapore or given by one or more Singaporean citizens or residents. The requirement of a connection with Singapore has now been extended to include connection with any member state of the World Trade Organization.

### III. Direct Economic Contribution

#### A. Copyright-Based Industries in Singapore

##### 1. Overview

The contribution of the copyright based industries to the Singaporean economy in the year 2001 was:

- S\$30,514.7 million output
- S\$8,729.9 million value added (5.7% of GDP)
- 118,617 jobs (5.8% of nation-wide employment).

In other words, one dollar out of every S\$17.5 of Singapore's GDP was generated by copyright based industries. Also, one worker out of every 17 was engaged directly in one of the copyright based industries.

**Table IIIA.1:** Economic Contribution 2001

Industry	Output	Value Added	% of GDP	Employment (Number)	% of Employment
	Constant 2001 prices (S\$ millions)				
1. Core copyright	12,249.8	4,390.3	2.85%	74,434	3.64%
2. Interdependent copyright	14,212.4	2,713.3	1.76%	25,293	1.24%
3. Partial copyright	339.9	138.1	0.09%	3,737	0.18%
4. Non-dedicated support	3,712.6	1,488.2	0.97%	15,153	0.74%
<b>Total copyright-based industries</b>	<b>30,514.7</b>	<b>8,729.9</b>	<b>5.67%</b>	<b>118,617</b>	<b>5.80%</b>
<b>Singaporean economy</b>	<b>N/A<sup>7</sup></b>	<b>154,078</b>	<b>100%</b>	<b>2,046,700</b>	<b>100%</b>

##### 2. Distribution of Copyright-Based Industries

###### (i) Output 2001 (Table IIIA.2)

The largest groups in terms of output within the copyright based industries were the interdependent and core copyright industries. The combined total output of these two groups amounted to S\$26,462.2 million (86.7%) with the interdependent and core copyright industries contributing S\$14,212.4 million (46.6%) and S\$12,249.8 million (40.1%) in output respectively. The remaining S\$4,052.5 million (13.3%) was attributed to both the partial copyright and non-dedicated support industries.

###### (ii) Value Added 2001 (Table IIIA.2)

The core copyright industries accounted for half (50.3%) of the value added with S\$4,390.3 million. This was followed by the interdependent copyright industries with S\$2,713.3 million (31.1%) and non-dedicated support industries with S\$1,488.2 million (17%) of value added. The remaining S\$138.1 million value added (1.6%) was attributable to the partial copyright industries.

<sup>7</sup> There is no publicly available data for output of the economy.

(iii) Employment 2001 (Table IIIA.2)

An estimated 74,434 workers (62.8%) were employed within the core copyright industries while 25,293 (21.3%) workers were plying their livelihood in the interdependent copyright industries. Meanwhile, the non-dedicated support industries also played a vital role with 15,153 workers (12.8%) while the partial copyright industries absorbed the remaining 3,737 workers (3.2%) within the copyright based workforce.

**Table IIIA.2:** Distribution of Copyright-Based Industries 2001

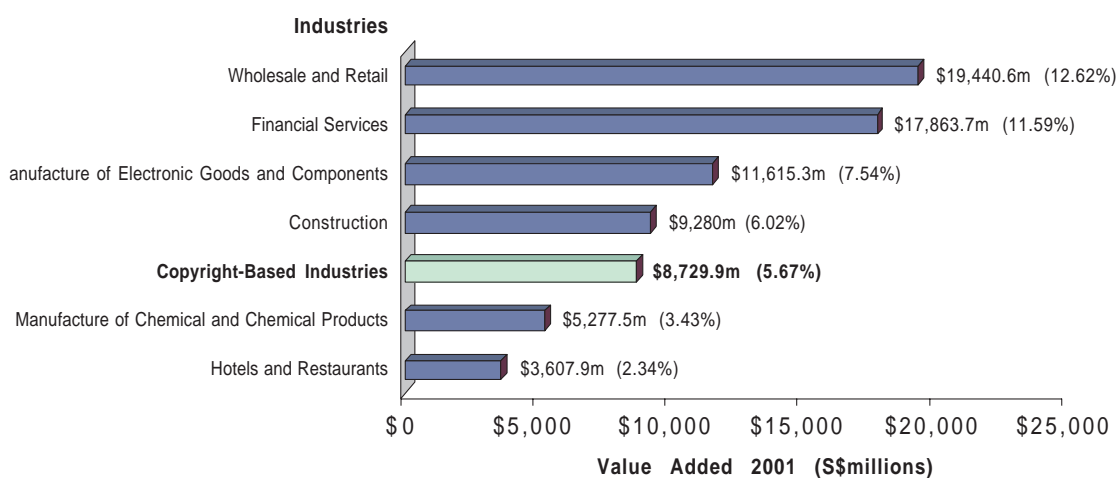
Industry	Output (millions)	(%)	Value Added (millions)	(%)	Employment (Number)	(%)
1. Core copyright	12,249.8	40.1%	4,390.3	50.3%	74,434	62.8%
2. Interdependent copyright	14,212.4	46.6%	2,713.3	31.1%	25,293	21.3%
3. Partial copyright	339.9	1.1%	138.1	1.6%	3,737	3.2%
4. Non-dedicated support	3,712.6	12.2%	1,488.2	17%	15,153	12.8%
<b>Total copyright-based industries</b>	<b>30,514.7</b>	<b>100%</b>	<b>8,729.9</b>	<b>100%</b>	<b>118,617</b>	<b>100%</b>

**3. Industry Comparison**

(i) Comparison (Chart IIIA.1)

The contribution of the copyright based industries was compared against some other industries in the economy. The value added of S\$8,729.9 million, i.e. 5.7% of Singapore’s GDP, was higher than both the chemical and chemical products and hotel and restaurant industries. It was almost as high as the construction industry which accounted for 6% of Singapore’s GDP in 2001 with S\$9,280 million in value added.

**Chart IIIA.1:** Relative Size of Copyright-Based Industries, 2001

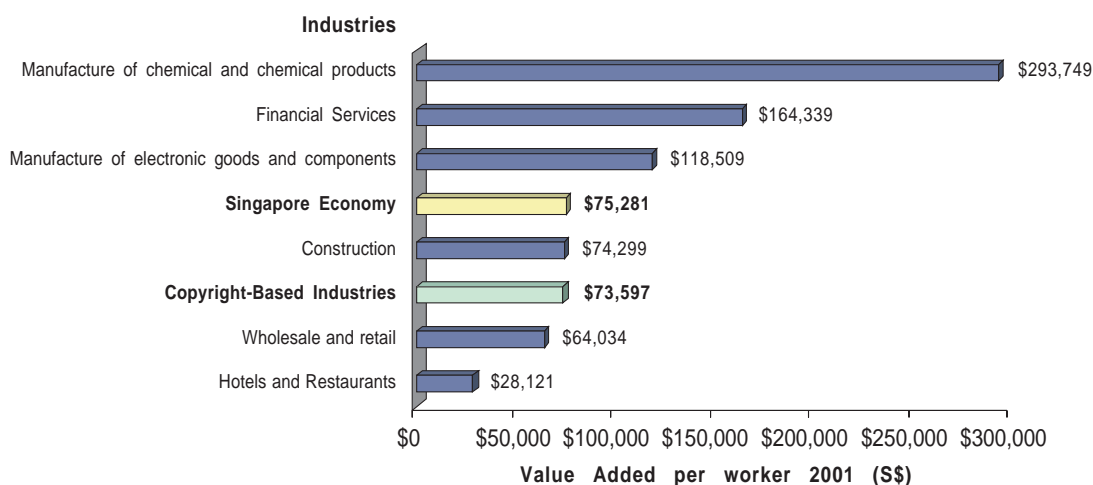




(ii) Productivity 2001 (Chart IIIA.2)

The average productivity<sup>8</sup> of a worker in the copyright based industries in 2001 was S\$73,597, which was higher than the wholesale and retail industry's S\$64,034 while being very close to the economy's average of S\$75,281. It was lower than both the manufacture of electronic goods and components and chemicals and chemical products as the value added per worker from these industries totalled S\$118,509 and S\$293,749 respectively. This was probably due to the manufacturing industries being more capital-intensive on average than service industries and hence registered higher value added. Moreover, copyright based industries are a composite of manufacturing, wholesale and retail trade and service industries thereby resulting in an overall lower value added per worker compared with manufacturing industries.

**Chart IIIA.2: Worker Productivity in Selected Industries 2001**



**4. Growth of Copyright-Based Industries 1986-2001**

(i) Output (Tables IIIA.3 and IIIA.4)

Output<sup>9</sup> in the copyright based industries grew strongly between 1986 and 2001 at an average real rate of 10.1% per annum from S\$7,178.5 million to S\$30,514.7 million at 2001 market prices. The highest growth achieved was between 1986 and 1990 at an average rate of 19.2% per annum. Growth in output was slower at 5.5% per annum between 1995 and 2000, and declined by 8.5% between 2000 and 2001.

(ii) Value Added (Tables IIIA.3 and IIIA.4)

The copyright based industries' value added grew in real terms at 8.9% per annum from S\$2,425.8 million to S\$8,729.9 million between 1986 and 2001. On an annual basis this was 1.3% points higher than the 7.6% GDP growth witnessed by the economy, from S\$51,150.8 million to S\$154,078 million over the same period. High growth was predominant between 1986 and 1990 with the copyright based industries expanding at 13.8%, which was 3.8% points higher than the 10% average growth attained by the economy. Slower growth occurred between 1995 and 2000 for both copyright based industries and the economy at 6.6% and 6.4% per annum respectively. Apparently, copyright based

<sup>8</sup> The average productivity statistics in the other industries were estimated by dividing the value added in these industries by their employment. Source: Yearbook of Statistics 2003.

<sup>9</sup> Real rates of growth were estimated for output and value added by converting nominal values to real values at 2001 constant dollars. Nominal values for each SSIC class and item within each copyright based industry were deflated by the relevant industry deflator for all periods back to 1986. Similarly, the GDP values were also based on constant 2001 dollars (i.e. base year was 2001).



industries may be more susceptible to short-term cyclical changes than the economy as witnessed by the 9.5% decline in copyright based value added compared with the 1.9% drop in overall GDP between 2000 and 2001.

(iii) Employment (Tables IIIA.3 and IIIA.4)

Employment in the copyright based industries more than doubled between 1986 and 2001, from 55,421 workers to 118,617 workers, equivalent to an average growth rate of 5.2% per annum. This was higher than the 3.5% annual growth in national employment from 1.2 million to 2 million workers during the same period. Between 2000 and 2001, the copyright based industries were still employing more workers as employment grew by 0.2% despite an overall 2.3% decline in employment in the whole economy.

(iv) Productivity (Tables IIIA.3 and IIIA.4)

Worker productivity in copyright based industries grew at 3.5% annually from S\$43,769 to S\$73,597 between 1986 and 2001. This was close to the average 3.9% productivity growth in the economy over the same period<sup>10</sup>. Productivity growth in copyright based industries was higher than that of the economy between 1995 and 2000 at 4.2% a year against 2.1% per annum for the economy. Because employment was still increasing in 2001, the copyright based productivity decline of 9.7% was slightly higher than the 9.5% drop in value added.

(v) Contribution (Table IIIA.3)

Observations from Table IIIA.3 further underline the growing importance of the copyright based industries to the Singaporean economy. The GDP of the industries expanded from 4.7% to 5.7% between 1986 and 2001. Similarly, the share of nation-wide employment also increased from 4.6% to 5.8% during this period.

**Table IIIA.3: Summary of Copyright-Based Industries 1986-2001**

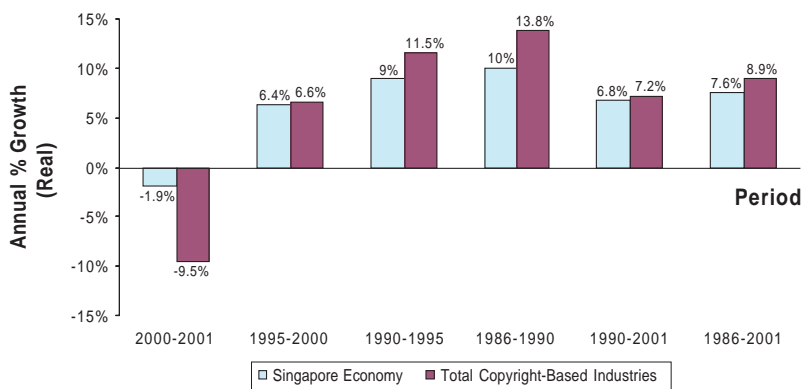
Economic Indicators	Copyright-Based Industries				
	2001	2000	1995	1990	1986
1. Output (S\$ millions)	30,514.7	33,349	25,516.5	14,505.8	7,178.5
2. Value Added (S\$ millions)	8,729.9	9,647.3	6,995.1	4,065.4	2,425.8
3. Copyright-Based Employment	118,617	118,363	105,546	81,832	55,421
4. Copyright-Based Productivity (S\$)	73,597	81,507	66,275	49,679	43,769
5. Singaporean GDP (S\$ millions)	154,078	157,070.3	115,227.2	74,871.7	51,150.8
6. Singaporean Employment	2,046,700	2,094,800	1,702,100	1,537,000	1,214,400
7. Economy Productivity (S\$)	75,281	74,981	67,697	48,713	42,120
8. Relative Value Added Size (%)	5.67%	6.14%	6.07%	5.43%	4.74%
9. Relative Employment Size (%)	5.80%	5.65%	6.20%	5.32%	4.56%

<sup>10</sup> Productivity growth in the copyright based industries surpassed that of the economy between 1986 and 2000 as it grew by 4.5% per annum as compared with the 4.2% achieved by the economy.

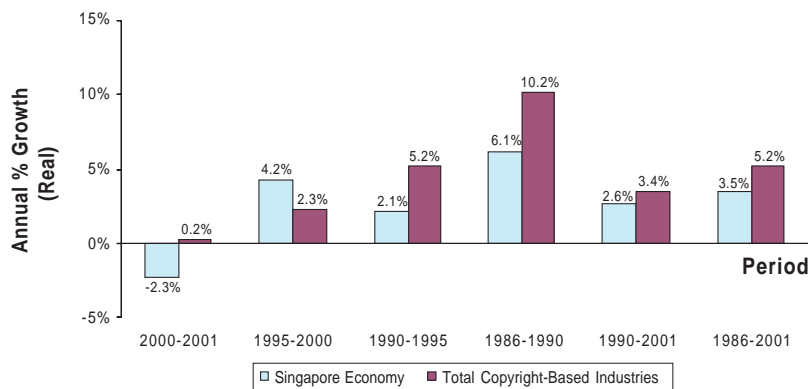
**Table IIIA.4:** Growth Summary of Copyright-Based Industries 1986-2001

Economic Indicators	Annual Compounded Growth Rates					
	2000 to 2001	1995 to 2000	1990 to 1995	1986 to 1990	1990 to 2001	1986 to 2001
1. Output	-8.5%	5.5%	12%	19.2%	7%	10.1%
2. Value Added	-9.5%	6.6%	11.5%	13.8%	7.2%	8.9%
3. Copyright-Based Employment	0.2%	2.3%	5.2%	10.2%	3.4%	5.2%
4. Copyright-Based Productivity	-9.7%	4.2%	5.9%	3.2%	3.6%	3.5%
5. Singaporean GDP	-1.9%	6.4%	9%	10%	6.8%	7.6%
6. Singaporean Employment	-2.3%	4.2%	2.1%	6.1%	2.6%	3.5%
7. Economy Productivity	0.4%	2.1%	6.8%	3.7%	4%	3.9%

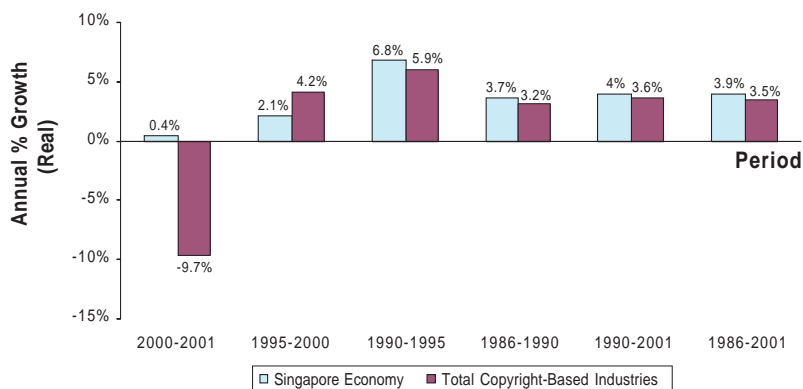
**Chart IIIA.3:** Copyright-Based Industries Value Added Growth 1986-2001



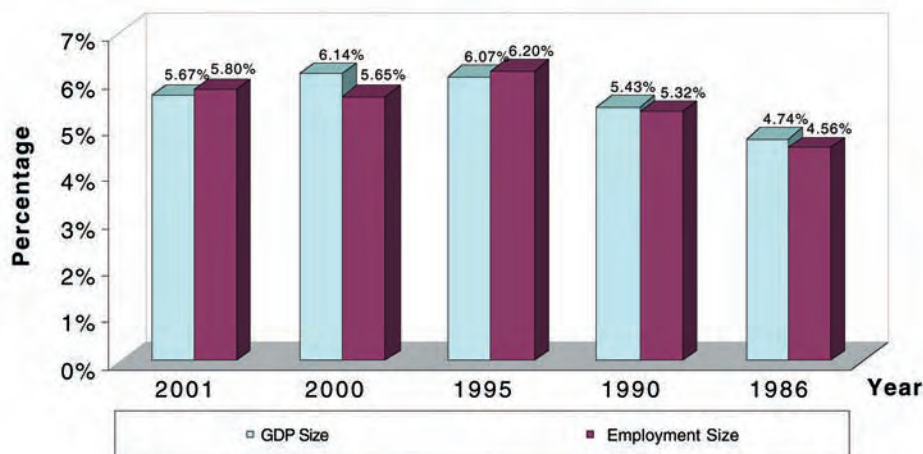
**Chart IIIA.4:** Employment in the Copyright-Based Industries Growth 1986-2001



**Chart IIIA.5: Productivity Growth in the Copyright-Based Industries 1986-2001**



**Chart IIIA.6: Relative Size of Copyright-Based Industries 1986-2001**



**B. Core Copyright Industries**

The core copyright industries are wholly engaged in the “creation, production and manufacturing, performance, broadcast, communication and exhibition, or distribution and sales of works and other protected matter” (WIPO Guide, p.29). These industries have a very high level of involvement in copyright activities and their direct economic contribution to output, value added and employment was taken at full value. In this study, the core copyright group encompasses the following nine main industries:

- Press and Literature
- Music, Theatrical Productions and Opera
- Motion Picture and Video
- Radio and Television
- Photography
- Software and Databases
- Visual and Graphic Arts
- Advertising Services
- Copyright Collecting Societies

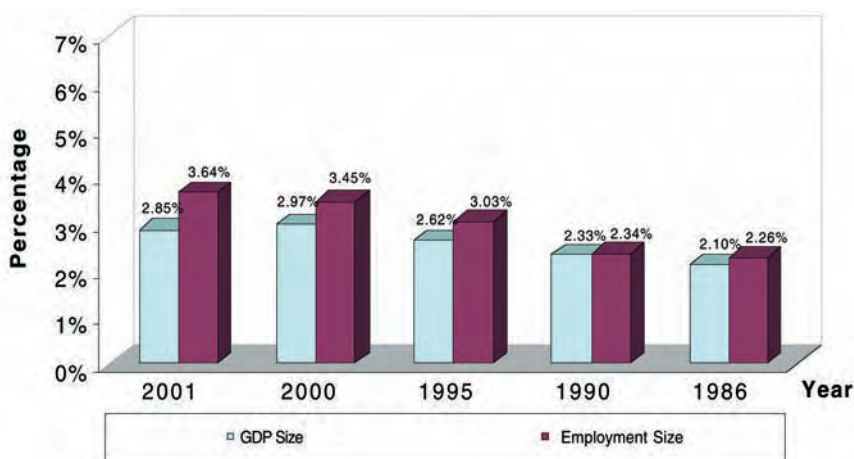
## 1. Overview

The core copyright industries contributed the following to the Singaporean economy in the year 2001:

- S\$12,249.8 million output
- S\$4,390.3 million value added (2.9% of GDP)
- 74,434 jobs (3.6% of nation-wide employment)

The core copyright industries were the largest contributor of both value added and employment in 2001. Value added of these industries grew (in constant 2001 dollars) from S\$1,072.7 million to S\$4,390.3 million at 9.8% per annum between 1986 and 2001 and their proportion of the economy expanded from 2.1% to 2.9%. Employment also rose from 27,420 workers to 74,434 workers at 6.9% annually during this period while its share of nation-wide employment expanded from 2.3% to 3.6%.

**Chart IIIB.1: Relative Size of Core Copyright Industries 1986-2001**



## 2. Output

### (i) Output 2001 (Chart IIIB.2)

In 2001, the core copyright industries achieved an estimated output<sup>11</sup> of S\$12,249.8 million. The five most important industries in the group were:

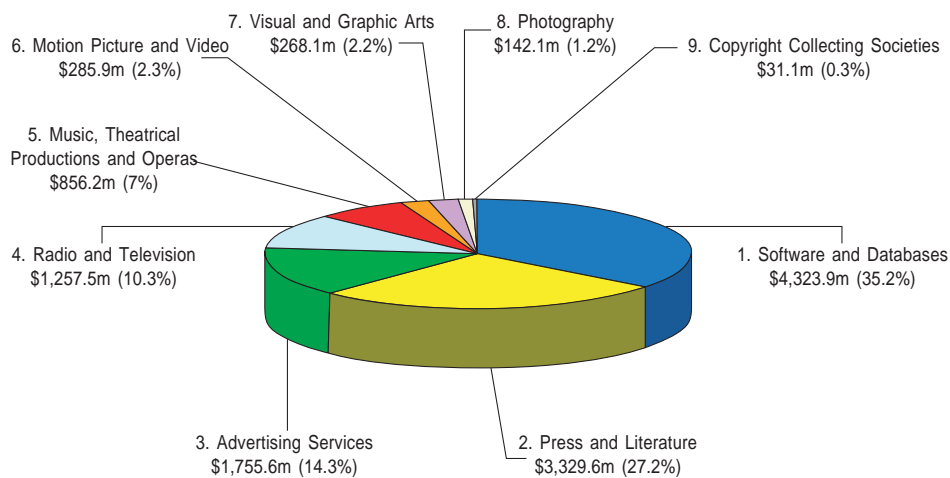
1. Software and Databases
2. Press and Literature
3. Advertising Services
4. Radio and Television
5. Music, Theatrical Productions and Opera.

These industries constituted S\$11,522.7 million or 94.1% of the entire core copyright industries in terms of output. The software and database industry was the largest, accounting for S\$4,323.9 million or 35.2% of total output. Press and literature was second with S\$3,329.6 million (27.2%) while advertising services was third with S\$1,755.6 million (14.3%). The radio and television and music, theatrical productions and opera industries followed suit with S\$1,257.5 million (10.3%) and S\$856.2 million (7%) respectively.

The four remaining industries namely, motion pictures and video, visual and graphic arts, photography, and copyright collecting societies contributed the remaining S\$727.1 million, or 5.9% of output from core copyright industries.

<sup>11</sup> Consistent with the national accounts, output values for the wholesale and retail trade industries belonging to the SSIC 50s and 51s series were represented by their gross margin to reduce double counting through intermediate transactions,

**Chart IIIB.2: Output 2001**



(ii) Output Growth<sup>12</sup> (Tables IIIB.1 and IIIB.2)

Vibrant growth was recorded by the core copyright industries with output augmented from S\$2,942.1 million in 1986 to S\$12,249.8 million in 2001 at constant prices. This represented a real growth rate of 10% per annum over the 15-year period (Table IIIB.2). The highest short-term growth period was achieved from 1986 to 1990 when output increased at a rate of 12.2% per annum. Growth declined to 9.7% per annum between 1990 and 1995 and 10.3% per annum between 1995 and 2000. Despite a downturn in economic activity in 2001, output increased slightly by 1.1% from S\$12,113.7 million to S\$12,249.8 million (Table IIIB.1).

Further analysis of the industries within the core copyright group and their associated economic activities revealed that the software and database industry excelled, expanding from 1986 to 2001 at a rate of 19.9% per annum. Also experiencing strong growth during this period were the radio and television, visual and graphic arts, and music, theatrical productions and opera industries.

Between 1986 and 1990, higher growth rates were still prevalent for most of the individual industries, especially the software and databases, music, theatrical productions and opera, and visual and graphic arts industries. Between 1995 and 2000, slower growth was observed in most industries except the software and databases industry which achieved a high growth rate of 22.8% per annum during this period. The year 2001 was a turning point for the photographic and advertising services industries as output fell by 22.5% and 15.8% respectively from the previous year.

<sup>12</sup>Total figures and growth rates may not tally exactly due to rounding up to 1 decimal place.



**Table IIIB.1:** Detailed Output 1986-2001

Industry	Output (Constant 2001 prices in millions)				
	2001	2000	1995	1990	1986
1. Press and Literature	3,329.6	3,210.3	2,594	1,922.8	1,183
2. Music, Theatrical Productions and Opera	856.2	924.2	904.7	408	199.2
3. Motion Pictures and Video	285.9	333.1	347.6	230.4	180.4
4. Radio and Television	1,257.5	1,161.2	432.6	283.3	235.3
5. Photography	142.1	183.3	168.7	140	101.2
6. Software and Databases	4,323.9	3,972.3	1,413	695.6	284.8
7. Visual and Graphic Arts	268.1	222	172.1	66.8	54.4
8. Advertising Services	1,755.6	2,084.5	1,366.8	903	685.5
9. Copyright Collecting Societies	31.1	22.7	18.8	12.5	18.2
<b>Core Copyright Industries</b>	<b>12,249.8</b>	<b>12,113.7</b>	<b>7,418.4</b>	<b>4,662.4</b>	<b>2,942.1</b>

**Table IIIB.2:** Detailed Output Growth 1986-2001

Industry	Annual Compounded Growth Rates (Constant 2001 prices)					
	2000 to 2001	1995 to 2000	1990 to 1995	1986 to 1990	1990 to 2001	1986 to 2001
1. Press and Literature	3.7%	4.4%	6.2%	12.9%	5.1%	7.1%
2. Music, Theatrical Productions and Opera	-7.4%	0.4%	17.3%	19.6%	7%	10.2%
3. Motion Pictures and Video	-14.2%	-0.8%	8.6%	6.3%	2%	3.1%
4. Radio and Television	8.3%	21.8%	8.8%	4.8%	14.5%	11.8%
5. Photography	-22.5%	1.7%	3.8%	8.4%	0.1%	2.3%
6. Software and Databases	8.8%	23%	15.2%	25%	18.1%	19.9%
7. Visual and Graphic Arts	20.8%	5.2%	20.8%	5.3%	13.5%	11.2%
8. Advertising Services	-15.8%	8.8%	8.6%	7.1%	6.2%	6.5%
9. Copyright Collecting Societies	37%	3.9%	8.5%	-9%	8.7%	3.6%
<b>Core Copyright Industries</b>	<b>1.1%</b>	<b>10.3%</b>	<b>9.7%</b>	<b>12.2%</b>	<b>9.2%</b>	<b>10%</b>

### 3. Value Added

#### (i) Value Added 2001 (Chart IIIB.3)

Value added or Gross Domestic Product (GDP) remains the key indicator of economic contribution. In 2001, an estimated S\$4,390.3 million in value added was generated by the core copyright industries, which was approximately 2.9% of Singapore's GDP (Table IIIB.3). The five major industries in descending order of their value added were:

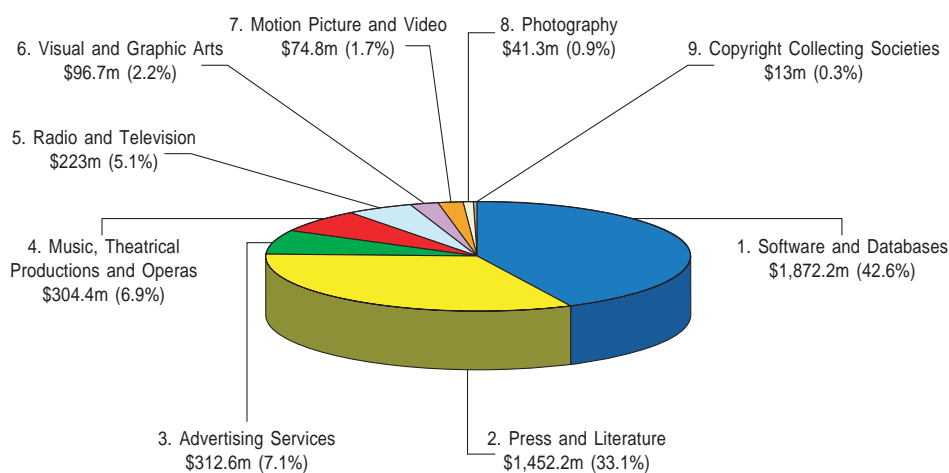
1. Software and Databases
2. Press and Literature
3. Advertising Services
4. Music, Theatrical Productions and Opera
5. Radio and Television

Value added from these five major industries was estimated at S\$4,164.5 million, or 94.9% of the entire value added from the core copyright industries. The two largest industries were software and databases and press and literature with S\$1,872.2 million (42.6%) and S\$1,452.2 million (33.1%) respectively. The next two major industries were advertising services with S\$312.6 million (7.1%) and

music, theatrical productions and opera with S\$304.4 million (6.9%) value added. The radio and television industry was ranked fifth with S\$223 million (5.1%) of value added.

The visual and graphic arts, motion picture and video, photographic, and copyright collecting societies industries contributed S\$225.8 million or the remaining 5.1% of value added within the core copyright group.

**Chart IIIB.3: Value Added 2001**



(ii) Value Added Growth (Tables IIIB.3 and IIIB.4)

An attempt was made for a systematic understanding of copyright activities over the long term through the contribution of core copyright industries to the nation over a 15-year period. Between 1986 and 2001, the core copyright industries outperformed the Singaporean economy with value added increasing at an average rate of 9.8% per annum from S\$1,072.7 million to S\$4,390.3 million, as opposed to the economy's 7.6% rate (Tables IIIB.3 and IIIB.4). Meanwhile, the relative size of the core industries rose from 2.1% to 2.9% during the same period.

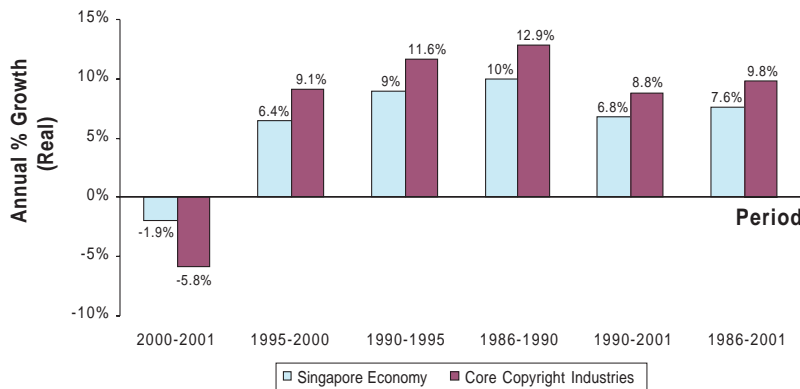
Growth was at its zenith between 1986 and 1990 when both core copyright industries and the economy experienced growth rates of 12.9% and 10% per annum respectively with the former gaining an advantage of 2.9% points annually (Table IIIB.4). The sector, in alignment with the economy, experienced slower growth from 1990 onwards, most noticeably from 1995 to 2000 when the growth in the core copyright industries fell to 9.1% per annum and that of the economy to 6.4% per annum.

Deeper insights into the various industries can be obtained from Table IIIB.4. Higher growth rates were apparent between 1986 and 1995. However, such momentum gradually slowed from 1995 to 2000. The decline in value added of the industries in 2001 was almost universal except for the software and database industry which still had the highest positive growth rates among the different industries for all short and long-term periods from 1986 to 2001. It remained the sole industry to witness a marginal increase in value added of S\$174.6 million or 10.3% growth in 2001. Both advertising services and the photographic industries were considerably affected by the downturn of 2001 as value added declined by 43.4% and 33% respectively.

**Table IIIB.3:** Detailed Value Added 1986-2001

Industry	Value Added (Constant 2001 prices in millions)				
	2001	2000	1995	1990	1986
1. Press and Literature	1,452.2	1,516.9	1,380.9	818.3	536.9
2. Music, Theatrical Productions and Opera	304.4	369.8	372.9	178	81
3. Motion Pictures and Video	74.8	80.6	82.6	67.7	59.8
4. Radio and Television	223	266.1	181.1	206	149.3
5. Photography	41.3	61.6	41.1	29.2	19.4
6. Software and Databases	1,872.2	1,697.6	607.7	205.9	67
7. Visual and Graphic Arts	96.7	100.4	71.4	28.5	21.3
8. Advertising Services	312.6	552	267.9	202.9	131.2
9. Copyright Collecting Societies	13	13.5	10.3	5.4	6.8
<b>Core Copyright Industries</b>	<b>4,390.3</b>	<b>4,658.5</b>	<b>3,015.9</b>	<b>1,741.8</b>	<b>1,072.7</b>
<b>Singaporean GDP</b>	<b>154,078</b>	<b>157,070.3</b>	<b>115,227.2</b>	<b>74,871.7</b>	<b>51,150.8</b>
<b>Relative Size</b>	<b>2.85%</b>	<b>2.97%</b>	<b>2.62%</b>	<b>2.33%</b>	<b>2.10%</b>

**Chart IIIB.4:** Value Added Growth in Core Copyright Industries 1986-2001



**Table IIIB.4:** Detailed Value Added Growth 1986-2001

Industry	Annual Compounded Growth Rates (Constant 2001 prices)					
	2000 to 2001	1995 to 2000	1990 to 1995	1986 to 1990	1990 to 2001	1986 to 2001
1. Press and Literature	-4.3%	1.9%	11%	11.1%	5.4%	6.9%
2. Music, Theatrical Productions and Opera	-17.7%	-0.2%	15.9%	21.7%	5%	9.2%
3. Motion Pictures and Video	-7.2%	-0.5%	4.1%	3.2%	0.9%	1.5%
4. Radio and Television	-16.2%	8%	-2.5%	8.4%	0.7%	2.7%
5. Photography	-33%	8.4%	7.1%	10.8%	3.2%	5.2%
6. Software and Databases	10.3%	22.8%	24.2%	32.4%	22.2%	24.9%
7. Visual and Graphic Arts	-3.7%	7%	20.2%	7.6%	11.7%	10.6%
8. Advertising Services	-43.4%	15.6%	5.7%	11.5%	4%	6%
9. Copyright Collecting Societies	-3.6%	5.6%	13.9%	-5.9%	8.4%	4.4%
<b>Core Copyright Industries</b>	<b>-5.8%</b>	<b>9.1%</b>	<b>11.6%</b>	<b>12.9%</b>	<b>8.8%</b>	<b>9.8%</b>
<b>Singaporean GDP</b>	<b>-1.9%</b>	<b>6.4%</b>	<b>9%</b>	<b>10%</b>	<b>6.8%</b>	<b>7.6%</b>



#### 4. Employment

##### (i) Employment 2001 (Chart IIIB.5)

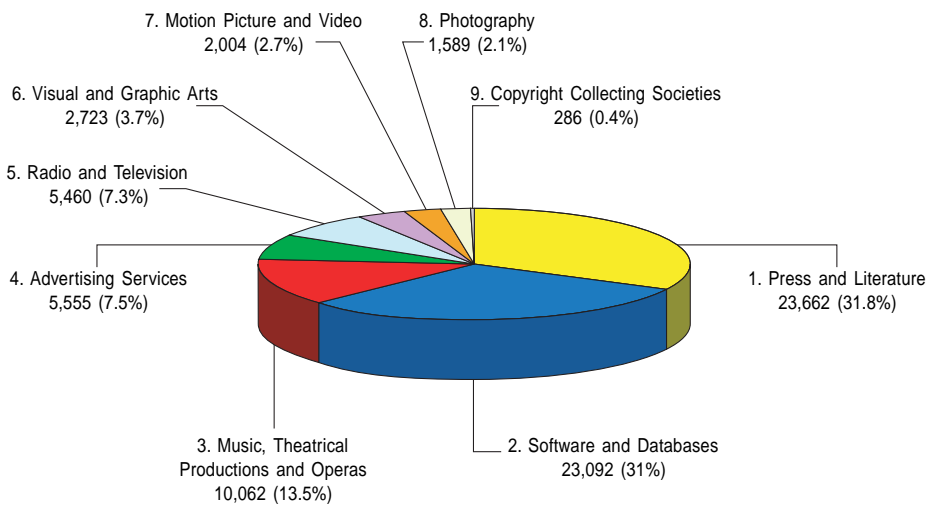
A total of 74,434 people were employed by the core copyright industries in 2001. The size of the group as a proportion of national employment was 3.6% of total employment in 2001 (Table IIIB.5). The five major industries with the largest workforce were:

1. Press and Literature
2. Software and Databases
3. Music, Theatrical Productions and Opera
4. Advertising Services
5. Radio and Television

These five industries accounted for 67,831 workers or 91.1% of employment within the core copyright industries. The two largest employers were the press and literature industry with 23,662 workers (31.8%) and software and database industry with 23,092 workers (31%). Music, theatrical productions and opera with 10,062 workers (13.5%), advertising services 5,555 workers (7.5%) and radio and television with 5,460 workers (7.3%) were the remaining three significant sectors.

The visual and graphic arts, motion picture and video, photography and copyright collecting societies industries employed a combined workforce of 6,603 workers, or 8.9% employment within the core copyright industries.

**Chart IIIB.5: Employment 2001**



##### (ii) Employment Growth (Tables IIIB.5 and IIIB.6)

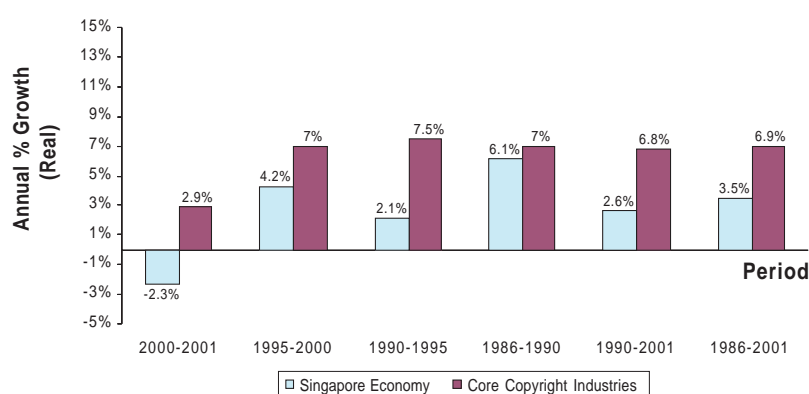
Employment expansion in the core copyright industries between 1986 and 2001 was 6.9% per annum. This represented an annual 3.4% points above the 3.5% rate attained by the economy over the 15-year period. The best short-term period for employment growth was between 1990 and 1995 at 7.5% per annum from 35,919 workers to 51,578 workers. This was higher than the average 2.1% annual growth in national employment from 1.54 million workers to 1.7 million workers during the same period. Between 2000 and 2001, employment within the core copyright industries increased by 2.9% from 72,369 workers to 74,434 workers despite an overall decline of 2.3% in Singapore's employment rate (Table IIIB.6).

The software and database industry achieved an employment growth of 17.1% per annum between 1986 and 2001. Albeit lower but still strong was the employment expansion in the visual and graphic arts and music, theatrical productions and opera industries which attained a growth rate in the workforce of 7.5% and 6.2% per annum respectively over the long term. Economic decline in 2001 affected the core copyright industries except radio and television, software and database and press and literature industries. The two industries most affected were photographic and advertising services where employment fell by 30.5% and 16.9% respectively.

**Table IIIB.5:** Detailed Employment 1986-2001

Industry	Employment				
	2001	2000	1995	1990	1986
1. Press and Literature	23,662	21,717	17,831	13,887	10,960
2. Music, Theatrical Productions and Opera	10,062	10,803	9,824	5,828	4,085
3. Motion Pictures and Video	2,004	2,317	2,135	1,699	1,290
4. Radio and Television	5,460	4,593	3,807	3,110	2,633
5. Photography	1,589	2,286	1,954	1,612	1,334
6. Software and Databases	23,092	20,701	8,107	4,432	2,161
7. Visual and Graphic Arts	2,723	2,976	2,203	1,171	920
8. Advertising Services	5,555	6,686	5,426	4,016	3,829
9. Copyright Collecting Societies	286	290	289	163	207
<b>Core Copyright Industries</b>	<b>74,434</b>	<b>72,369</b>	<b>51,578</b>	<b>35,919</b>	<b>27,420</b>
<b>Singaporean Employment</b>	<b>2,046,700</b>	<b>2,094,800</b>	<b>1,702,100</b>	<b>1,537,000</b>	<b>1,214,400</b>
<b>Relative Size</b>	<b>3.64%</b>	<b>3.45%</b>	<b>3.03%</b>	<b>2.34%</b>	<b>2.26%</b>

**Chart IIIB.6:** Employment Growth in the Core Copyright Industries 1986-2001



**Table IIIB.6:** Detailed Employment Growth 1986-2001

Industry	Annual Compounded Growth Rates					
	2000 to 2001	1995 to 2000	1990 to 1995	1986 to 1990	1990 to 2001	1986 to 2001
1. Press and Literature	9%	4%	5.1%	6.1%	5%	5.3%
2. Music, Theatrical Productions and Opera	-6.9%	1.9%	11%	9.3%	5.1%	6.2%
3. Motion Pictures and Video	-13.5%	1.6%	4.7%	7.1%	1.5%	3%
4. Radio and Television	18.9%	3.8%	4.1%	4.3%	5.2%	5%
5. Photography	-30.5%	3.2%	3.9%	4.8%	-0.1%	1.2%
6. Software and Databases	11.6%	20.6%	12.8%	19.7%	16.2%	17.1%
7. Visual and Graphic Arts	-8.5%	6.2%	13.5%	6.2%	8%	7.5%
8. Advertising Services	-16.9%	4.3%	6.2%	1.2%	3%	2.5%
9. Copyright Collecting Societies	-1.4%	0.1%	12.1%	-5.8%	5.2%	2.2%
<b>Core Copyright Industry</b>	<b>2.9%</b>	<b>7%</b>	<b>7.5%</b>	<b>7%</b>	<b>6.8%</b>	<b>6.9%</b>
<b>Singaporean Employment</b>	<b>-2.3%</b>	<b>4.2%</b>	<b>2.1%</b>	<b>6.1%</b>	<b>2.6%</b>	<b>3.5%</b>

### C. Interdependent Copyright Industries<sup>13</sup>

The interdependent copyright industries are engaged in “the production, manufacture and sale of equipment whose purpose is to wholly or primarily facilitate the creation and production or usage of works and other protected subject matter” (WIPO Guide p.33). These industries are commonly termed the copyright hardware industries whose operations would be significantly reduced without the above-mentioned copyright aspect. Their economic contribution was weighted by factors<sup>14</sup> depending on the level of copyright activities specific to each individual industry within the group. In our study, the interdependent copyright group contains seven industries as follows:

- TV sets, Radios, VCRs and DVD Players
- Computers and Equipment
- Musical Instruments
- Photographic and Cinematographic Instruments
- Photocopiers
- Blank Recording Material
- Paper

#### 1. Overview

The interdependent copyright industries contributed the following to the Singaporean economy in the year 2001:

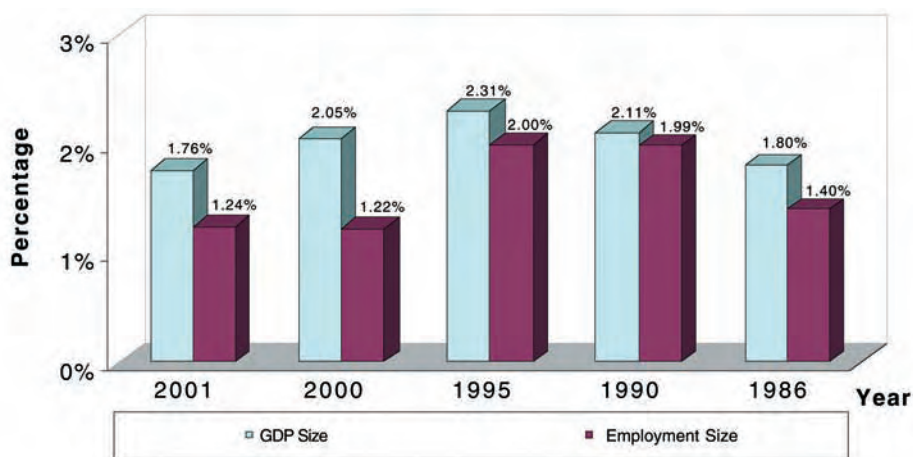
- S\$14,212.4 million output
- S\$2,713.3 million value added (1.8% of GDP)
- 25,293 jobs (1.2% of nation-wide employment).

<sup>13</sup> All non-core copyright industry contributions were apportioned with the relevant copyright factors of 2001. These factors were also imputed into the data for the years 1986 to 2000, with the assumption of constant copyright intensities in these activities. This remains the best method to date for estimates of the earlier years.

<sup>14</sup> Please refer to pp 89, Table VIC.6: Copyright Factors for Non-Core Copyright Industries, 1986-2001, for the relevant copyright factors on the non-core copyright industries.

The interdependent copyright industries were the most important value added contributors after the core copyright industries. Value added in the group increased at 7.5% per annum from S\$918.7 million to S\$2,713.3 million (in real terms at 2001 market prices) between 1986 and 2001, while its relative GDP share of the economy remained constant at about 1.8% during the period. Employment also rose from 16,993 to 25,293 workers or by 2.7% per annum whereas its share of national employment dropped from 1.4% to 1.2% between 1986 and 2001.

**Chart IIIC.1: Relative Size of Interdependent Copyright Industries 1986-2001**



## 2. Output

### (i) Output 2001 (Chart IIIC.2)

In 2001, the interdependent copyright industries attained an estimated output of S\$14,212.4 million. The five most important industries were:

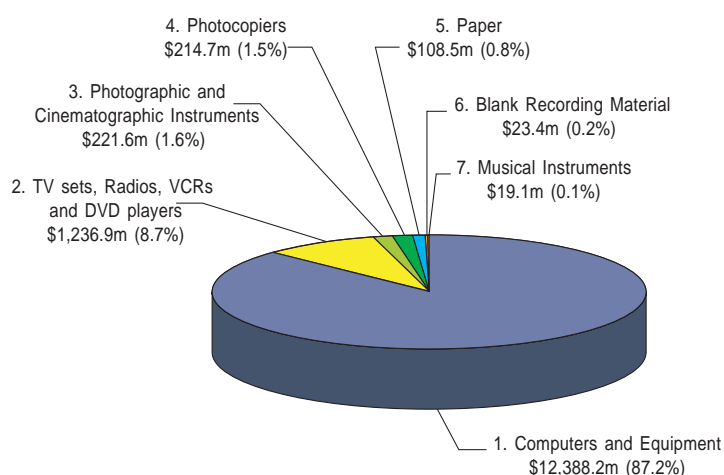
1. Computers and Equipment
2. TV sets, Radios, VCRs and DVD Players
3. Photographic and Cinematographic Instruments
4. Photocopiers
5. Paper

A total of S\$14,169.9 million or 99.7% of the output within the interdependent copyright group was attributable to these major industries. The computer and equipment industry was the largest among them with S\$12,388.2 million (87.2%). The TV set and radio industry followed suit with S\$1,236.9 million (8.7%) while the photographic and cinematographic instruments industry was third with S\$221.6 million (1.6%). The last two major industries were photocopiers and the paper industry with S\$214.7 million (1.5%) and S\$108.5 million (0.8%) respectively.

The two smaller industries of blank recording material and musical instruments accounted for the remaining S\$42.5 million (0.3%). Output values from the blank recording and musical instrument industries were S\$23.4 million (0.2%) and S\$19.1 million (0.1%) respectively.



**Chart IIIC.2: Output 2001**



(ii) Output Growth (Tables IIIC.1 and IIIC.2)

Output of the interdependent copyright industries grew by 10.7% per annum in real terms from S\$3,106.1 million to S\$14,212.4 million between 1986 and 2001 (Table IIIC.1). Predominantly, the two key industries within the group were the TV set and radio and the computer and equipment industries. Growth was at its highest at 26.8% per annum between 1986 and 1990. From 1990 onwards, output growth in the interdependent copyright industries was lower at 13.6% per annum between 1990 and 1995, and 2.4% between 1995 and 2000. In 2001, output in the group declined by 16.7%.

At the detailed industry level, the computer and equipment, musical instrument and photocopier industries experienced strong growth over the long-term between 1986 and 2001. Such upward trends in these industries were apparent for the intermediate 5-year periods between 1986 and 1995. They were, however, affected in 2001 when output in both the photocopier and computer and equipment industries declined by 26.5% and 18% respectively.

**Table IIIC.1: Detailed Output 1986-2001**

Industry	Output (Constant 2001 prices in millions)				
	2001	2000	1995	1990	1986
1. TV sets, Radios, VCRs and DVD players	1,236.9	1,347.2	3,134.8	2,729.1	1,172.6
2. Computers and Equipment	12,388.2	15,100.5	11,662.5	4,987.7	1,750
3. Musical Instruments	19.1	19.4	24.9	10.8	3.4
4. Photographic and Cinematographic Instruments	221.6	192.7	136.7	119	87.8
5. Photocopiers	214.7	292	107.2	64.1	25.2
6. Blank Recording Material	23.4	18	29.9	70	29.8
7. Paper	108.5	94.6	76.8	46.1	37.3
<b>Interdependent Copyright Industries</b>	<b>14,212.4</b>	<b>17,064.4</b>	<b>15,172.7</b>	<b>8,026.7</b>	<b>3,106.1</b>

**Table IIIC.2:** Detailed Output Growth 1986-2001

Industry	Annual Compounded Growth Rates (Constant 2001 prices)					
	2000 to 2001	1995 to 2000	1990 to 1995	1986 to 1990	1990 to 2001	1986 to 2001
1. TV sets, Radios, VCRs and DVD players	-8.2%	-15.5%	2.8%	23.5%	-6.9%	0.4%
2. Computers and Equipment	-18%	5.3%	18.5%	29.9%	8.6%	13.9%
3. Musical Instruments	-1.4%	-4.9%	18.1%	34%	5.3%	12.3%
4. Photographic and Cinematographic instruments	15%	7.1%	2.8%	7.9%	5.8%	6.4%
5. Photocopiers	-26.5%	22.2%	10.8%	26.2%	11.6%	15.3%
6. Blank Recording Material	30.1%	-9.6%	-15.7%	23.8%	-9.5%	-1.6%
7. Paper	14.7%	4.2%	10.8%	5.4%	8.1%	7.4%
<b>Interdependent Copyright Industries</b>	<b>-16.7%</b>	<b>2.4%</b>	<b>13.6%</b>	<b>26.8%</b>	<b>5.3%</b>	<b>10.7%</b>

### 3. Value Added

#### (i) Value Added 2001 (Chart IIIC.3)

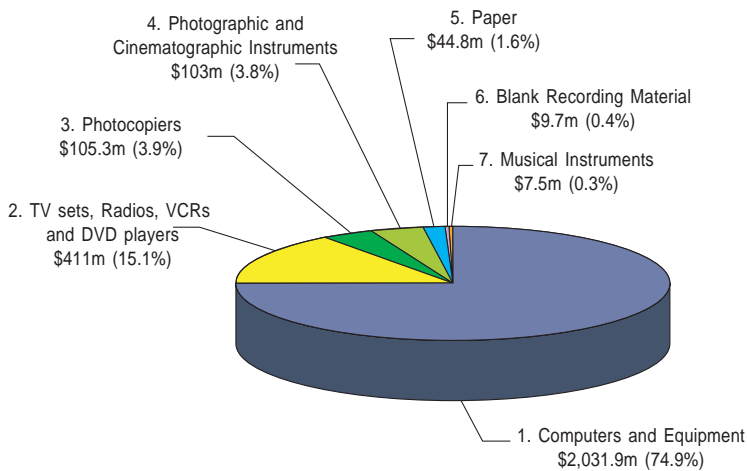
An estimated S\$2,713.3 million in value added was generated by the interdependent copyright industries. Among them, the five most important industries in the group were:

1. Computers and Equipment
2. TV sets, Radios, VCRs and DVD Players
3. Photocopiers
4. Photographic and Cinematographic Instruments
5. Paper

These five major industries constituted S\$2,696.1 million, or 99.4% of the value added in the entire interdependent copyright group. The two largest industries were computers and equipment and TV sets and radios with value added of S\$2,031.9 million (74.9%) and S\$411 million (15.1%) respectively. Other important industries included the photocopier industry with S\$105.3 million (3.9%) and the photographic and cinematographic instrument industry with S\$103 million (3.8%) in value added. Lastly, S\$44.8 million (1.6%) of value added was contributed by the paper industry.

The remaining S\$17.2 million (0.6%) of value added was attributable to the blank recording material and musical instruments industries.

**Chart IIIC.3: Value Added 2001**



(ii) Value Added Growth (Tables IIIC.3 and IIIC.4)

Value added in the interdependent copyright industries almost tripled from S\$918.7 million to S\$2,713.3 million between 1986 and 2001 (Table IIIC.3). This represented a real annual growth rate of 7.5%, which was almost equivalent to the average economy growth of 7.6% (Table IIIC.4). Value added growth of the interdependent copyright group, during the earlier years, was higher than the economy between 1986 and 1990 as reflected in the average annual growth rates of 14.5% and 10% respectively. Such trends continued until 1995 when the growth of the interdependent copyright industries was slower at 3.8% in comparison with the economy's 6.4% between 1995 and 2000. The interdependent copyright industries declined by S\$504 million in value added from S\$3,217.3 million to S\$2,713.3 million or by 15.7% a year on average between 2000 and 2001.

The faster growing industries within the group between 1986 and 2001 were the photocopier and musical instrument industries, recording average growth of 13.9% and 11.2% per annum respectively. These industries also experienced high short-term growth between 1986 and 1995. In 2001, value added in the photocopier and computer and equipment industries declined by 23% and 21.3% respectively.

**Table IIIC.3:** Detailed Value Added 1986-2001

Industry	Value Added (Constant 2001 prices in millions)				
	2001	2000	1995	1990	1986
1. TV sets, Radios, VCRs and DVD players	411	347.8	640.6	508.1	259
2. Computers and Equipment	2,031.9	2,583	1,833.7	933.1	566
3. Musical Instruments	7.5	8.2	11.9	7.1	1.5
4. Photographic and Cinematographic instruments	103	93.4	64.1	61.2	50
5. Photocopiers	105.3	136.7	67.1	32.9	14.9
6. Blank Recording Material	9.7	8	7.8	14.4	9.6
7. Paper	44.8	40.1	39.9	21.2	17.7
<b>Interdependent Copyright Industries</b>	<b>2,713.3</b>	<b>3,217.3</b>	<b>2,665.3</b>	<b>1,578</b>	<b>918.7</b>
<b>Singaporean GDP</b>	<b>154,078</b>	<b>157,070.3</b>	<b>115,227.2</b>	<b>74,871.7</b>	<b>51,150.8</b>
<b>Relative Size</b>	<b>1.76%</b>	<b>2.05%</b>	<b>2.31%</b>	<b>2.11%</b>	<b>1.80%</b>

**Chart IIIC.4:** Value Added Growth in Interdependent Copyright Industries 1986-2001



**Table IIIC.4:** Detailed Value Added Growth 1986-2001

Industry	Annual Compounded Growth Rates (Constant 2001 prices)					
	2000 to 2001	1995 to 2000	1990 to 1995	1986 to 1990	1990 to 2001	1986 to 2001
1. TV sets, Radios, VCRs and DVD players	18.2%	-11.5%	4.7%	18.3%	-1.9%	3.1%
2. Computers and Equipment	-21.3%	7.1%	14.5%	13.3%	7.3%	8.9%
3. Musical Instruments	-8.8%	-7.2%	10.7%	47.2%	0.4%	11.2%
4. Photographic and Cinematographic instruments	10.3%	7.8%	0.9%	5.2%	4.8%	4.9%
5. Photocopiers	-23%	15.3%	15.4%	21.9%	11.2%	13.9%
6. Blank Recording Material	21.9%	0.3%	-11.4%	10.7%	-3.5%	0.1%
7. Paper	11.5%	0.1%	13.5%	4.5%	7.1%	6.4%
<b>Interdependent Copyright Industries</b>	<b>-15.7%</b>	<b>3.8%</b>	<b>11.1%</b>	<b>14.5%</b>	<b>5.1%</b>	<b>7.5%</b>
<b>Singaporean GDP</b>	<b>-1.9%</b>	<b>6.4%</b>	<b>9%</b>	<b>10%</b>	<b>6.8%</b>	<b>7.6%</b>



#### 4. Employment

##### (i) Employment 2001 (Chart IIIC.5)

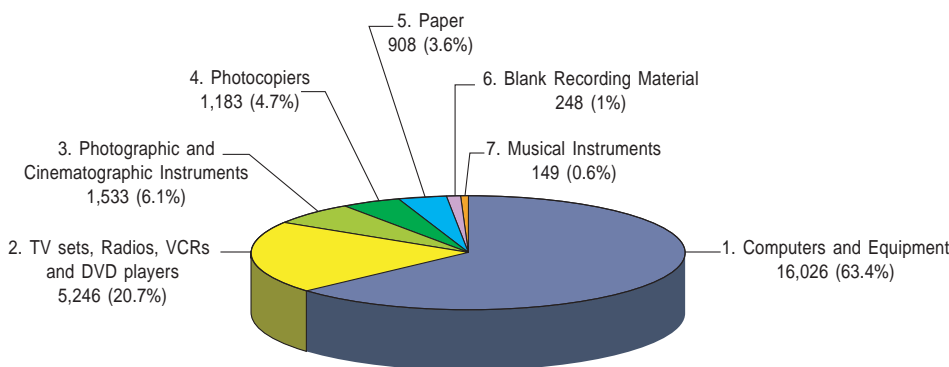
A total of 25,293 workers were employed within the interdependent copyright industries in 2001. The top five industries were:

1. Computers and Equipment
2. TV sets, Radios, VCRs and DVD players
3. Photographic and Cinematographic instruments
4. Photocopiers
5. Paper

The five major industries employed 24,896 workers (98.4%). Among them, the computer and equipment industry was dominant with 16,026 workers (63.4%). Further down the hierarchy was the TV set and radio industry with 5,246 workers (20.7%). This was then followed by the photographic and cinematographic instrument and photocopier industries with 1,533 workers (6.1%) and 1,183 workers (4.7%) respectively. The smallest among them was the paper industry which accounted for 908 workers, or 3.6% of the group's labour force.

The other two industries, blank recording material and musical instruments, employed 248 and 149 workers respectively, accounting for the remaining 397 workers (1.6%).

**Chart IIIC.5: Employment 2001**



##### (ii) Employment Growth (Tables IIIC.5 and IIIC.6)

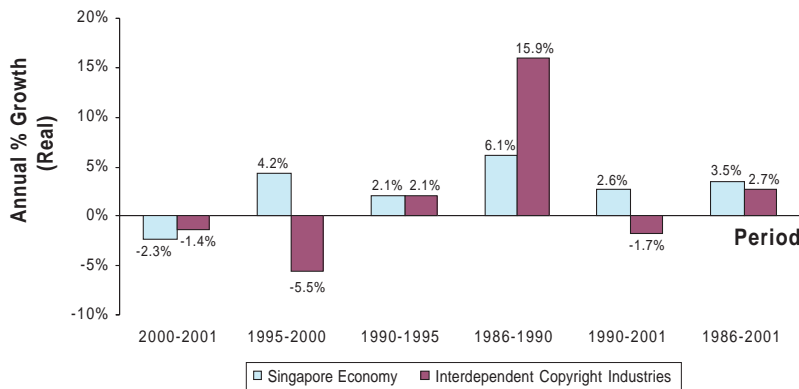
Employment increased by about 1.5 times from 16,993 workers to 25,293 workers between 1986 and 2001, indicating an average growth of 2.7% per annum during the 15-year period. This was lower than the economy average of 3.5% during this period. The exception was from 1986 to 1990 when employment in the interdependent copyright industries was occurring at a rate above the economy, i.e. 15.9% versus 6.1%. Overall employment fell in 2001 when the number of workers in the group declined by 1.4% from 25,645 workers to 25,293 workers.

Within the interdependent group, higher growth industries include the computer and equipment and photocopier industries whose long-term average growth rates were 6.3% and 6% respectively between 1986 and 2001 (Table IIIC.6). Between 2000 and 2001, employment in the blank recording material industry increased by 36.1% while the paper industry's workforce expanded by 23.2% although both the industries still had a small workforce. Meanwhile, employment in the photocopier and musical instrument industries experienced a fall of 18.4% and 17.5% respectively.

**Table IIIC.5:** Detailed Employment 1986-2001

Industry	Employment				
	2001	2000	1995	1990	1986
1. TV sets, Radios, VCRs and DVD players	5,246	4,990	9,469	10,810	7,744
2. Computers and Equipment	16,026	16,612	20,765	16,428	6,400
3. Musical Instruments	149	181	206	127	82
4. Photographic and Cinematographic instruments	1,533	1,493	1,605	1,576	1,271
5. Photocopiers	1,183	1,451	1,031	692	492
6. Blank Recording Material	248	182	247	338	302
7. Paper	908	737	770	742	702
<b>Interdependent Copyright Industries</b>	<b>25,293</b>	<b>25,645</b>	<b>34,093</b>	<b>30,712</b>	<b>16,993</b>
<b>Singaporean Employment</b>	<b>2,046,700</b>	<b>2,094,800</b>	<b>1,702,100</b>	<b>1,537,000</b>	<b>1,214,400</b>
<b>Relative Size</b>	<b>1.24%</b>	<b>1.22%</b>	<b>2.00%</b>	<b>1.99%</b>	<b>1.40%</b>

**Chart IIIC.6:** Employment Growth in Interdependent Copyright Industries 1986-2001



**Table IIIC.6:** Detailed Employment Growth 1986-2001

Industry	Annual Compounded Growth Rates					
	2000 to 2001	1995 to 2000	1990 to 1995	1986 to 1990	1990 to 2001	1986 to 2001
1. TV sets, Radios, VCRs and DVD players	5.1%	-12%	-2.6%	8.7%	-6.4%	-2.6%
2. Computers and Equipment	-3.5%	-4.4%	4.8%	26.6%	-0.2%	6.3%
3. Musical Instruments	-17.5%	-2.5%	10.2%	11.6%	1.5%	4.1%
4. Photographic and Cinematographic instruments	2.7%	-1.4%	0.4%	5.5%	-0.3%	1.3%
5. Photocopiers	-18.4%	7.1%	8.3%	8.9%	5%	6%
6. Blank Recording Material	36.1%	-5.9%	-6%	2.9%	-2.8%	-1.3%
7. Paper	23.2%	-0.9%	0.7%	1.4%	1.9%	1.7%
<b>Interdependent Copyright Industries</b>	<b>-1.4%</b>	<b>-5.5%</b>	<b>2.1%</b>	<b>15.9%</b>	<b>-1.7%</b>	<b>2.7%</b>
<b>Singaporean Employment</b>	<b>-2.3%</b>	<b>4.2%</b>	<b>2.1%</b>	<b>6.1%</b>	<b>2.6%</b>	<b>3.5%</b>

#### D. Partial Copyright Industries

The partial copyright industries are industries in which “a portion of activities are related to works and other protected subject matter and may involve creation, production, manufacturing, performance, broadcast, communication and exhibition or distribution and sales” (WIPO Guide p.33). In this study, we have assigned relevant ratios accordingly to apportion the values of the specific industries within the group after considering the copyright factors used in other international studies. The partial copyright group comprises the following nine<sup>15</sup> industries:

- Apparel, textiles and footwear
- Jewelry and coins
- Other crafts
- Furniture
- Household goods, china and glass
- Wall coverings and carpets
- Toys and games
- Architecture, engineering and surveying
- Interior design

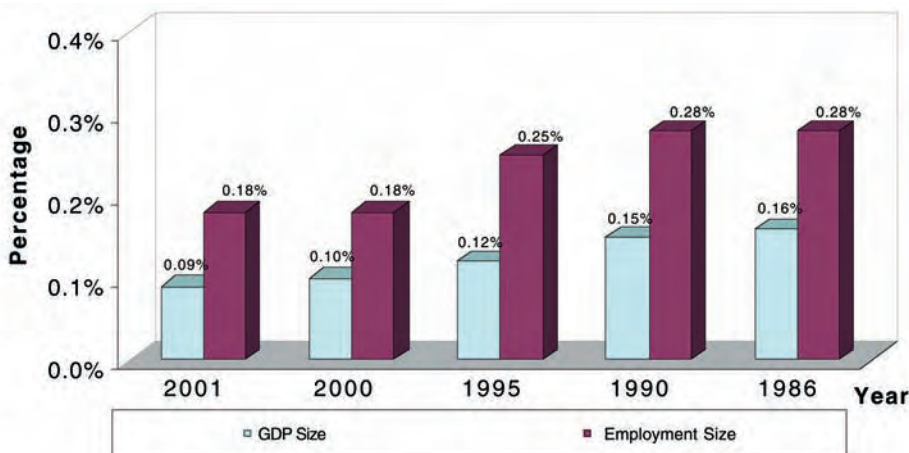
##### 1. Overview

The partial copyright industries contributed the following to the Singaporean economy in 2001:

- S\$339.9 million output
- S\$138.1 million value added (0.1% of GDP)
- 3,737 jobs (0.2% of nation-wide employment).

Value added in these industries increased in real terms gradually from S\$80.7 million to S\$138.1 million at 3.6% per annum between 1986 and 2001 while its relative GDP size declined steadily from 0.2% to 0.1% during the period. Employment also increased slightly from 3,429 to 3,737 workers or at 0.6% per annum while its share of national employment also declined from 0.3% to 0.2% during the same period.

**Chart IIID.1:** Relative Size of Partial Copyright Industries 1986-2001



<sup>15</sup> SSIC class 9222- Museum activities and preservation of historical sites and buildings were subsumed into the visual and graphic industries within the core copyright group. The data did not allow us to differentiate between SSIC items 92221 and 92222 where the latter solely concerned museum activities. Therefore, we have only 9 of the 10 industries in WIPO’s recommendations for the partial copyright group but the missing industry is accounted for at the aggregate level of copyright based industries

## 2. Output

### (i) Output 2001 (Chart IIID.2)

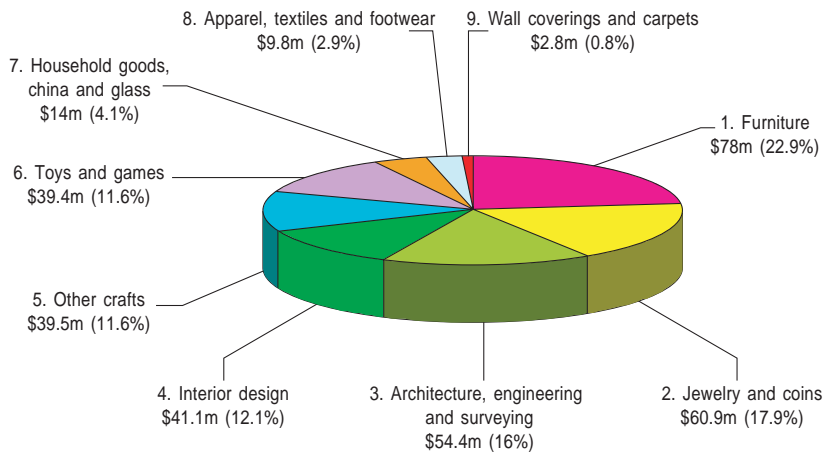
An estimated S\$339.9 million output was generated by the partial copyright industries in 2001. The five most important industries in the group were:

1. Furniture
2. Jewelry and coins
3. Architecture, engineering and surveying
4. Interior design
5. Other crafts

The output generated by these five major industries within the group accounted for S\$273.9 million or 80.6% of the entire partial copyright output. Largest among them was the furniture industry which contributed S\$78 million (22.9%). The jewelry and coin and architecture, engineering and surveying industries followed suit with S\$60.9 million (17.9%) and S\$54.4 million (16%) respectively. Next were the interior design industry with S\$41.1 million (12.1%) and other crafts which generated S\$39.5 million (11.6%).

The other four industries -- toys and games, household goods and glass, apparel, textiles and footwear and wall coverings and carpets -- were responsible for the remaining S\$66 million (19.4%) of output within the partial copyright group.

**Chart IIID.2: Output 2001**



### (ii) Output Growth (Tables IIID.1 and IIID.2)

Overall output in the partial copyright industries increased in real terms by 1.9% per annum from S\$257.6 million to S\$339.9 million between 1986 and 2001 (Table IIID.1). The strongest period of growth was between 1986 and 1990 when output expanded at 10.7% per annum. Slower growth was apparent from 1990 onwards when growth declined to 0.3% per annum between 1990 and 1995. In 2001, overall output in the group fell by S\$30.1 million (8.1%) from S\$370 million to S\$339.9 million.



From 1986 to 2001, some of the industries growing faster in the long-term included the interior design, household goods, china and glass, other crafts and architecture, engineering and surveying industries. Almost all the industries in the group experienced a decline in output in 2001. The exceptions were the jewelry and coin and architecture, engineering and surveying industries whose output increased by 4.3% and 0.1% respectively.

**Table IIID.1:** Detailed Output 1986-2001

Industry	Output (Constant 2001 prices in millions)				
	2001	2000	1995	1990	1986
1. Apparel, textiles and footwear	9.8	10.9	10.2	12.9	9.5
2. Jewelry and coins	60.9	58.3	71.2	75.9	39.7
3. Other crafts	39.5	41.4	40.9	29.4	10.5
4. Furniture	78	97.7	72.4	60.9	47.2
5. Household goods, china and glass	14	16.7	13.8	8.1	3.3
6. Wall coverings and carpets	2.8	3	4.6	3.6	2.5
7. Toys and games	39.4	44.1	104.1	160.2	120.2
8. Architecture, engineering and surveying	54.4	54.4	40.6	20.9	15.8
9. Interior design	41.1	43.5	34.9	14.9	8.9
<b>Partial Copyright Industries</b>	<b>339.9</b>	<b>370</b>	<b>392.7</b>	<b>386.7</b>	<b>257.6</b>

**Table IIID.2:** Detailed Output Growth 1986-2001

Industry	Annual Compounded Growth Rates (Constant 2001 prices)					
	2000 to 2001	1995 to 2000	1990 to 1995	1986 to 1990	1990 to 2001	1986 to 2001
1. Apparel, textiles and footwear	-10.5%	1.3%	-4.5%	8%	-2.5%	0.2%
2. Jewelry and coins	4.3%	-3.9%	-1.3%	17.6%	-2%	2.9%
3. Other crafts	-4.4%	0.2%	6.8%	29.3%	2.7%	9.2%
4. Furniture	-20.2%	6.2%	3.5%	6.6%	2.3%	3.4%
5. Household goods, china and glass	-16.3%	4%	11.3%	25%	5.1%	10.1%
6. Wall coverings and carpets	-6.2%	-8.4%	4.9%	9.8%	-2.4%	0.7%
7. Toys and games	-10.6%	-15.8%	-8.2%	7.4%	-12%	-7.2%
8. Architecture, engineering and surveying	0.1%	6%	14.2%	7.2%	9.1%	8.6%
9. Interior design	-5.6%	4.5%	18.6%	13.8%	9.7%	10.8%
<b>Partial Copyright Industries</b>	<b>-8.1%</b>	<b>-1.2%</b>	<b>0.3%</b>	<b>10.7%</b>	<b>-1.2%</b>	<b>1.9%</b>

### 3. Value Added

#### (i) Value Added 2001 (Chart IIID.3)

The overall value added contribution by the partial copyright industries was S\$138.1 million.

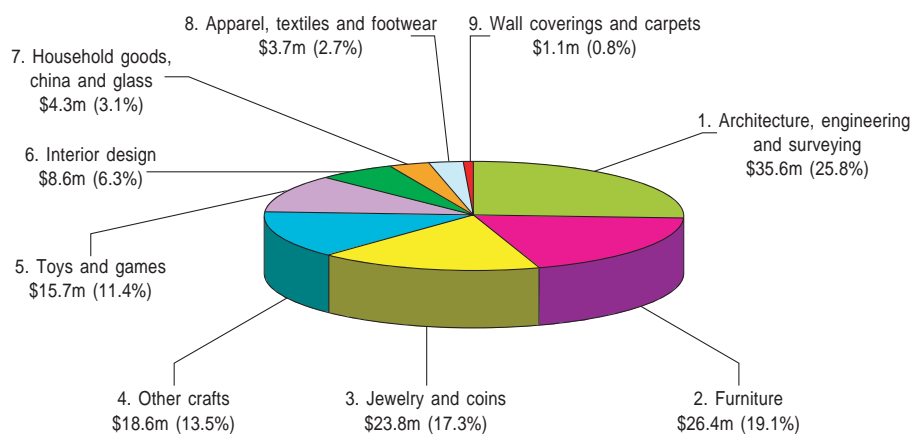
The five most important industries within the group were:

1. Architecture, engineering and surveying
2. Furniture
3. Jewelry and coins
4. Other crafts
5. Toys and games

A total of S\$120.3 million or 87.1% in value added was generated by these five major industries. The largest contributor was the architecture, engineering and surveying industry with S\$35.6 million (25.8%). Other stakeholders included the furniture and jewelry and coin industries with S\$26.4 million (19.1%) and S\$23.8 million (17.3%) respectively while other crafts and toys and games contributed a combined total of S\$34.3 million (24.9%).

The other four industries (interior design, household goods, china and glass, and apparel, textiles and footwear) accounted for the remaining S\$17.8 million or 12.9% of value added within the partial copyright group.

**Chart IIID.3: Value Added 2001**



(ii) Value Added Growth (Tables IIID.3 and IIID.4)

Value added of the partial copyright industries grew by S\$57.4 million from S\$80.7 million to S\$138.1 million constant dollars between 1986 and 2001 (Table IIID.3). Long-term value added growth of 3.6% per annum in the group was slower than the average growth in the economy of 7.6% per annum between 1986 and 2001. Higher growth in these industries was concurrent with that of the economy between 1986 and 1990 with rates of 8.8% and 10% per annum respectively. But overall value added declined by 14.3% between 2000 and 2001.

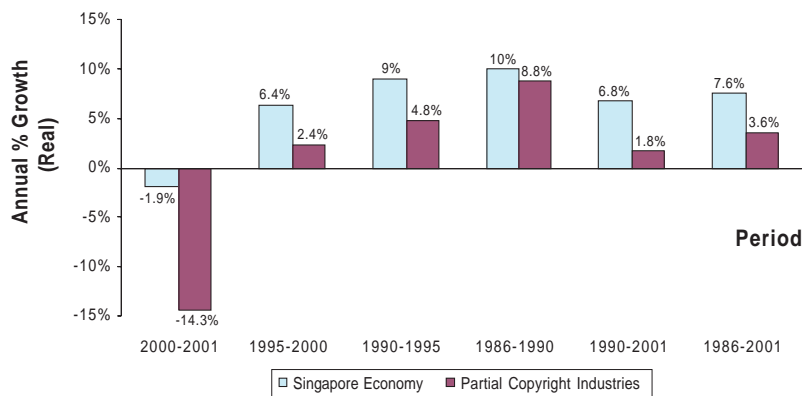
Within the group, the four industries which outperformed the economy between 1986 and 2001 were the architecture, engineering and surveying, household goods, china and glass and other craft industries. In contrast, value added in the furniture and interior design industries declined by 29.5% and 18.5% respectively.



**Table IIID.3:** Detailed Value Added 1986-2001

Industry	Value Added (Constant 2001 prices in millions)				
	2001	2000	1995	1990	1986
1. Apparel, textiles and footwear	3.7	4.3	4.3	4.7	3.2
2. Jewelry and coins	23.8	24.3	26.9	26	14.2
3. Other crafts	18.6	22.7	20.6	13.1	4.9
4. Furniture	26.4	37.5	22	15.8	13.6
5. Household goods, china and glass	4.3	5.4	3.8	2.1	0.9
6. Wall coverings and carpets	1.1	1.3	1.7	1.2	0.8
7. Toys and games	15.7	18.6	30.8	35.4	33.4
8. Architecture, engineering and surveying	35.6	36.6	25.6	12.4	7.7
9. Interior design	8.6	10.6	7.2	2.4	1.8
<b>Partial Copyright Industries</b>	<b>138.1</b>	<b>161.2</b>	<b>142.9</b>	<b>113</b>	<b>80.7</b>
<b>Singaporean GDP</b>	<b>154,078</b>	<b>157,070.3</b>	<b>115,227.2</b>	<b>74,871.7</b>	<b>51,150.8</b>
<b>Relative Size</b>	<b>0.09%</b>	<b>0.10%</b>	<b>0.12%</b>	<b>0.15%</b>	<b>0.16%</b>

**Chart IIID.4:** Value Added Growth in Partial Copyright Industries 1986-2001



**Table IIID.4:** Detailed Value Added Growth 1986-2001

Industry	Annual Compounded Growth Rates (Constant 2001 prices)					
	2000 to 2001	1995 to 2000	1990 to 1995	1986 to 1990	1990 to 2001	1986 to 2001
1. Apparel, textiles and footwear	-12.3%	0%	-1.8%	9.4%	-2%	0.9%
2. Jewelry and coins	-1.8%	-2%	0.7%	16.2%	-0.8%	3.5%
3. Other crafts	-18.1%	2%	9.4%	27.9%	3.2%	9.3%
4. Furniture	-29.5%	11.2%	6.9%	3.8%	4.8%	4.5%
5. Household goods, china and glass	-19.4%	7.3%	12.4%	22.9%	6.8%	10.8%
6. Wall coverings and carpets	-13.4%	-5.4%	7.5%	8.8%	-0.6%	1.8%
7. Toys and games	-15.3%	-9.6%	-2.7%	1.4%	-7.1%	-4.9%
8. Architecture, engineering and surveying	-2.6%	7.4%	15.6%	12.6%	10.1%	10.8%
9. Interior design	-18.5%	7.9%	24.2%	8.4%	12.2%	11.1%
<b>Partial Copyright Industries</b>	<b>-14.3%</b>	<b>2.4%</b>	<b>4.8%</b>	<b>8.8%</b>	<b>1.8%</b>	<b>3.6%</b>
<b>Singaporean GDP</b>	<b>-1.9%</b>	<b>6.4%</b>	<b>9%</b>	<b>10%</b>	<b>6.8%</b>	<b>7.6%</b>

#### 4. Employment

##### (i) Employment 2001 (Chart IIID.5)

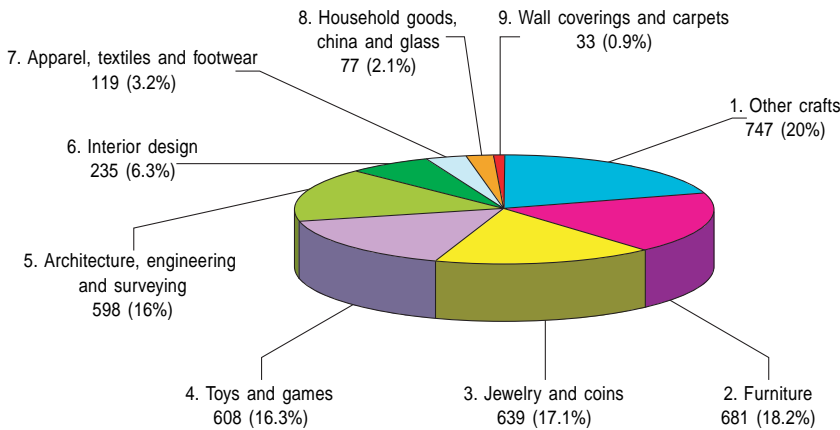
In 2001, the partial copyright industries employed a total of 3,737 workers. The five major employers were:

1. Other crafts
2. Furniture
3. Jewelry and coins
4. Toys and games
5. Architecture, engineering and surveying

These industries within the group contributed 3,274 workers or 87.6% of the total employment in the partial copyright group. The other craft industry was the highest with 747 workers (20%), followed by the furniture industry with 681 workers (18.2%). The jewelry and coins and architecture, engineering and surveying industries employed 639 workers (17.1%) and 608 workers (16.3%) respectively. Smallest among the five major industries was toys and games with 598 workers (16%).

The other four industries of interior design, apparel, textiles and footwear, household goods, china and glass, and wall coverings and carpets accounted for 463 workers (12.4%) of the partial copyright group's total employment.

**Chart IIID.5: Employment 2001**



##### (ii) Employment Growth (Tables IIID.5 and IIID.6)

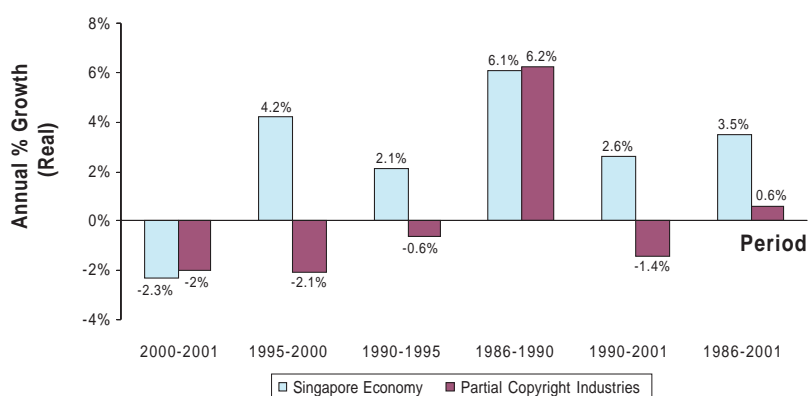
Overall employment within the partial copyright industries expanded marginally at an average rate of 0.6% per annum between 1986 and 2001 from 3,429 workers to 3,737 workers which was lower than the nation-wide average of 3.5% (Table III.D5). Between 1986 and 1990 labour recruitment was occurring at 6.2% annually, slightly faster than the 6.1% per annum average of the economy. In 2001, the overall employment decline of 2% was slightly lower than the 2.3% decline in the economy.

Between 1986 and 2001, the architecture, engineering and surveying, household goods, china and glass and other crafts industries engaged workers at a faster rate than the economy. The period between 1986 and 1990 witnessed the highest employment growth for the individual industries in the group. The furniture and interior design industries were the most affected among the group in 2001 as their employment fell by 18.7% and 6.3% respectively that year.

**Table IIID.5:** Detailed Employment 1986-2001

Industry	Employment				
	2001	2000	1995	1990	1986
1. Apparel, textiles and footwear	119	118	159	204	175
2. Jewelry and coins	639	640	911	875	613
3. Other crafts	747	683	887	635	328
4. Furniture	681	838	620	690	771
5. Household goods, china and glass	77	75	64	53	24
6. Wall coverings and carpets	33	33	48	39	35
7. Toys and games	608	560	950	1,572	1,250
8. Architecture, engineering and surveying	598	617	402	220	153
9. Interior design	235	250	203	80	78
<b>Partial Copyright Industries</b>	<b>3,737</b>	<b>3,815</b>	<b>4,245</b>	<b>4,369</b>	<b>3,429</b>
<b>Singaporean Employment</b>	<b>2,046,700</b>	<b>2,094,800</b>	<b>1,702,100</b>	<b>1,537,000</b>	<b>1,214,400</b>
<b>Relative Size</b>	<b>0.18%</b>	<b>0.18%</b>	<b>0.25%</b>	<b>0.28%</b>	<b>0.28%</b>

**Table IIID.6:** Employment Growth in Partial copyright Industries 1986-2001



**Table IIID.6:** Detailed Employment Growth 1986-2001

Industry	Annual Compounded Growth Rates					
	2000 to 2001	1995 to 2000	1990 to 1995	1986 to 1990	1990 to 2001	1986 to 2001
1. Apparel, textiles and footwear	0.5%	-5.8%	-4.9%	3.9%	-4.8%	-2.6%
2. Jewelry and coins	-0.1%	-6.8%	0.8%	9.3%	-2.8%	0.3%
3. Other crafts	9.3%	-5.1%	6.9%	18%	1.5%	5.6%
4. Furniture	-18.7%	6.2%	-2.1%	-2.7%	-0.1%	-0.8%
5. Household goods, china and glass	2.8%	3.1%	3.7%	22%	3.4%	8.1%
6. Wall coverings and carpets	-0.1%	-7.1%	3.9%	2.6%	-1.6%	-0.5%
7. Toys and games	8.5%	-10%	-9.6%	5.9%	-8.3%	-4.7%
8. Architecture and engineering	-3%	8.9%	12.9%	9.4%	9.5%	9.5%
9. Interior design	-6.3%	4.3%	20.4%	0.6%	10.2%	7.6%
<b>Partial Copyright Industries</b>	<b>-2%</b>	<b>-2.1%</b>	<b>-0.6%</b>	<b>6.2%</b>	<b>-1.4%</b>	<b>0.6%</b>
<b>Singaporean Employment</b>	<b>-2.3%</b>	<b>4.2%</b>	<b>2.1%</b>	<b>6.1%</b>	<b>2.6%</b>	<b>3.5%</b>

### E. Non-Dedicated Support Industries

The non-dedicated support industries are industries "in which a portion of the activities are 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" (WIPO Guide p.35). These activities are classified into three industries in accordance with WIPO's framework as follows:

- General wholesale and retail
- General transportation
- Telephony and internet.

#### 1. Overview

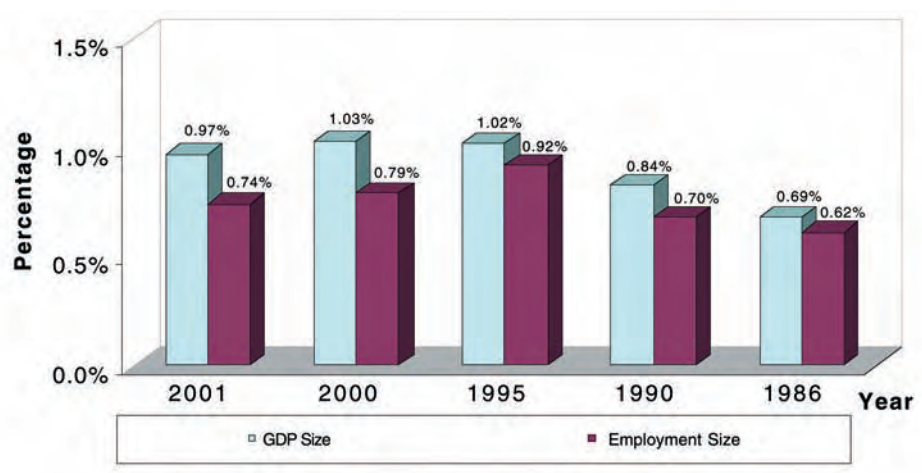
The non-dedicated support industries contributed the following to the Singaporean economy in the year 2001:

- S\$3,712.6 million output
- S\$1,488.2 million value added (1% of GDP)
- 15,153 jobs (0.7% of nation-wide employment)

These distribution-based industries were the third-largest economic contributors after the core and interdependent copyright industries. Value added (in constant 2001 dollars) in the non-dedicated support industries increased from S\$353.7 million to S\$1,488.2 million at 10.1% per annum between 1986 and 2001 while their relative GDP expanded from 0.7% to 1%. Meanwhile, employment in these industries grew from 7,579 workers to 15,153 workers at 4.7% per annum with the relative employment size rising slightly from 0.6% to 0.7% of Singapore's workforce.



**Chart III E.1: Relative Size of Non-Dedicated Support Industries 1986-2001**

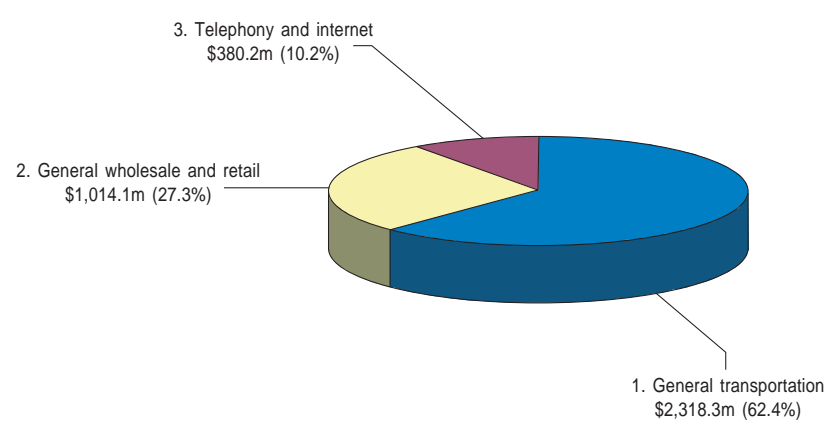


**2. Output**

(i) Output 2001 (Chart III E.2)

In 2001, the non-dedicated support industries produced an estimated output of S\$3,712.6 million. The largest industry within the group was the general transportation industry with a contribution of S\$2,318.3 million (62.4%) to total revenue. Next were the general wholesale and retail and telephony and internet industries with an output of S\$1,014.1 million (27.3%) and S\$380.2 million (10.2%) respectively.

**Chart III E.2: Output 2001**



(ii) Output Growth (Tables III E.1 and III E.2)

Total revenue in the non-dedicated support industries rose from S\$872.6 million to S\$3,712.6 million between 1986 and 2001 (Table III E.1). This represented an annual average growth rate of 10.1%. In tandem with the economy, higher growth persisted between 1986 and 1995. From 1995 to 2000 onwards, growth was slower at 8.5% per annum.

Between 1986 and 1990, the individual industries experienced a double-digit growth rate in their output, especially the general wholesale and retail trade and telephony and internet industries. Between 2000 and 2001, total output of the group fell by S\$88.2 million or 2.3% from S\$3,800.8 million to S\$3,712.6 million.

**Table III E.1:** Detailed Output 1986-2001

Industry	Output (Constant 2001 prices in millions)				
	2001	2000	1995	1990	1986
1. General wholesale and retail	1,014.1	1,077.7	853.8	451.4	241.2
2. General transportation	2,318.3	2,411.9	1,478.5	867	563.9
3. Telephony and internet	380.2	311.2	200.4	111.5	67.5
<b>Non-Dedicated Support Industries</b>	<b>3,712.6</b>	<b>3,800.8</b>	<b>2,532.7</b>	<b>1,429.9</b>	<b>872.6</b>

**Table III E.2:** Detailed Output Growth 1986-2001

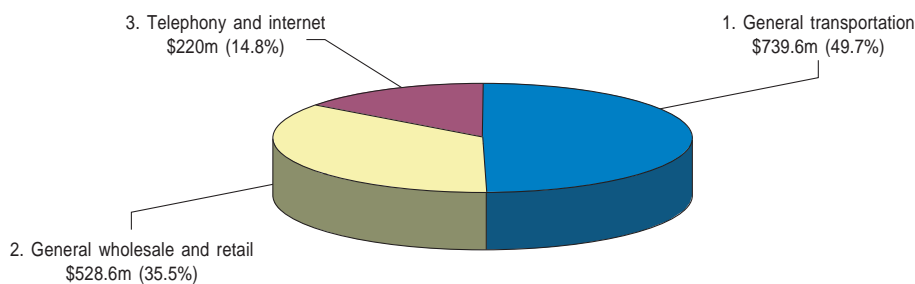
Industry	Annual Compounded Growth Rates (Constant 2001 prices)					
	2000 to 2001	1995 to 2000	1990 to 1995	1986 to 1990	1990 to 2001	1986 to 2001
1. General wholesale and retail	-5.9%	4.8%	13.6%	17%	7.6%	10%
2. General transportation	-3.9%	10.3%	11.3%	11.4%	9.4%	9.9%
3. Telephony and internet	22.2%	9.2%	12.4%	13.4%	11.8%	12.2%
<b>Non-Dedicated Support Industries</b>	<b>-2.3%</b>	<b>8.5%</b>	<b>12.1%</b>	<b>13.1%</b>	<b>9.1%</b>	<b>10.1%</b>

### 3. Value Added

(i) Value Added 2001 (Chart III E.3)

The largest industry in the non-dedicated support group was general transportation which contributed S\$739.6 million (49.7%) of value added. Next were the general wholesale and retail and telephony and internet industries with S\$528.6 million (35.5%) and S\$220 million (14.8%) respectively.

**Chart III E.3:** Value Added 2001



(ii) Value Added Growth (Tables III E.3 and III E.4)

Value added in the non-dedicated support industries increased more than four times from S\$353.7 million to S\$1,488.2 million between 1986 and 2001. This represented an annual average growth rate of 10.1%, which was above the long-term GDP growth of 7.6% during the period. Strong value added growth was shown by the individual industries between 1986 and 1990, especially the general

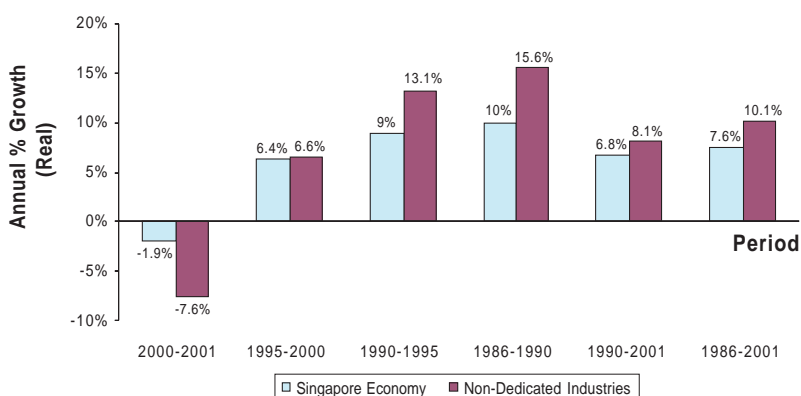


wholesale and retail trade industry with 18.3% growth per annum which was 8.3% points higher than the average 10% annual GDP growth during the period. Between 1995 and 2000, all the industries in the group experienced slower growth with the general transportation industry showing the highest at 7.5% per annum. In 2001, a decline in the economy affected the general transportation industry as its value added dropped by S\$113.4 million to S\$739.6 million, or 13.3% from the S\$853 million achieved in the previous year.

**Table III.E.3:** Detailed Value Added 1986-2001

Industry	Value Added (Constant 2001 prices in millions)				
	2001	2000	1995	1990	1986
1. General wholesale and retail	528.6	569.8	446.4	227.2	115.9
2. General transportation	739.6	853	593.2	335.6	199.3
3. Telephony and internet	220	187.6	131.4	69.8	38.5
<b>Non-Dedicated Support Industries</b>	<b>1,488.2</b>	<b>1,610.4</b>	<b>1,171</b>	<b>632.6</b>	<b>353.7</b>
<b>Singaporean GDP</b>	<b>154,078</b>	<b>157,070.3</b>	<b>115,227.2</b>	<b>74,871.7</b>	<b>51,150.8</b>
<b>Relative Size</b>	<b>0.97%</b>	<b>1.03%</b>	<b>1.02%</b>	<b>0.84%</b>	<b>0.69%</b>

**Chart III.E.4:** Value Added Growth in Non-Dedicated Support Industries 1986-2001



**Table III.E.4:** Detailed Value Added Growth 1986-2001

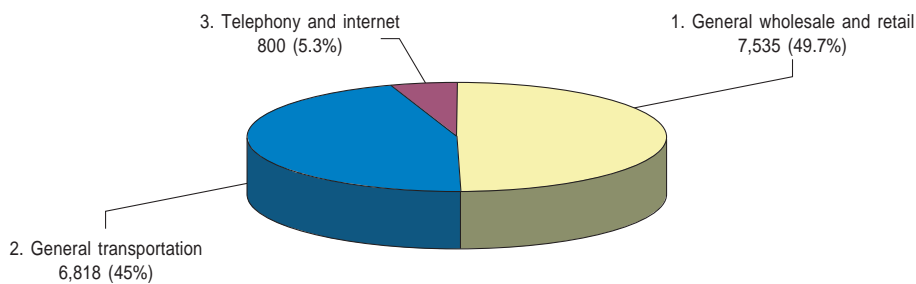
Industry	Annual Compounded Growth Rates (Constant 2001 prices)					
	2000 to 2001	1995 to 2000	1990 to 1995	1986 to 1990	1990 to 2001	1986 to 2001
1. General wholesale and retail	-7.2%	5%	14.5%	18.3%	8%	10%
2. General transportation	-13.3%	7.5%	12.1%	13.9%	7.4%	9.1%
3. Telephony and internet	17.3%	7.4%	13.5%	16%	11%	12.3%
<b>Non-Dedicated Support Industries</b>	<b>-7.6%</b>	<b>6.6%</b>	<b>13.1%</b>	<b>15.6%</b>	<b>8.1%</b>	<b>10.1%</b>
<b>Singaporean GDP</b>	<b>-1.9%</b>	<b>6.4%</b>	<b>9%</b>	<b>10%</b>	<b>6.8%</b>	<b>7.6%</b>

#### 4. Employment

##### (i) Employment 2001 (Chart III E.5)

An estimated 15,153 workers were employed within the non-dedicated support group in 2001. The general wholesale and retail industry was the largest employer with 7,535 workers or 49.7% of the total workforce. The general transportation industry followed closely with 6,818 workers (45%) while another 800 workers (5.3%) were engaged in the telephony and internet industry.

**Chart III E.5:** Employment 2001



##### (ii) Employment Growth (Tables III E.5 and III E.6)

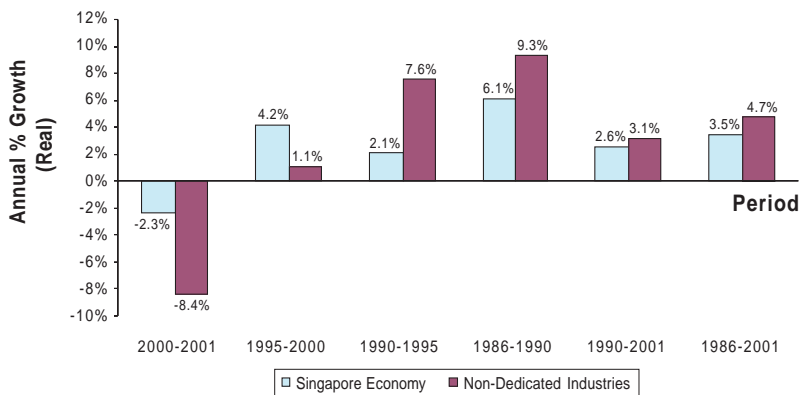
Employment doubled from 7,579 workers to 15,153 workers between 1986 and 2001 at an average rate of 4.7% per annum, which was above the 3.5% average. Concurrent with the economic climate of Singapore, growth in the group was at its peak between 1986 and 1990 when employment increased at an average of 9.3% per annum. Slower growth was then observed between 1990 and 2000. Between 2000 and 2001, employment fell by 1,381 workers or 8.4% from 16,534 workers to 15,153 workers.

The general wholesale and retail trade and telephony and internet had high employment growth rates of 5.1% and 5.9% respectively between 1986 and 2001. These two industries also witnessed strong growth between 1986 and 1990 but lower growth between 1990 and 2000. Both the general transportation and general wholesale and retail industries experienced a decline in employment of 6.5% and 11.9% between 2000 and 2001. In contrast, the telephony and internet industry grew strongly in 2001, at almost the same rate as in the period 1986-1990.

**Table III E.5:** Detailed Employment 1986-2001

Industry	Employment				
	2001	2000	1995	1990	1986
1. General wholesale and retail	7,535	8,059	7,495	5,244	3,592
2. General transportation	6,818	7,736	7,437	5,104	3,649
3. Telephony and internet	800	739	698	484	339
<b>Non-Dedicated Support Industries</b>	<b>15,153</b>	<b>16,534</b>	<b>15,631</b>	<b>10,833</b>	<b>7,579</b>
<b>Singaporean Employment</b>	<b>2,046,700</b>	<b>2,094,800</b>	<b>1,702,100</b>	<b>1,537,000</b>	<b>1,214,400</b>
<b>Relative Size</b>	<b>0.74%</b>	<b>0.79%</b>	<b>0.92%</b>	<b>0.70%</b>	<b>0.62%</b>

**Chart III.E.6:** Employment Growth in Non-Dedicated Support Industries 1986-2001



**Table III.E.6:** Detailed Employment Growth 1986-2001

Industry	Annual Compounded Growth Rates					
	2000 to 2001	1995 to 2000	1990 to 1995	1986 to 1990	1990 to 2001	1986 to 2001
1. General wholesale and retail	-6.5%	1.5%	7.4%	9.9%	3.3%	5.1%
2. General transportation	-11.9%	0.8%	7.8%	8.8%	2.7%	4.3%
3. Telephony and internet	8.2%	1.1%	7.6%	9.3%	4.7%	5.9%
<b>Non-Dedicated Support Industries</b>	<b>-8.4%</b>	<b>1.1%</b>	<b>7.6%</b>	<b>9.3%</b>	<b>3.1%</b>	<b>4.7%</b>
<b>Singaporean Employment</b>	<b>-2.3%</b>	<b>4.2%</b>	<b>2.1%</b>	<b>6.1%</b>	<b>2.6%</b>	<b>3.5%</b>

## F. Foreign Trade

### 1. Overview

Foreign trade as represented by the domestic exports of copyrighted goods and materials was estimated at around S\$3,500 million for the year 2001. The trade items were<sup>16</sup>:

- Recorded computer tapes and disks
- Printed books, newspapers, periodicals, journals, calendars and brochures
- Printed music and other material
- Recorded video, audio tapes and disks and cinematograph film
- Advertising materials

### 2. Domestic Exports of Copyrighted Goods

Domestic exports of copyrighted goods and materials in 2001 amounted to S\$3,466.8 million (Table III.F.1), which was equivalent to 3.6% of Singapore's total non-oil domestic exports or 2.3% of GDP for that year. Between 2000 and 2001, there was a decline of S\$152.1 million or 4.2% from the S\$3,618.9 million achieved in 2000 whereas the size of copyrighted trade as a proportion of total non-oil domestic exports rose from 3.3% to 3.6%.

<sup>16</sup> For a detailed breakdown, refer to pp 88, Table VIC.5: Detailed Domestic Exports of Copyrighted Goods, 2000-2001 and their relevant SITC codes. These domestic exports were assumed to have originated from the core copyright industries as exports from the non-core copyright industries were excluded.

**Table III.F.1:** Domestic Exports of Copyrighted Goods 2000-2001

Description	Domestic Exports (Constant 2001 prices in millions)		Change (S\$ millions)	% Change
	2001	2000		
1. Copyrighted Goods and Materials	3,466.8	3,618.9	-152.1	-4.2%
2. Total Non-Oil Domestic Exports	96,728	110,592	-13,864	-12.5%
3. Singaporean GDP	154,078	157,070.3	-2,992.3	-1.9%
Share of Total Non-Oil Domestic Exports (%)	3.58%	3.27%	N/A	+0.31% pts
Share of GDP (%)	2.25%	2.30%	N/A	-0.05% pts

## G. International Comparisons

### 1. Overview

An analysis of copyright based industries across countries, based on research findings of national or international studies, is difficult due to differences in the methodologies employed in these studies. This is made even more complicated when one has to bear in mind the divergence on the following factors in the various studies:

- National Accounting System
- Industrial Classification
- Scope of study (Broad/Narrow)

Nevertheless, it is instructive to obtain some indication on the relative size of Singapore's copyright based industries, bearing in mind that the data are not strictly comparable.

### 2. Comparison with the EU-15

#### (i) Size (Table III.G.1)

The economic contribution of the copyright based industries in the year 2000<sup>17</sup> was compared against some European countries in the EU-15<sup>18</sup> where data were available for the same year (Table III.G.1). The 5%<sup>19</sup> GDP contribution was close to the EU-15's average of 5.3%. In terms of employment, the 4.7% employment share was above the EU-15 average of 3.1%, implying that the copyright based industries in Singapore were more-labour intensive than those in the European countries. The average value added per worker in the copyright based industries in the EU-15 in 2000 was estimated at S\$137,585<sup>20</sup>, which was higher than the S\$80,535<sup>21</sup> attained by Singapore's core and interdependent copyright industries for the year 2000.

<sup>17</sup>The GDP and employment shares of the copyright based industries in Singapore for the year 2000 were estimated at 6.14% and 5.65% respectively under WIPO's methodology for the comparison with the EU-15 countries on the-same-year basis.

<sup>18</sup>Robert. G. Picard, Timo E. Toivonen, Mikko Gronlund (Oct 2003), The Contribution of Copyright and Related Rights to the European Economy for the year 2000, Media Group, Business Research and Development Centre, Turku School of Economics and Business Administration.

<sup>19</sup>The GDP contribution in 2000 by Singaporean copyright based industries excluded the partial copyright and non-dedicated support industries so that the analysis would be on a more comparable basis as the scope would be similar to that of the EU-15 study.

<sup>20</sup>This was estimated by taking the average worker productivity in the EU-15 of 86,369 euros and multiplying by the average sing/euro exchange rate of 1.593 for the year 2000. Source Economic Survey of Singapore 2002.

<sup>21</sup>This was derived by adding the value added of both the core and interdependent copyright industries and dividing it by their total employment.



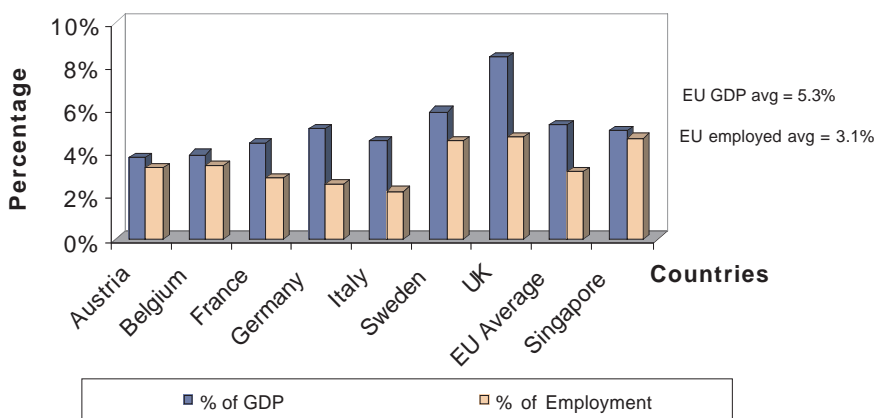


It should be noted that the statistics are not strictly comparable as the scope contained in the EU-15 study of these countries differs to some extent from that recommended in the WIPO Guidelines even though Singapore's estimates are adjusted for a more comparable basis. The adjusted values in the comparison analysis and Table IIIG.1 pertain to excluding shares of the partial and non-dedicated support industries from the Singaporean statistics given in the earlier sections.

**Table IIIG.1:** Comparisons of Copyright-Based Industries 2000

Country	GDP Contribution			Employment Contribution		
	Core (%)	Inter-Dependent (%)	National Share of GDP (%)	Core (%)	Inter-Dependent (%)	National Share of Employment (%)
1. Austria	2.30%	1.50%	3.80%	2.10%	1.20%	3.30%
2. Belgium	2.70%	1.20%	3.90%	2.40%	1.00%	3.40%
3. France	3.40%	1.00%	4.40%	1.90%	0.90%	2.80%
4. Germany	3.50%	1.60%	5.10%	1.30%	1.20%	2.50%
5. Italy	3.30%	1.20%	4.50%	1.30%	0.90%	2.20%
6. Sweden	4.40%	1.50%	5.90%	2.70%	1.80%	4.50%
7. UK	7.10%	1.30%	8.40%	3.20%	1.50%	4.70%
<b>EU-15 Average</b>	<b>3.99%</b>	<b>1.28%</b>	<b>5.27%</b>	<b>2.02%</b>	<b>1.12%</b>	<b>3.14%</b>
<b>Singapore</b>	<b>2.97%</b>	<b>2.05%</b>	<b>5.02%</b>	<b>3.45%</b>	<b>1.22%</b>	<b>4.67%</b>

**Chart IIIG.1:** Comparisons of Copyright-Based Contributions 2000



(ii) Comparisons of Specific Core Copyright Industries (Table IIIG.2)

The press and literature industry in Singapore contributed about 1% of GDP. This was slightly higher than France's 0.8% but lower than the EU-15 average of 1.1%. The two countries where the press and literature industry was significant were the United Kingdom and Sweden with 1.8% and 1.2% respectively, especially so for the former which has a very well-established press and literature industry.

The size of the software and database industry in Singapore was estimated at 1.1% of GDP which was higher than the 0.9% of Austria. This was lower than the EU-15 average of 1.4% as the information technology industry is still relatively new in Singapore, being introduced on a nation-wide scale only in the past decade.

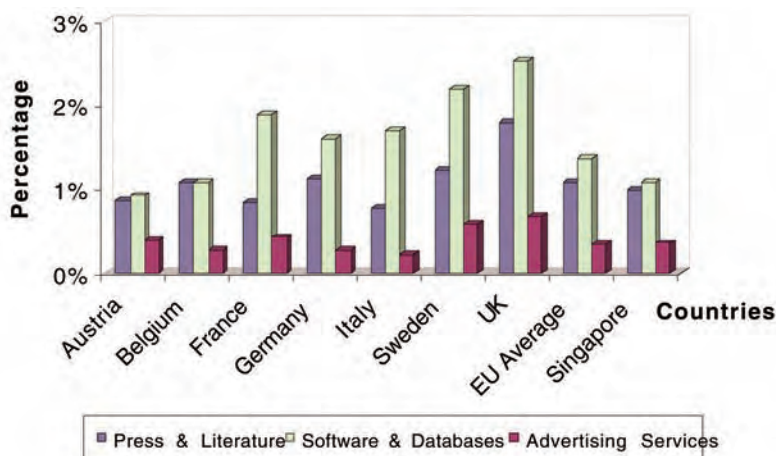


National contributions by advertising services were also compared. Singapore's advertising industry contributed almost 0.4% to GDP in 2000. This was higher than the EU-15 average of 0.3% and the 0.2% of Italy while lagging behind the United Kingdom's 0.7%.

**Table III.G.2:** Comparison of Specific Core Industries Value Added 2000

Country	GDP Contribution of some Industries in the Core Copyright Group		
	Press and Literature	Software and Databases	Advertising Services
1. Austria	0.85%	0.92%	0.38%
2. Belgium	1.07%	1.07%	0.27%
3. France	0.83%	1.87%	0.42%
4. Germany	1.12%	1.59%	0.26%
5. Italy	0.76%	1.69%	0.21%
6. Sweden	1.22%	2.18%	0.57%
7. UK	1.79%	2.52%	0.67%
<b>EU-15 Average</b>	<b>1.07%</b>	<b>1.35%</b>	<b>0.33%</b>
<b>Singapore</b>	<b>0.97%</b>	<b>1.08%</b>	<b>0.35%</b>

**Chart III.G.2:** Comparison of Specific Core Industries Value Added 2000



(iii) Comparison of Non-Core Copyright Industries

In terms of the non-core copyright<sup>22</sup> industries, a more rational assessment would be to compare the interdependent copyright industries against the copyright-dependent industries of the EU-15. The interdependent copyright industries in Singapore contributed 2.1% and 1.2% to GDP and employment respectively. These were higher than the EU-15 copyright-dependent industries' average contribution to GDP and employment of 1.3% and 1.1% respectively. Singapore has a proportionately larger manufacturing sector, especially in the field of electronic products and components, resulting in a relatively large group of interdependent copyright industries when compared with European counterparts.

<sup>22</sup> Specific analysis could not be conducted at the specific industry level as there was not enough information for several of the countries. Therefore, comparison was conducted on a macro perspective.

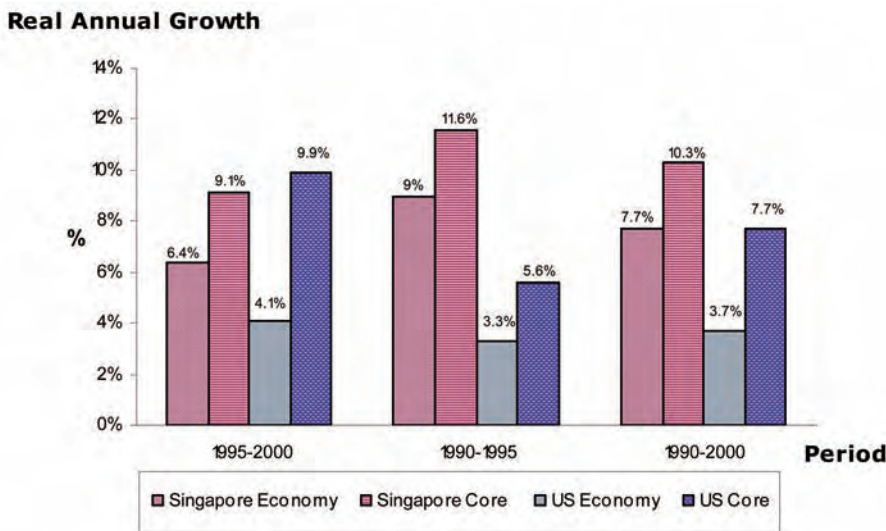
(iv) Growth of the Core Copyright Industries

A common pattern among the various studies showed that growth in core copyright industries generally outpaced that of the overall economy. The United States has been analyzing its copyright based industries on an annual basis for a sufficiently long period of time thus providing us with an opportunity to compare the real value added growth of core copyright industries between the two nations. Real value added growth in the core copyright industries in Singapore and in the US outgrew the rate of expansion in their respective economies for each of the periods reviewed in the decade ending 2000 (Chart III G.3). The pace of growth in the Canadian and US core copyright industries was tremendous as it was, on average, twice as fast as their respective GDP growth rates (Table III G.3). In comparison, Singapore’s core copyright industries achieved 10.3% annual growth, outperforming the overall economy’s 7.7% annual expansion by 1.34 times during 1990-2000.

Other research, with findings of higher real growth in the core copyright industries than in the overall economy, include:

- Australia - Core copyright industries increased by an estimated annual compounded rate of 5.3%<sup>23</sup> per annum between 1996 and 2000 while the economy expanded at 4.5% per annum.
- Canada - Core copyright industries expanded by an average 6.6%<sup>24</sup> per annum while the economy grew at 3.3% annum between 1991 and 2002.
- Netherlands - Core copyright industries grew at an annual rate of 5.6%<sup>25</sup> as against the economy’s 3.2% between 1994 and 1998.

**Chart III G.3: Real Value Added Growth, Singapore vs. US 1990-2000**



<sup>23</sup> Allen Consulting Group (2001), "The Economic Contribution of Australia's Copyright Industries". Please note that the average arithmetical growth rates for both the core industries and economy have been converted to a geometric basis for easier comparison.

<sup>24</sup> Wall Communications Inc. (2004), "The Economic Contribution of Copyright Industries to the Canadian Economy", Draft 8, 19 March 2004, pp 12 and 15.

<sup>25</sup> SEO (2000) Report, "The Economic Importance of Copyright in the Netherlands in 1998", pp 8, Research by SEO Amsterdam Economics.

**Table III G.3:** Relative Growth of the Core Copyright Industries

Country	Real Annual Compounded Growth Rates		
	1995 to 2000	1990 to 1995	1990 to 2000
<b>1. Australia (1996-2000)</b>			
a. Core industries (Australia)	5.3%	N/A	N/A
b. Australian economy	4.5%	N/A	N/A
c. Relative growth index	<b>1.17 times</b>	N/A	N/A
<b>2. Canada (1991-2002) <sup>26</sup></b>			
a. Core industries (Canada)	N/A	N/A	6.6%
b. Canadian economy	N/A	N/A	3.3%
c. Relative growth index	N/A	N/A	<b>2 times</b>
<b>3. Singapore (1990-2000)</b>			
a. Core industries (Singapore)	9.1%	11.6%	10.3%
b. Singaporean economy	6.4%	9%	7.7%
c. Relative growth index	<b>1.42 times</b>	<b>1.29 times</b>	<b>1.34 times</b>
<b>4. US (1990-2000)</b>			
a. Core industries (US)	9.9%	5.6%	7.7%
b. US economy	4.1%	3.3%	3.7%
c. Relative growth index	<b>2.41 times</b>	<b>1.7 times</b>	<b>2.08 times</b>

<sup>26</sup> The time frame for Canada was from 1991 to 2002. There was not enough information in the Canadian draft report on the growth of their core industries for various periods between 1991 and 2002 to calculate short-term growth. The growth periods for Australia and Canada were categorized under the nearest time frame available in Table III G.3.

## IV. I-O Analysis

As mentioned in WIPO's guidelines, input-output (I-O) tables are alternative sources of data for estimation of the economic contribution of copyright based industries. I-O tables are the most comprehensive econometric models which show the inputs to production and the output markets for groups of industries classified as I-O sectors. The linkages among sectors are shown and the multiplying effects of an increase in final demand have been computed. This section details an attempt to estimate the total (direct and indirect) economic impact of the core copyright industries in 2001 on the Singaporean economy through I-O methodology.<sup>27</sup> Indications on the strength of linkages that the core copyright industries have with the rest of the economy, i.e. multipliers, are also shown.

### A. Singapore I-O Table

The latest I-O table pertains to the year 2000 and has been updated by NUS Consulting from the 1995 benchmark table compiled by Singapore's Department of Statistics. The table comprises 155 production sectors of goods and services in Singapore. The nine core copyright industries are covered by 13 Singaporean I-O sectors (SIO) as follows:<sup>28</sup>

- SIO 034 Newspapers, books and magazines
- SIO 035 Other printing
- SIO 087 Recorded media
- SIO 111 Wholesale and retail trades
- SIO 135 Information technology
- SIO 139 Advertising and exhibitions
- SIO 140 Leasing of machinery and equipment
- SIO 142 Other business and technical services
- SIO 148 Cinema services
- SIO 149 Broadcasting and entertainment services
- SIO 150 Other recreational services
- SIO 151 Personal and household services
- SIO 154 Domestic services and non-profit bodies

The analysis in this section assumes that the input structure of the I-O sector, to which a core copyright activity belongs, closely reflects the input structure of that core copyright activity. For instance, SIO 139 advertising and exhibitions sector has input coefficients that well represent the input structure of the core copyright industry of advertising services.

### B. Indirect Impact

The indirect impact of an industry on an economy arises from the industry's backward linkages with the rest of the economy owing to its requirements of domestic inputs for its output. For instance, according to the I-O table, the advertising and exhibitions sector requires S\$24,800 of services from banks and finance companies in order to produce S\$1 million of the sector's output. The banks and finance companies in turn require input of crane and container services of S\$8 for every S\$1 million of output. Hence though the advertising and exhibitions sector does not require any input of crane and container services, it indirectly requires S\$0.2 of such services through its direct requirement of services from banks and finance companies for every S\$1 million of its output. (Chart IVB.1 depicts the direct

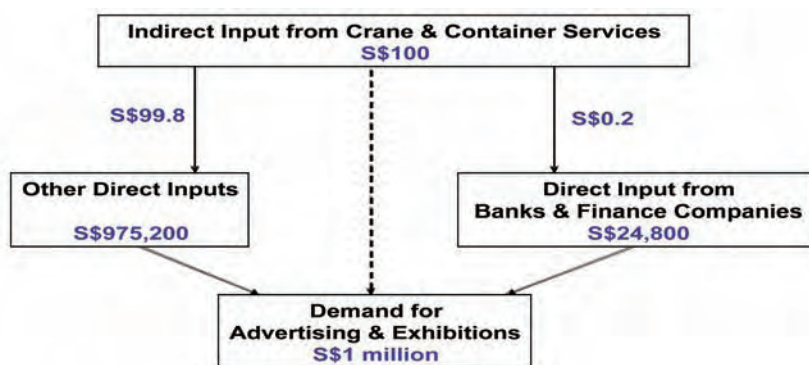
<sup>27</sup> The I-O methodology was developed by Professor Wassily Leontief, who was awarded a Nobel prize for his work.

<sup>28</sup> I-O sectors comprise groups of industries generally with similar production functions.



and indirect relationships.) Eventually, because its other inputs require crane and container services, the advertising and exhibitions sector would indirectly need S\$100 of crane and container services for an output of S\$1 million. In other words, the indirect impact comprises all the upstream goods and

**Table IVB.1:** Input Structure of Core Copyright Industries 2001



services that need to be produced to support the direct inputs to a sector.

As a group, the core copyright industries in 2001 purchased 44% of their inputs from Singaporean industries (Table IVB.1). Almost a quarter of the group's inputs were from overseas.

Labour, as represented by wages and salaries, formed one fifth of the inputs while net profits amounted to almost 6% of total revenue (in I-O tables, total inputs equal total output or total expenditures equal total revenue).

**Table IVB.1:** Input Structure of Core Copyright Industries 2001

SIO	Sector	Input Coefficient
1190	Total domestic intermediate inputs	0.4385
2190	Imports	0.2428
3182	Value added	0.3187
<i>Of which</i>		
3178	Wages and salaries	0.2072
3179	Net operating surplus	0.0581
<b>Total</b>		<b>1.0000</b>

Table IVB.2 shows the estimated major inputs of the combined core copyright industries, the input coefficients being for one unit of output. Of the 12 large input sectors, five had indirect coefficients that were significantly larger than the respective direct coefficients. This implies very strong backward linkages of these sectors with the rest of the economy. For instance, the indirect input (0.1422) of other printing is almost ten times that of the direct input (0.0156). If the core copyright industries as a group were to increase output by S\$1 million, it would require other printing to expand output by almost S\$0.16 million to meet both direct and indirect demand. The sum of all indirect output to support the S\$1 million increase in core copyright industries would amount to S\$0.7661 million. That is the core copyright industries had an overall output multiplier of 1.7661. And almost half of the indirect output would be from the information technology sector.



**Table IVB.2:** Major Inputs of the Core Copyright Industries 2001

SIO	Sector	Input Coefficient		
		Direct	Indirect	Total
35	Other printing	0.0156	<i>0.1422</i>	0.1578
69	Disk drives	0.0709	0.0417	0.1126
111	Wholesale and retail trades	0.0565	<i>0.1250</i>	0.1815
112	Food and beverage services	0.0164	0.0069	0.0233
127	Communications	0.0157	0.0108	0.0265
130	Banks and finance companies	0.0265	0.0254	0.0519
132	Real estate	0.0435	0.0315	0.0750
135	Information technology	0.0073	<i>0.3425</i>	0.3498
139	Advertising and exhibitions	0.0069	<i>0.1481</i>	0.1550
149	Broadcasting and entertainment services	0.0180	<i>0.1582</i>	0.1762
151	Personal and household services	0.0251	0.0267	0.0518
154	Domestic services and non-profit bodies	0.0166	0.0167	0.0333
<b>Total*</b>		<b>1.0000</b>	<b>0.7661</b>	<b>1.7661</b>

Note: Coefficients in italics signify indirect coefficients exceeding direct coefficients by more than 0.1.

\* Total of all sectors.

### C. Multipliers

The output multipliers of each core copyright industry are detailed in Table IVC.1 together with the estimated direct and indirect output values.

The direct output of S\$12.2 billion from the core copyright industries in 2001 would generate an additional S\$9.4 billion of output owing to the backward linkages. Every dollar of output from the core copyright industries would require the economy to produce another 77 cents of output to support the production of the one-dollar output. The three highest multipliers (measuring 2.0145 to 2.1906) were from radio and television; music, theatrical production and opera; and motion pictures and video. An increase in demand for the output of goods and services from any of these three industries would stimulate total output of goods and services in Singapore to rise by twice that amount.

**Table IVC.1:** Output Multipliers 2001

Industry	Direct Output (\$'mil)	Indirect Output (\$'mil)	Total Output (\$'mil)	Output Multiplier*
1. Press and Literature	3,329.6	2,255.8	5,585.4	1.6775
2. Music, Theatrical Productions and Opera	856.2	928.1	1,784.3	2.0840
3. Motion Pictures and Video	285.9	290	575.9	2.0145
4. Radio and Television	1,257.5	1,497.2	2,754.7	2.1906
5. Photography	142.1	123.3	265.4	1.8676
6. Software and Databases	4,323.9	2,797.1	7,121	1.6469
7. Visual and Graphic Arts	268.1	158.2	426.3	1.5902
8. Advertising Services	1,755.6	1,312	3,067.6	1.7473
9. Copyright Collecting Societies	31.1	23	54.1	1.7380
<b>Core Copyright Industries</b>	<b>12,249.8</b>	<b>9,384.7</b>	<b>21,634.5</b>	<b>1.7661</b>

\* Multiplier = Total output/Direct output

The value added multipliers, given in Table IVC.2, show that every dollar increase in output from the group of core copyright industries in 2001 would result in an increase in value added (or GDP) of 66.85 cents. In other words, the value added multiplier of core copyright industries in 2001 was 0.6685. The direct value added constituted 0.3584 while the indirect value added generated was 0.3101 (or the indirect value added was equivalent to 87% of the direct value added). The highest value added multiplier belonged to music, theatrical productions and opera at 0.8630.

**Table IVC.2:** Value Added Multipliers 2001

Industry	Direct Value Added (\$'mil)	Indirect Value Added (\$'mil)	Total Value Added (\$'mil)	Value Added Multiplier*
1. Press and Literature	1,452.2	1,005	2,457.2	0.7380
2. Music, Theatrical Productions and Opera	304.4	434.4	738.8	0.8630
3. Motion Pictures and Video	74.8	129.9	204.7	0.7160
4. Radio and Television	223	493.9	716.9	0.5701
5. Photography	41.3	34.7	76	0.5349
6. Software and Databases	1,872.2	1,273	3,145.2	0.7274
7. Visual and Graphic Arts	96.7	48.9	145.6	0.5430
8. Advertising Services	312.6	370.3	682.9	0.3890
9. Copyright Collecting Societies	13	8.1	21.1	0.6787
<b>Core Copyright Industries</b>	<b>4,390.3</b>	<b>3,798.2</b>	<b>8,188.5</b>	<b>0.6685</b>

\* Multiplier = Total value added/Direct output

The core copyright industries directly employed some 74,400 workers in 2001 and indirectly provided jobs for another 61,000 workers (Table IVC.3). Every million of output of the core copyright industries would require a workforce of 6 persons directly and 5 persons indirectly, resulting in an employment multiplier of 11.1 workers per million of output. The music, theatrical productions and opera industry, at 26, had the largest employment multiplier.

**Table IVC.3:** Employment Multipliers 2001

Industry	Direct Employment	Indirect Employment	Total Employment	Employment Multiplier*
1. Press and Literature	23,662	15,579	39,422	11.8
2. Music, Theatrical Productions and Opera	10,062	12,184	22,246	26
3. Motion Pictures and Video	2,004	2,909	4,913	17.2
4. Radio and Television	5,460	9,524	14,984	11.9
5. Photography	1,589	526	2,115	14.9
6. Software and Databases	23,092	12,456	35,549	8.2
7. Visual and Graphic Arts	2,723	1,005	3,728	13.9
8. Advertising Services	5,555	6,485	12,040	6.9
9. Copyright Collecting Societies	286	121	407	13.1
<b>Core Copyright Industries</b>	<b>74,434</b>	<b>60,969</b>	<b>135,404</b>	<b>11.1</b>

\* Multiplier = Total employment/Direct output in S\$ million

## D. Comparison

At 1.7661, the output multiplier of the core copyright industries is higher than the average of 1.6474 for the whole economy (Table IVC.4). It is also higher than some major industries in Singapore, for example, semiconductors, banks and finance companies, and construction. But it is lower than that of petrochemicals, aquarium fish, ship repairing, and jewelry for example.

**Table IVC.4:** Multipliers of Selected Sectors

SIO	Sector	Multiplier		
		Output	Value Added	Employment (Persons per \$m of output)
073	Semiconductors	1.3308	0.3348	3.13
068	Computers and computer peripheral equipment	1.4021	0.3345	2.08
130	Banks and finance companies	1.4191	0.8104	3.19
143	Producers of government services	1.5597	0.7277	9.75
109	Building construction	1.6345	0.6594	17.05
110	Other construction	1.6574	0.6551	11.63
145	Education	1.7240	0.8547	18.02
069	Disk drives	1.8040	0.3225	3.79
002	Nursery products	1.8507	0.6486	20.22
038	Petrochemicals and products	1.8542	0.3324	2.80
004	Aquarium fish	1.8574	0.6499	23.90
039	Polymers and man-made fibres	1.9398	0.4298	4.23
103	Jewelry	2.1276	0.4326	8.38
094	Repairing of ships and boats	2.2618	0.6193	13.51
<b>Core Copyright Industries</b>		<b>1.7661</b>	<b>0.6685</b>	<b>11.1</b>
<b>Average of all I-O sectors</b>		<b>1.6474</b>	<b>0.5561</b>	<b>10.17</b>

Output Multiplier = (Direct Output + Indirect Output) / Direct Output

Value Added Multiplier = (Direct Value Added + Indirect Value Added) / Direct Output

Employment Multiplier = Total Employment / Direct Output in \$ million

The value added (0.6685) and employment multipliers (11.1) of core copyright industries are also above the national averages (0.5561 and 10.17 respectively). Hence the core copyright industries, as a group, generated more output, contributed more to GDP, and provided more jobs per one million dollars of output than the average industry. The group stimulates the economy more in terms of expansion in output, value added and employment than two I-O sectors in the above table -- semiconductors and computer and computer peripheral equipment. The education sector has a lower output multiplier than the group of core copyright industries but higher value added and employment multipliers. Though the petrochemicals and products sector has a higher output multiplier than the core copyright industries, its value added and employment multipliers are less than half that of core copyright industries.



### **E. Economic Impact**

Through their backward linkages to the rest of the economy, the core copyright industries could generate upstream activities that amount to about 80% of the core copyright output, value added and employment. An increase in demand for core copyright goods and services of S\$1 million would result in:

- an additional output in the whole economy of S\$0.7661 million, giving an output multiplier of 1.7661;
- an increase in value added of S\$0.3584 million directly in the core copyright industries and S\$0.3101 million indirectly in the rest of the economy, with a value added multiplier of 0.6685;
- an increase in employment of 6 workers directly in core copyright activities and 5 workers indirectly in ancillary activities, associated with an employment multiplier of 11.0535.<sup>29</sup>

As a group, the core copyright industries have a greater impact on the economy - in terms of generation of output, GDP and jobs - than an average industry, as reflected in their above-average multipliers for the country. Among the core copyright industries, the industry encompassing music, theatrical production and opera has the second highest output multiplier (2.0840), and the highest value added (0.8630) and employment (26) multipliers.

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<sup>29</sup>Details of the economic impact estimates and multipliers are in Tables VIC.7-9, pp 90-95 under Technical Notes.

## V. Conclusion

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Copyright-Based industries are significant to Singapore's economy in contributing S\$8,729.9 million in value added and employing 118,600 workers in 2001. These industries accounted for 5.7% GDP and 5.8% national employment. The economic size of the copyright based industries was almost equivalent to the construction industry, which contributed 6% to GDP in 2001, and was larger than the chemical and chemical products and hotel and restaurant industries. Foreign trade, as represented by domestic exports of copyrighted goods and materials was estimated at S\$3,466.8 million, roughly 3.6% of total non-oil domestic exports or 2.3% of GDP in 2001.

Real value added growth of the entire copyright based industries over the long term, between 1986 and 2001, was 8.9% per annum, which was on average 1.3% points higher than the 7.6% average GDP growth. Consequently, the relative GDP size of these industries increased from 4.7% to 5.7% during this period. Employment expanded at 5.2% per annum, which was above the average 3.5% annual growth in national employment, resulting in the share of copyright based employment rising from 4.6% to 5.8%. On the other hand, the copyright based industries may be more volatile than the economy as GDP dipped 1.9% while the copyright based industries declined 9.5% in value added between 2000 and 2001.

Worker productivity in the copyright based industries in 2001 was estimated at S\$73,597 which was very close to the economy's average of S\$75,281. It was higher than that of the wholesale and retail trades but lower than overall manufacturing industries which are of a higher capital intensity. In general, worker productivity in copyright based industries was lower than the EU-15 average. Such a disparity must be viewed in light of different methodologies employed in the various studies, ruling out any comparison on a common basis. Furthermore, copyright activities have been deeply embedded into the European culture while they are still relatively new, though fast growing, in Singapore's society.

The importance of copyright based industries to the Singaporean economy is also reflected in the output, value-added and employment multipliers of the nine core copyright industries which are above the national averages. With an output multiplier of 1.7661 of which 0.6685 is value added, and an employment multiplier of 11 jobs for every S\$1 million of core copyright output, core copyright activities are strongly linked to the rest of the Singaporean economy and produce a greater impact on Singapore's output, GDP and employment rates than an average industry.

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NCO/NUS/IPA  
28 Oct 2004



## VI. Technical Notes

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### A. Mapping the Copyright-Based industries

#### 1. Industrial Classification

Some differences were observed when mapping out Singapore's copyright based industries using SSIC codes against the classifications given by the ISIC. They are listed below:

##### (i) Core Copyright Industries

Printing and Publishing - Printing and services related to printing as defined by WIPO have been classified under ISIC class 2221 and ISIC class 2222 which corresponds to the SSIC classes of 2211 and 2212 used by Singapore. The publishing of books and newspapers, journals and periodicals is classified under ISIC codes 2211 and 2212 respectively. In Singapore, the equivalent would be under the SSIC 7440 code from 2000 onwards as the previously combined printing and publishing activities have now been segregated.

Libraries - Activities associated with libraries are classified under ISIC class 9231 in WIPO's Guide whereas the equivalent code in Singapore is SSIC item 92210.

Reproduction of Recorded Media - These activities are classified as ISIC class 2230 while the corresponding activity is listed under SSIC item 22200.

##### (ii) Interdependent Copyright Industries

TV sets, Radios, VCRs - The manufacture of such copyright hardware equipment is assigned to ISIC class 3230 while such corresponding activities in Singapore are listed under SSIC class 3130 which represented the manufacture of television and radio receivers, sound or video recording apparatus and associated goods.

Computers and Equipment - The manufacture and wholesale of computers and equipment are listed in the Guide as ISIC classes 3000 and 5151 while the corresponding activities in Singapore are listed as SSIC class 3130, items 50523, 50525 and 51473 which represent the manufacture, wholesale and retail of computing, data processing equipment and peripheral equipment.

Blank Recording Material - The manufacture, wholesale and retail of blank recording material are listed as ISIC classes 2429, 5152 and 5233 respectively. Relevant SSIC items are SSIC 34991 which covers the manufacture of blank magnetic tapes, diskettes, CDs, DVDs and VCDs, and SSIC item 51439 which covers the retail sale of household appliances, articles and equipment.

##### (iii) Partial Copyright Industries

Jewelry and coins - The manufacture, wholesale and retail of jewelry and coins are classified under ISIC classes 3691, 5139 and 5239 respectively. The first is deemed equivalent to SSIC 3491, the manufacture of jewelry and related articles in Singapore. Corresponding SSIC items for wholesale jewelry would be SSIC 50321 and 50322 while SSIC items 51454 and 51455 pertain to the retail trade in jewelry in Singapore.

Furniture - The manufacture, wholesale and retail of furniture are classified under ISIC classes 3610, 5139 and 7130 respectively. Within the scope of our study, the corresponding SSIC class of 3410 is used for the manufacture of furniture. For wholesale and retail of furniture, appropriate SSIC items are 50331, 50332 and 71301 respectively.

Toys and games - The manufacture, wholesale and retail of toys and games are classified under ISIC classes 3694, 5139 and 5239 respectively. The equivalent description of the manufacturing activity in Singapore's classification would be SSIC class 3494 with the description of the manufacture of toys, including electronic versions. The wholesale and retail of such toys and games are listed as SSIC items 50343 and 51453 respectively.

Interior design - The ISIC class 7499 is given in the Guide under the description of other business activities n.e.c.. The corresponding code in our studies is listed under SSIC item 74951, interior design activities, which is classified under the SSIC 7495 class as specialized design activities.

(iv) Non-Dedicated Support Industries

General wholesale and retail - These activities are classified as ISIC divisions 51 and 52 for the wholesale and retail trade respectively whereas the corresponding activities in Singapore are listed under SSIC divisions 50 and 51 instead.

General transportation and telecommunications - Transportation activities are well matched as the ISIC division and group classifications are the same as the SSIC system. Similarly, the SSIC 642 and ISIC 642 divisions both represent activities in the telecommunications industry.

## B. Composition of the Copyright-Based Industries in Singapore SSIC 2000

This section provides detailed SSIC codes and descriptions for each economic activity under each copyright based industry in Singapore.

**Table VIB.1:** Press and Literature

Economic Activity	Description	2000 SSIC Code
1. Authors, Writers and Translators	Theatrical productions except motion pictures	92141p
	Theatres and concert halls	92142p
	Opera wayangs and puppet shows	92143p
	Orchestras and dance bands	92144p
	Dramatic arts, music and other arts activities	92149p
2. Newspapers and Books	Publishing of books, brochures, music books	74401
	Publishing of newspapers	74402
3. Newspapers and Agency activities	News agency activities	74991
	Micro-image recording services	74992
	Modeling Agencies	74998
4. Magazines and Periodicals	Publishing of journals, periodicals and magazines	74403
5. Cards and Maps	Publishing Activities n.e.c.	74409
6. Directories and other Published Materials	Publishing of directories and databases	74405
7. Pre-press Printing of Newspapers	Printing	2211
	Service activities related to printing	2212
8. Wholesale and Retail of Press and Literature	Wholesale of books and magazines	50374
	Retail sale of books and magazines	51483
9. Libraries	Library and archives activities	9221

**Table VIB.2:** Music, Theatrical Productions and Opera

Economic Activity	Description	2000 SSIC Code
1. Composers, Lyricists, Writers, Directors and Performers	Theatrical productions except motion pictures	92141p
	Theatres and concert halls	92142p
	Opera wayangs and puppet shows	92143p
	Orchestras and dance bands	92144p
	Dramatic arts, music and other arts activities	92149p
	Other entertainment activities n.e.c	9219
2. Printing and Publishing of Music	Printing Activities n.e.c (74409)	Inc VIB.1
	Printing (2211)	Inc VIB.1
3. Production of Recorded Music	Reproduction of recorded media	22200
4. Wholesale and Manufacturing of Recorded Music	Retail of household electrical appliances, articles	51435
	Retail sale of musical goods, record albums	51452
	Renting and leasing of radios and televisions	71302
5. Artistic and Literary Creation and Interpretation	Included in Table VIB.2 item 1	Inc VIB.2
6. Performances and Allied Agencies (bookings, ticket agencies)	Included in Table VIB.2 item 1	Inc VIB.2

**Table VIB.3:** Motion Pictures and Video

Economic Activity	Description	2000 SSIC Code
1. Authors, Writers and Translators	Theatrical productions except motion pictures	92141p
	Theatres and concert halls	92142p
	Opera wayangs and puppet shows	92143p
	Orchestras and dance bands	92144p
	Dramatic arts, music and other arts activities	92149p
2. Motion Picture Production and Distribution	Motion picture/Video production	92111
	Motion picture/Video distribution	92112
3. Motion Picture Exhibition	Motion picture projection	9212
4. Video Rental and Demand	Rental of video and the like	71303
5. Allied Services	Services allied to motion picture production and distribution	92115



**Table VIB.4:** Radio and Television

Economic Activity	Description	2000 SSIC Code
1. National Radio Broadcasting Companies with other Radio and Television Activities	Television programme production and distribution	92131
	Radio programme production and distributions	92132
	Other radio and television related activities	92139
2. Other Radio and Television Broadcasters	Television broadcasting	64231
	Radio broadcasting	64232
3. Independent Producers	Other business activities (74992/8)	Inc VIB.1
4. Cable Television	Included in Table VIB.4 item 2	Inc VIB.4
5. Satellite Television	Included in Table VIB.4 item 2	Inc VIB.4
6. Allied Services	Radio and television activities	N/A

**Table VIB.5:** Photography

Economic Activity	Description	2000 SSIC Code
1. Photographic Activities	Photo finishing services	74941
	Photographic activities	74949p
2. Photo Agencies and Libraries	News agency activities (74991)	Inc VIB.1
	News agency (74992)	Inc VIB.1

**Table VIB.6:** Software and Databases

Economic Activity	Description	2000 SSIC Code
1. Programming, Development and Design, Manufacturing	Publishing of software and multimedia	74404
	Software consultancy	72120
	Other IT related activities	72909
2. Wholesale and Retail of Computer Software	Wholesale of computer software	50524
	Retail of computer software	51473p
3. Database Processing and Publishing	Development of e-commerce applications	72201
	Development of other software and multimedia works	72209
	Computer time sharing services	72301
	Data entry services	72302
	Data processing n.e.c.	72309

**Table VIB.7:** Visual and Graphic Arts

Partial Copyright Industries	How important is copyright in the daily operations of your firm? (Responses)				
	Very Significant	Significant	Slightly Significant	Insignificant	Total
1. Apparel, textiles and footwear	3	2	0	4	9
2. Jewelry	2	1	2	2	7
3. Other crafts	1	0	0	1	2
4. Furniture	0	2	1	1	4
5. Household goods, glass and fabricated materials	0	1	4	2	7
6. Architecture, engineering and surveying	1	1	1	0	3
<b>Total</b>	<b>7</b>	<b>7</b>	<b>8</b>	<b>10</b>	<b>32</b>

**Table VIB.8:** Advertising Services

Economic Activity	Description	2000 SSIC Code
1. Agencies, Buying Services	Advertising activities	74300

**Table VIB.9:** Copyright Collecting Societies

Economic Activity	Description	2000 SSIC Code
1. Copyright Collecting Societies	Activities of professional organizations	91120



**Table VIB.10:** Interdependent Copyright Industries

Economic Activity	Description	2000 SSIC Code
1. TV sets, Radios, VCRs, CD and DVD Players, Electronic Game Equipment	Manufacture of television and radio receivers, sound or video recording apparatus, and associated goods	3130
	Wholesale of radio and television sets and sound reproducing and recording equipment	50336
	Retail sale of radio and television sets, sound reproducing and recording equipment	51436
2. Computers and Equipment	Manufacture of computing and data processing equipment and peripheral equipment	3141
	Wholesale of computer hardware and peripheral equipment	50523
	Wholesale of computer accessories	50525
	Retail sale of computer hardware and accessories	51473p
	Rental of computer and peripheral equipment	71221
3. Musical Instruments	Rental of other machinery and equipment	71222
	Wholesale of musical instruments	50342
4. Photographic and Cinematographic Instruments	Manufacture of optical and photographic equipment	3220
	Wholesale of optical and photographic equipment	50391
	Retail sale of optical and photographic goods	51482
5. Photocopiers	Wholesale of office machines and equipment (including accessories)	50522
6. Blank Recording Material	Manufacture of blank magnetic tapes, diskettes, CDs, VCDs and DVDs	34991
	Retail sale of other household appliances, articles and equipment	51439
7. Paper	Wholesale of paper and paper products	50371
	Wholesale of scrap, junk and waste	50491
	Wholesale of other intermediate products, waste and scrap	50499
	Other specific commodities (eg. jute bags)	51499

**Table VIB.11:** Partial Copyright Industries

Economic Activity	Description	2000 SSIC Code
1. Apparel, Textiles and Footwear	Manufacture of wearing apparel except fur	1810
	Manufacture of made-up articles except wearing apparel	1721
	Manufacture of footwear	1920
	Wholesale of textiles, clothing, footwear and leather goods	5031
	Retail sale of textiles, clothing, footwear and leather goods	5142
2. Jewelry and Coins	Manufacture of jewelry and related articles	3491
	Wholesale of jewelry	<i>50321</i>
	Wholesale of costume jewelry	<i>50322</i>
	Retail sale of jewelry	<i>51454</i>
	Retail sale of costume jewelry	<i>51455</i>
3. Other Crafts	Wholesale of handicrafts and fancy goods	5035
4. Furniture	Manufacture of furniture and fixtures	3410
	Wholesale of furniture (including mattresses, cushions)	<i>50331</i>
	Wholesale of furnishings (including curtains, carpets, wall paper)	<i>50332</i>
	Wholesale of other home furnishings and other household equipment	<i>50339</i>
	Renting and leasing of furniture, utensils and other household equipment	71301
5. Household Goods, China and Glass	Manufacture of household goods and glass	26100
	Manufacture of other articles of paper and paperboard	1730
	Manufacture of other wood products	2029
	Manufacture of other fabricated products	2899
6. Wall Coverings and Carpets	Manufacture of other articles of paper and paperboard	2109
	Other retail sales in specialized stores	<i>5149*</i>
7. Toys and Games	Manufacture of toys and games	3494
	Wholesale of toys and games	<i>50343</i>
	Retail sale of toys and games	<i>51453</i>
8. Architecture, Engineering and Surveying	Architectural activities	74211
	Quantity surveying and building appraisal services	74212
9. Interior Design Services	Interior design activities	74951
10. Museums	Included in Table VIB.7 item 2	Inc VIB.7

\* three- to 4 digit group and class industrial designations of each common colour category given in italics were deducted from common 5-digit items appearing in different groups of the copyright based industries. This was to avoid double counting of economic contributions.

**Table VIB.12:** Non-Dedicated Support Industries

Economic Activity	Description	2000 SSIC Code
1. General Wholesale and Retail	Wholesale on a fee or contract basis	50100
	Wholesale of personal effects	5032*
	Manufacture of furniture and home furnishings	5033*
	Wholesale of sporting and recreational goods	5034*
	Wholesale of medicinal and pharmaceutical products	5036
	Wholesale of industrial, agricultural, construction and related machinery and equipment	5051
	Wholesale of telecommunication and office apparatus	5052*
	Wholesale of machinery and equipment n.e.c.	5059
	Wholesale of specific commodities	5091
	General wholesale trade	5092
	Ship chandlers and bunkering	5093
	Non-specialized trade in retail stores	5110
	Retail sale of sporting and other recreational goods	5141
	Retail sale of furniture, home furnishings and other household equipment	5143
	Retail sale of construction materials, hardware, paint and glass	5144
	Retail sale of sporting and other recreational goods	5145*
2. General Transportation	Transport via railways	6010
	Passenger transport by road	6021
	Aerial cableways	6022
	Freight transport by road	6023
	Sea and water transport	611
	Inland water transport	612
	Air transport	6200
	Supporting and auxiliary transport	630
	National postal activities	64110
	Courier activities other than national postal activities	64120
3. Telephony and Internet	Telecommunications	642*

## C. Estimating the Economic Contribution

### 1. The Core Copyright Industries

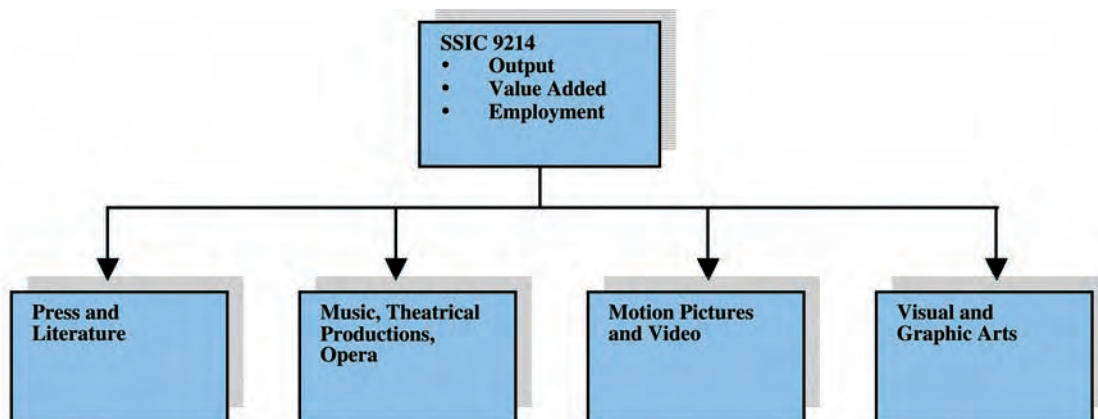
The economic contributions of output, value added and employment were taken at full value in estimating the core copyright industries. This meant that the copyright factors for apportioning the industries were 100% as recommended by the WIPO Guide.

#### SSIC 9214

Dramatic arts, music and other activities – these are reflected in the following categories in WIPO's Guide:

- Press and Literature
- Music, Theatrical Productions, Opera
- Motion Pictures and Video
- Visual and Graphic Arts

It would have been more convenient to assign the values of SSIC 9214 to just one industry. However, it would be more precise to reflect the distribution of SSIC class 9214, Dramatic arts, music and other activities, among the above-mentioned industries. Therefore, the output, value added and employment values were allocated to the four industries based on their preliminary estimated size.



#### SSIC 74949

Other photographic activities – Similarly, the data on this item were apportioned between photography and visual and graphic arts.



## 2. Interdependent Copyright Industries

### (i) Interviews

In the estimation of copyright factors for the interdependent copyright industries, we relied mainly on interviews that were conducted between April and June 2004 with the larger companies, especially those in the electronic and equipment-based fields. It was necessary to understand the following issues before we could derive appropriate copyright factors for the specific industries within the interdependent copyright group. Some of the important issues pertaining to the face-to-face interviews were:

- Technology and Design Intensity
- Research and Development Climate
- Size of Creative Workforce
- Significance of Copyright Activities in Course of Business

We were not able to conduct more face-to-face interviews, especially with firms in the computer and equipment, photocopiers, and TV sets, radios, VCR and DVD player industries, owing to time and resource constraints. Generally, the interviewees from the interdependent copyright industries shared some common views as listed below:

- Research and development climate was important
- Emphasis on the original content of their products and processes
- A sizeable creative workforce
- Copyright and intellectual property activities were important in daily operations

### (ii) Surveys<sup>30</sup>

Of the eight survey responses from the interdependent copyright industries, four respondents found copyright activities to be important while the other four felt them to be slightly significant or not significant. We had to evaluate the findings in favor of the interviews and to a lesser extent, the surveys<sup>31</sup> to estimate our copyright factors which were guided by the principle of prudence based on WIPO's guidelines.

**Table VIC.1:** Summary of Surveys for Interdependent Copyright Industries

Partial Copyright Industries	How important is copyright in the daily operations of your firm? (Responses)				
	Very Significant	Significant	Slightly Significant	Insignificant	Total
1. TV sets, Radios, VCR players	0	1	0	0	1
2. Computers and Equipment	0	2	0	2	4
3. Blank Recording Material	0	1	0	0	1
4. Paper	0	0	2	0	2
<b>Total</b>	<b>0</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>8</b>

<sup>30</sup> The survey responses for the non-core copyright industries included 62 of the total 115 who answered question B1. of the questionnaire. Refer to pp 103-104 for a sample of the survey questionnaire.

<sup>31</sup> The limited number of responses should serve as a qualitative assessment for reinforcing the degree of copyright factors used.



### 3. Partial Copyright Industries

In order to develop a set of appropriate copyright factors for apportioning the values of the partial copyright industries in Singapore, the US study was used as a starting point. An IP intensity scorecard was developed to determine the IP intensity of 20 core innovator countries. The overall scoring system accounted for the current average IP intensity between 2001 and 2002 in addition to their IP growth potential between 1998 and 2001. These 20 countries were then ranked based on the overall score with the US having 1000 points.

(i) Core Innovator Countries

The core innovator countries<sup>32</sup> were defined as nations with more than 15 US utility patents per million population for the year 2000 and consisted of 24 countries. However, only 20 countries were selected due to the availability of data.

(ii) Selection of Data

Selection of data was based on their relation to IP activities. The raw scores for each individual nation, consisting of both soft (qualitative) and hard (quantitative) data were gathered from the World Competitiveness Yearbook for the years 2002, 2001 and 1998 as listed below:

**Table VIC.2:** Selection of IP Proxy Indicators

Soft Data	Hard Data
1. Basic Research	1. Patents in force per 100,000 population
2. Entrepreneurship	2. RandD as a percentage of GDP
3. Creation of Firms	3. GDP per Capita
4. Technological Support	
5. Economic Literacy	
6. Protectionism	
7. Patent and Copyright Protection	

(iii) Calculation of Standard Deviations

For each variable in the selected years, the standard deviation was calculated with the following formula:

$$\text{Standard Deviation} = \sqrt{\frac{\sum_{i=20} (x_i - \bar{x})^2}{N}}$$

Where  $x_i$  = score for country i

$\bar{x}$  = twenty-country average

N = number of countries

<sup>32</sup>Source: "Global Competitiveness Report 2001-2002", Chapter 1.1, pp 30.

(iv) Conversion to Standardized Scores

The variables were then converted to standardized scores or SC, to measure the relative dispersion from the mean as given in the formula below:

$$SC_i = \frac{(x_i - \bar{x})}{StdDev}$$

Where  $SC_i$  = standardized scores for country i

$x_i$  = score for country i

$\bar{x}$  = twenty-country mean score

(v) Conversion to Z Scores<sup>33</sup>

The standardized scores were then converted into intuitive scores for easy comparison with each corresponding variable of the US study being set at a benchmark of 100 by applying the following procedures:

$$Z_i = \left( \frac{e^{SC_i}}{1 + e^{SC_i}} \right) \times 100$$

$$NR_i = \frac{Z_i}{Z_{US}} \times 100$$

Where  $Z_i$  = Z rating for country i

$Z_{US}$  = Z rating for US

$NR_i$  = Normalized rating for country i

(vi) Weighting of Data

The IP scores for each individual country were the aggregate of the individual normalized ratings for all the ten variables. The overall soft and hard data were then re-weighted at 300 marks and 700 marks respectively to reduce the extent of over-relying on qualitative indicators whose data were obtained from surveys. These were carried out for the years 2001 and 2002 respectively. The IP growth score was calculated in an exact manner by incorporating the changes in both soft and hard data between 1998 and 2001.

<sup>33</sup> Toh Mun Heng, Adrian Choo, Terence Ho (2003), "Economic Contributions of Singapore's Creative Industries, Annex C, pp 74", Singapore Ministry of the Trade and Industry, Economic Survey of Singapore First Quarter 2003.

(vii) Overall IP Score

For each core innovator country, the overall IP score was determined by the following formula:

$$\text{Overall IP Score} = w1IP \text{ Score}2001 + w2IP \text{ Score}2002+ w3IP \text{ Growth}1998-2001$$

Where the following weights are:

$$w1 = 0.35$$

$$w2 = 0.35$$

$$w3 = 0.3$$

The above-mentioned weights were based on the following factors:

- Any performance indicator should be based on a current score in tandem with a potential growth factor. This would provide a more complete overview of each nation's performance.
- It provides a necessary adjustment that is not reflected in the current data as qualitative data could be drastically affected by any changes in macro-economic policies implemented between 2001 and 2002. The turnover of technology in today's world economy is rapid which accounts for the relatively low weight of 0.3 for the growth factor.

(viii) Derivation of Singaporean Copyright Factors

The copyright factor for each relevant partial copyright industry would then be derived from the US copyright factors as follows:

$$SCF = IPSIN/IPUS \times USCF^{34}$$

Where SCF = Singaporean Copyright Factor

" USCF = US Copyright Factor

" PSIN = Singaporean IP Score

" IPUS = US IP Score (1000 marks)

The above-mentioned methodology allowed us to scale down the most recent copyright factors from those adopted in the US study. This resulted in conservative estimates for the copyright factors used in apportioning the relevant industries within the partial copyright group in Singapore.

<sup>34</sup>We are extremely grateful to Mr Stephen E. Siwek of the Economists Incorporated from the US for supplying us with the US copyright factors.

(ix) Surveys

The responses from the survey of the partial copyright industries showed that 18 out of 32 or 56.3% of the respondents found copyright activities to be only slightly significant or insignificant in their daily operations, which was in line with the low copyright factors we derived for these industries.

**Table VIC.3:** Summary of Surveys for Partial Copyright Industries

Partial Copyright Industries	How important is copyright in the daily operations of your firm? (Responses)				Total
	Very Significant	Significant	Slightly Significant	Insignificant	
1. Apparel, textiles and footwear	3	2	0	4	9
2. Jewelry	2	1	2	2	7
3. Other crafts	1	0	0	1	2
4. Furniture	0	2	1	1	4
5. Household goods, glass and fabricated materials	0	1	4	2	7
6. Architecture, engineering and surveying	1	1	1	0	3
<b>Total</b>	<b>7</b>	<b>7</b>	<b>8</b>	<b>10</b>	<b>32</b>

#### 4. Non-Dedicated Support Industries

The copyright factors for the non-dedicated support or distribution industries were based on the assumption that the proportionate contribution of the copyright based industries to the distribution industries would be the same as the percentage contribution of the copyright industries to the total non-distribution industries. This meant the copyright factors<sup>35</sup> to be derived in the non-dedicated support industries were to be the aggregate of the value added in core, interdependent, and partial copyright industries as a ratio of the non-distribution GDP of Singapore which is total GDP less the transportation and wholesale and retail sectors as listed below:

$$\text{Copyright Factor for NDSI} = \frac{\text{Value Added (Core + Interdependent + Partial)}}{\text{Non-Distribution GDP of Singapore}}$$

Consequently, this explains the difference between the copyright factors of 6.4% and 5.8% for the years 2000 and 2001 as this ratio has to be estimated every year and the factor in 2001 was lower due to the general decline in the economy. Such factors were estimated based on the same principle back to 1986.

These ratios were relatively low and we compared them with our survey results of 22 respondents on the issue of the significance of copyright activities in their organizations. As observed, 15 out of 22, i.e. 68% of the respondents, felt that copyright activities were either slightly significant or not significant at all. This gives an indication that the copyright factors in the non-dedicated industries would be low as indicated by the 5.8% in 2001.

<sup>35</sup> All variables required to generate the copyright factors by applying the above-mentioned formula were also based on real values using 2001 constant dollars.

**Table VIC.4:** Summary of Surveys for Non-Dedicated Support Industries

Non-Dedicated Support Industries	How important is copyright in the daily operations of your firm? (Responses)				
	Very Significant	Significant	Slightly Significant	Insignificant	Total
1. General wholesale and retail	4	2	6	6	18
2. General transportation	0	0	0	3	3
3. Telephony and internet	1	0	0	0	1
<b>Total</b>	<b>5</b>	<b>2</b>	<b>6</b>	<b>9</b>	<b>22</b>

### 5. Detailed Domestic Exports of Copyrighted Goods and Materials

The data for foreign trade in terms of domestic exports were extracted from the international trade statistics compiled by International Enterprise Singapore for the year 2001. The selection criterion was based on the fact that these items contained literary and artistic works which would have entitled them to protection under the Copyright Act of 1987.

**Table VIC.5:** Detailed Domestic Exports of Copyrighted Goods 2000-2001

STIC <sup>36</sup> Code	Description	Domestic Exports (Constant 2001 prices in millions)	
		2001	2000
8921600	Printed Books	407.76	441.31
8921900	Brochures leaflets and similar printed material	74.84	61.16
8922100	Newspapers, journals, periodicals	23.11	22.37
8928400	Calendar and calendar books	13.47	16.67
8928500	Sheet Music or in manuscript	0.08	0.13
8928600	Advertising materials	8.36	11.26
8928900	Other printed materials	31.57	94.89
8986110	Recorded video tapes	2.72	1.12
8986120	Recorded computer tapes and disks	2,834.15	2,896.97
8986130	Recorded discs for reproducing sound media	51.48	43.02
8986190	Other recorded media	19.18	29.98
8987100	Gramophone records	0.01	0.06
8830000	Cinematograph film	0.11	0.03
<b>Total Copyrighted Goods</b>		<b>3,466.8</b>	<b>3,618.9</b>

Note: Trade data for 2000 were adjusted to 2001 constant prices by a proxy (Export price deflator of paper manufacturers).

<sup>36</sup> Source: "Singapore International Trade Classification 2001", International Enterprise, Singapore.



## 6. Estimated Copyright Factors

**Table VIC.6:** Copyright Factors for Non-Core Copyright Industries 1986-2001

<b>Interdependent Copyright Industries<sup>37</sup></b>	<b>Copyright Factors (1986-2001)</b>				
1. TV sets, Radios, VCRs, CD and DVD Players, Electronic Game Equipment	35%				
2. Computers and Equipment	35%				
3. Musical Instruments	20%				
4. Photographic and Cinematographic Instruments	30%				
5. Photocopiers	30%				
6. Blank Recording Material	25%				
7. Paper	25%				
<b>Partial Copyright Industries</b>	<b>Copyright Factors (1986-2001)</b>				
1. Apparel, Textiles and Footwear	0.4%				
2. Jewelry and Coins	8.3%				
a. Jewelry	42%				
b. Costume Jewelry	42%				
3. Other Crafts	42%				
4. Furniture	8.3%				
a. Furniture and Fittings	1.7%				
b. Furnishings	0.6%				
5. Household Goods, China and Glass	1.7%				
6. Wall Coverings and Carpets	42%				
7. Toys and Games	8.3%				
8. Architecture, Engineering and Surveying	8.3%				
9. Interior Design	8.3%				
<b>Non-Dedicated Support Industries</b>	<b>Copyright Factors (1986-2001)</b>				
	<b>2001</b>	<b>2000</b>	<b>1995</b>	<b>1990</b>	<b>1986</b>
1. General Wholesale and Retail	5.8%	6.4%	6.2%	5.6%	5%
2. General Transportation	5.8%	6.4%	6.2%	5.6%	5%
3. Telephony and Internet	5.8%	6.4%	6.2%	5.6%	5%

<sup>37</sup> Copyright factors were assumed to remain constant in the interdependent and partial copyright industries from 1986 to 2001.

## 7. Economic Impact of the Core Copyright Industries 2001

**Table VIC.7:** Output of the Core Copyright Industries 2001 (Direct and Indirect)

Industry	SSIC Sector	SIO Sector	SIO Description	Direct Output (\$S'000)	Indirect Output (\$S'000)	Total Output (\$S'000)	Output Mtp
<i>1. Press and Literature</i>							
(a) Authors, writers and translators	9214p	149	Broadcasting and entertainment services	70,415	83,839	154,253	2.1906
(b) Newspapers and books	74401/74402	034	Newspapers, books and magazines	177,400	116,977	294,377	1.6594
(c) News agency activities	74991/74992/74998	142	Other business and technical services	340,679	197,476	538,155	1.5797
(d) Magazines and periodicals	74403	034	Newspapers, books and magazines	195,733	129,066	324,799	1.6594
(e) Cards and maps	74409	087	Recorded media	40,832	47,966	88,798	2.1747
(f) Directories and other published material	74405	135	Information technology	239,224	149,830	389,054	1.6263
(g) Pre-press printing of newspapers	2211 and 2212	035	Other printing	1,711,212	1,114,892	2,826,104	1.6515
(h) Wholesale and retail of press and literature	50374/51483	111	Wholesale and retail trades	475,269	394,722	869,991	1.8305
(i) Libraries	9221	150	Other recreational services	78,803*	21,037	99,840	1.2670
<i>Sub-total</i>				3,329,567	2,255,805	5,585,371	1.6775
<i>2. Music, Theatrical Productions and Opera</i>							
(a) Composers, lyricists, arrangers, choreographers, writers and directors	9214p	149	Broadcasting and entertainment services	17,585	20,938	38,523	2.1906
(b) Performers and other personnel	9219	149	Broadcasting and entertainment services	357,883	426,109	783,992	2.1906
(c) Production/manufacturing of recorded music	22200	087	Recorded media	255,617	300,277	555,894	2.1747
(d) Wholesale and retail of recorded music	51435/51452	111	Wholesale and retail trades	205,082	170,325	375,407	1.8305
(e) Renting and leasing of radio and television	71302	140	Leasing of machinery and equipment	20,000	10,424	30,424	1.5212
<i>Sub-total</i>				856,167	928,073	1,784,240	2.0840
<i>3. Motion Pictures and Video</i>							
(a) Writers, directors, actors	9214p	149	Broadcasting and entertainment services	5,872	6,991	12,863	2.1906
(b) Motion picture production and distribution	92111/92112	148	Cinema services	99,350	67,929	167,279	1.6837
(c) Motion picture exhibition	9212	149	Broadcasting and entertainment services	91,521	108,968	200,489	2.1906
(d) Video rental and sales and video on demand	71303	149	Broadcasting and entertainment services	63,260	75,320	138,580	2.1906
(e) Allied services	92115	149	Broadcasting and entertainment services	25,872	30,804	56,676	2.1906
<i>Sub-total</i>				285,875	290,012	575,887	2.0145



Table VIC.7 (continued)

Industry	SSIC Sector	SIO Sector	SIO Description	Direct Output (\$'000)	Indirect Output (\$'000)	Total Output (\$'000)	Output Mtp
<b>4. Radio and Television</b>							
(a) National radio and television broadcasting companies	92131/92132/92139	149	Broadcasting and entertainment services	755,833	899,923	1,655,756	2,1906
(b) Other radio and television broadcasters	64231/64232	149	Broadcasting and entertainment services	501,640	597,271	1,098,911	2,1906
<i>Sub-total</i>				<i>1,257,473</i>	<i>1,497,195</i>	<i>2,754,668</i>	<i>2,1906</i>
<b>5. Photography</b>							
Studios and commercial photography	74941/74949p	151	Personal and household services	142,095	123,284	265,380	1,8676
<b>6. Software and Databases</b>							
(a) Programming, development and design manufacturing	74404/72120/72909	135	Information technology	731,854	458,374	1,190,228	1,6263
(b) Wholesale and retail of prepackaged software	50524/51473p	111	Wholesale and retail trades	435,710	361,867	797,577	1,8305
(c) Databases and processing	72201/72209/72301/72302/72309	135	Information technology	3,156,326	1,976,865	5,133,191	1,6263
<i>Sub-total</i>				<i>4,323,890</i>	<i>2,797,105</i>	<i>7,120,995</i>	<i>1,6469</i>
<b>7. Visual and Graphic Arts</b>							
(a) Artists	9214p	149	Broadcasting and entertainment services	4,793	5,707	10,500	2,1906
(b) Art galleries and other wholesale and retail	9222	150	Other recreational services	32,335*	8,632	40,967	1,2670
(c) Picture framing and other allied services	74949p	151	Personal and household services	34,735	30,136	64,871	1,8676
(d) Graphic design	74952/74953	142	Other business and technical services	196,224	113,742	309,966	1,5797
<i>Sub-total</i>				<i>268,087</i>	<i>158,217</i>	<i>426,304</i>	<i>1,5902</i>
<b>8. Advertising Services</b>							
Agencies, buying services	74300	139	Advertising and exhibitions	1,755,585	1,311,960	3,067,545	1,7473
<b>9. Copyright Collecting Societies</b>							
Copyright collecting societies	91120	154	Domestic services and non-profit bodies	31,107	22,958	54,065	1,7380
<b>Total</b>				<b>12,249,846</b>	<b>9,384,610</b>	<b>21,634,456</b>	<b>1,7661</b>

\*Output for libraries, museums and associated activities was assumed to be at base level equivalent to its value added, therefore it is slightly understated.

Total output = Direct output + Indirect output.

Output Mtp = Total output/Direct output.

Table VIC.8: The Core Copyright Industries Value Added 2001 (Direct and Indirect)

Industry	SSIC Sector	SIO Sector	SIO Description	Direct VA (\$S'000)	Indirect VA (\$S'000)	Total VA (\$S'000)	VA Mtp
<i>1. Press and Literature</i>							
(a) Authors, writers and translators	9214p	149	Broadcasting and entertainment services	27,483	60,862	88,346	1.2546
(b) Newspapers and books	74401/74402	034	Newspapers, books and magazines	50,524	27,830	78,354	0.4417
(c) News agency activities	74991/74992/74998	142	Other business and technical services	72,721	43,725	116,446	0.3418
(d) Magazines and periodicals	74403	034	Newspapers, books and magazines	59,227	32,624	91,851	0.4693
(e) Cards and maps	74409	087	Recorded media	9,409	7,440	16,849	0.4126
(f) Directories and other published material	74405	135	Information technology	60,248	38,880	99,128	0.4144
(g) Pre-press printing of newspapers	2211 and 2212	035	Other printing	873,943	598,002	1,471,945	0.8602
(h) Wholesale and retail of press and literature	50374/51483	111	Wholesale and retail trades	219,875	183,933	403,808	0.8496
(i) Libraries	9221	150	Other recreational services	78,803	11,730	90,533	1.1488
<i>Sub-total</i>				<i>1,452,233</i>	<i>1,005,025</i>	<i>2,457,258</i>	<i>0.7380</i>
<i>2. Music, Theatrical Productions and Opera</i>							
(a) Composers, lyricists, arrangers, choreographers, writers and directors	9214p	149	Broadcasting and entertainment services	5,622	12,450	18,072	1.0277
(b) Performers and other personnel	9219	149	Broadcasting and entertainment services	129,390	286,539	415,929	1.1622
(c) Production/manufacturing of recorded music	22200	087	Recorded media	77,104	60,969	138,073	0.5402
(d) Wholesale and retail of recorded music	51435/51452	111	Wholesale and retail trades	85,220	71,289	156,509	0.7632
(e) Renting and leasing of radio and television	71302	140	Leasing of machinery and equipment	7,108	3,189	10,297	0.5149
<i>Sub-total</i>				<i>304,444</i>	<i>434,437</i>	<i>738,881</i>	<i>0.8630</i>
<i>3. Motion Picture and Video</i>							
(a) Writers, directors, actors	9214p	149	Broadcasting and entertainment services	1,382	3,061	4,443	0.7567
(b) Motion picture production and distribution	92111/92112	148	Cinema services	24,568	18,505	43,073	0.4335
(c) Motion picture exhibitions	9212	149	Broadcasting and entertainment services	20,204	44,743	64,947	0.7096
(d) Video rental and sales and video on demand	71303	149	Broadcasting and entertainment services	12,903	28,574	41,477	0.6557
(e) Allied services	92115	149	Broadcasting and entertainment services	15,790	34,968	50,758	1.9619
<i>Sub-total</i>				<i>74,847</i>	<i>129,850</i>	<i>204,697</i>	<i>0.7160</i>



Table VIC.8 (continued)

Industry	SSIC Sector	SIO Sector	SIO Description	Direct VA (\$S'000)	Indirect VA (\$S'000)	Total VA (\$S'000)	VA Mip
<i>4. Radio and Television</i>							
(a) National radio and television broadcasting companies	92131/92132/92139	149	Broadcasting and entertainment services	130,774	289,604	420,378	0.5562
(b) Other radio and television broadcasters	64231/64232	149	Broadcasting and entertainment services	92,239	204,267	296,506	0.5911
<i>Sub-total</i>				<i>223,013</i>	<i>493,871</i>	<i>716,884</i>	<i>0.5701</i>
<i>5. Photography</i>							
Studios and commercial photography	74941/74949p	151	Personal and household services	41,266	34,736	76,001	0.5349
<i>6. Software and Databases</i>							
(a) Programming, development and design manufacturing	74404/72120/72909	135	Information technology	336,971	217,456	554,427	0.7576
(b) Wholesale and retail of prepackaged software	50524/51473p	111	Wholesale and retail trades	339,147	283,709	622,856	1.4295
(c) Databases processing	72201/72209/72301/72302/72309	135	Information technology	1,196,100	771,876	1,967,976	0.6235
<i>Sub-total</i>				<i>1,872,218</i>	<i>1,273,041</i>	<i>3,145,259</i>	<i>0.7274</i>
<i>7. Visual and Graphic Arts</i>							
(a) Artists	9214p	149	Broadcasting and entertainment services	1,568	3,472	5,040	1.0515
(b) Art galleries and other wholesale and retail	9222	150	Other recreational services	32,335	4,813	37,148	1.1488
(c) Picture framing and other allied services	74949p	151	Personal and household services	11,790	9,925	21,715	0.6252
(d) Graphic design	74952/74953p	142	Other business and technical services	50,998	30,664	81,662	0.4162
<i>Sub-total</i>				<i>96,691</i>	<i>48,873</i>	<i>145,565</i>	<i>0.5430</i>
<i>8. Advertising Services</i>							
Agencies, buying services	74300	139	Advertising and exhibitions	312,562	370,288	682,850	0.3890
<i>9. Copyright Collecting Societies</i>							
Copyright collecting societies	91120	154	Domestic services and non-profit bodies	13,045	8,067	21,112	0.6787
<b>Total</b>				<b>4,390,319</b>	<b>3,798,187</b>	<b>8,188,506</b>	<b>0.6685</b>

Total Value added = Direct value added + Indirect value added.

Value added Mip = Total Value added/Direct output.



Table VIC.9: Employment in the Core Copyright Industries 2001 (Direct and Indirect)

Industry	SSIC Sector	SIO Sector	SIO Description	Direct Employt	Indirect Employt	Total Employt	Emplt Mtp
<i>1. Press and Literature</i>							
(a) Authors, writers and translators	9214p	149	Broadcasting and entertainment services	999	1,743	2,743	38,9529
(b) Newspapers and books	74401/74402	034	Newspapers, books and magazines	974	765	1,739	9,8015
(c) News agency activities	74991/74992/8	142	Other business and technical services	745	228	973	2,8569
(d) Magazines and periodicals	74403	034	Newspapers, books and magazines	1,256	986	2,242	11,4554
(e) Cards and maps	74409	087	Recorded media	308	128	436	10,6706
(f) Directories and other published material	74405	135	Information technology	1,608	768	2,376	9,9337
(g) Pre-press printing of newspapers	2211 and 2212	035	Other printing	10,062	5,178	15,240	8,9061
(h) Wholesale and retail of press and literature	50374/51483	111	Wholesale and retail trades	6,412	5,483	11,895	25,0289
(i) Libraries	9221	150	Other recreational services	1,298	479	1,777	22,5485
<i>Sub-total</i>				<i>23,662</i>	<i>15,759</i>	<i>39,422</i>	<i>11,8399</i>
<i>2. Music, Theatrical Productions and Opera</i>							
(a) Composers, lyricists, arrangers, choreographers, writers and directors	9214p	149	Broadcasting and entertainment services	399	695	1,094	62,1951
(b) Performers and other personnel	9219	149	Broadcasting and entertainment services	4,615	8,050	12,665	35,3887
(c) Production/manufacturing of recorded music	22200	087	Recorded media	1,882	780	2,662	10,4152
(d) Wholesale and retail of recorded music	51435/51452	111	Wholesale and retail trades	3,012	2,576	5,588	27,2468
(e) Renting and leasing of radio and television	71302	140	Leasing of machinery and equipment	154	83	237	11,8543
<i>Sub-total</i>				<i>10,062</i>	<i>12,184</i>	<i>22,246</i>	<i>25,9832</i>
<i>3. Motion Pictures and Video</i>							
(a) Writers, directors, actors	9214p	149	Broadcasting and entertainment services	79	138	218	37,1072
(b) Motion picture production and distribution	92111/92112	148	Cinema services	525	328	853	8,5881
(c) Motion picture exhibition	9212	149	Broadcasting and entertainment services	564	984	1,548	16,9119
(d) Video rental and sales and video on demand	71303	149	Broadcasting and entertainment services	626	1,092	1,718	27,1569
(e) Allied services	92115	149	Broadcasting and entertainment services	210	366	576	22,2753
<i>Sub-total</i>				<i>2,004</i>	<i>2,909</i>	<i>4,913</i>	<i>17,1864</i>

Table VIC.9 (continued)

Industry	SSIC Sector	SIO Sector	SIO Description	Direct Employt	Indirect Employt	Total Employt	Employt Mtp
<b>4. Radio and Television</b>							
(a) National radio and television broadcasting companies	92131/92132/92139	149	Broadcasting and entertainment services	3,889	6,784	10,673	14,1204
(b) Other radio and television broadcasters	64231/64232	149	Broadcasting and entertainment services	1,571	2,740	4,311	8,5945
<i>Sub-total</i>				<i>5,460</i>	<i>9,524</i>	<i>14,984</i>	<i>11,9159</i>
<b>5. Photography</b>							
Studios and commercial photography	74941/74949p	151	Personal and household services	1,589	526	2,115	14,8866
<b>6. Software and Databases</b>							
(a) Programming, development and design manufacturing	74404/72120/72909	135	Information technology	4,346	2,077	6,423	8,7759
(b) Wholesale and retail of prepackaged software	50524/51473p	111	Wholesale and retail trades	3,767	3,222	6,989	16,0411
(c) Databases and processing	72201/72209/72301/72302/72309	135	Information technology	14,979	7,158	22,137	7,0134
<i>Sub-total</i>				<i>23,092</i>	<i>12,456</i>	<i>35,549</i>	<i>8,2214</i>
<b>7. Visual and Graphic Arts</b>							
(a) Artists	9214p	149	Broadcasting and entertainment services	93	162	254	53,0161
(b) Art galleries and other wholesale and retail	9222	150	Other recreational services	438	162	600	18,5433
(c) Picture framing and other allied services	74949p	151	Personal and household services	386	128	513	14,7791
(d) Graphic design	74952/74953	142	Other business and technical services	1,807	554	2,361	12,0309
<i>Sub-total</i>				<i>2,723</i>	<i>1,005</i>	<i>3,728</i>	<i>13,9052</i>
<b>8. Advertising Services</b>							
Agencies, buying services	74300	139	Advertising and exhibitions	5,555	6,485	12,040	6,8582
<b>9. Copyright Collecting Societies</b>							
Copyright collecting societies	91120	154	Domestic services and non-profit bodies	286	121	407	13,0880
<b>Total</b>				<b>74,434</b>	<b>60,969</b>	<b>135,404</b>	<b>11,0535</b>

*Total Employment = Direct employment + Indirect employment.  
Employment Mtp = Total employment/Direct output in \$ million.*



## D. Miscellaneous

### 1. Detailed Breakdown of Copyright-Based Industries

**Table VID.1:** Breakdown of Copyright-Based Industries 2001

Core Copyright Industries	Value Added (\$S millions)	Percentage of Singaporean GDP	Employment (Number)	Percentage of Singaporean Employment
1. Press and Literature	1,452.2	0.943%	23,662	1.156%
2. Music, Theatrical Productions and Opera	304.4	0.198%	10,062	0.492%
3. Motion Pictures and Video	74.8	0.049%	2,004	0.098%
4. Radio and Television	223.0	0.145%	5,460	0.267%
5. Photography	41.3	0.027%	1,589	0.078%
6. Software and Databases	1,872.2	1.215%	23,092	1.128%
7. Visual and Graphic Arts	96.7	0.063%	2,723	0.133%
8. Advertising Services	312.6	0.203%	5,555	0.271%
9. Copyright Collecting Societies	13.0	0.008%	286	0.014%
<b>A. Total Core Copyright</b>	<b>4,390.3</b>	<b>2.85%</b>	<b>74,434</b>	<b>3.64%</b>
<b>Interdependent Copyright Industries</b>				
1. TV sets, radios, VCR and DVD players	411.0	0.267%	5,246	0.256%
2. Computers and Equipment	2,031.9	1.319%	16,026	0.783%
3. Musical Instruments	7.5	0.005%	149	0.007%
4. Photographic and Cinematographic Instruments	103.0	0.067%	1,533	0.075%
5. Photocopiers	105.3	0.068%	1,183	0.058%
6. Blank Recording Material	9.7	0.006%	248	0.012%
7. Paper	44.8	0.029%	908	0.044%
<b>B. Total Interdependent Copyright</b>	<b>2,713.3</b>	<b>1.76%</b>	<b>25,293</b>	<b>1.24%</b>
<b>Partial Copyright Industries</b>				
1. Apparel, Textiles and Footwear	3.7	0.002%	119	0.006%
2. Jewelry and Coins	23.8	0.015%	639	0.031%
3. Other Crafts	18.6	0.012%	747	0.037%
4. Furniture	26.4	0.017%	681	0.033%
5. Household Goods, China and Glass	4.3	0.003%	77	0.004%
6. Wall Coverings and Carpets	1.1	0.001%	33	0.002%
7. Toys and Games	15.7	0.010%	608	0.030%
8. Architecture, Engineering and Surveying	35.6	0.023%	598	0.029%
9. Interior Design	8.6	0.006%	235	0.011%
<b>C. Total Partial Copyright</b>	<b>138.1</b>	<b>0.09%</b>	<b>3,737</b>	<b>0.18%</b>
<b>Non-Dedicated Support Industries</b>				
1. General Wholesale and Retail	528.6	0.343%	7,535	0.368%
2. General Transportation	739.6	0.480%	6,818	0.333%
3. Telephony and Internet	220.0	0.143%	800	0.039%
<b>D. Total Non-Dedicated Support</b>	<b>1,488.2</b>	<b>0.97%</b>	<b>15,153</b>	<b>0.74%</b>
<b>Total Copyright-Based (A+B+C+D)</b>	<b>8,729.9</b>	<b>5.67%</b>	<b>118,617</b>	<b>5.80%</b>
<b>Singaporean Economy</b>	<b>154,078</b>	<b>100%</b>	<b>2,046,700</b>	<b>100%</b>

**Table VID.2:** Breakdown of Copyright-Based Industries 2000 (Real Values)

Core Copyright Industries	Value Added (S\$ millions)	Percentage of Singaporean GDP	Employment (Number)	Percentage of Singaporean Employment
1. Press and Literature	1,516.9	0.966%	21,717	1.037%
2. Music, Theatrical Productions and Opera	369.8	0.235%	10,803	0.516%
3. Motion Pictures and Video	80.6	0.051%	2,317	0.111%
4. Radio and Television	266.1	0.169%	4,593	0.219%
5. Photography	61.6	0.039%	2,286	0.109%
6. Software and Databases	1,697.6	1.081%	20,701	0.988%
7. Visual and Graphic Arts	100.4	0.064%	2,976	0.142%
8. Advertising Services	552.0	0.351%	6,686	0.319%
9. Copyright Collecting Societies	13.5	0.009%	290	0.014%
<b>A. Total Core Copyright</b>	<b>4,658.5</b>	<b>2.97%</b>	<b>72,369</b>	<b>3.45%</b>
<b>Interdependent Copyright Industries</b>				
1. TV sets, radios, VCR and DVD players	347.8	0.221%	4,990	0.238%
2. Computers and Equipment	2583.0	1.644%	16,612	0.793%
3. Musical Instruments	8.2	0.005%	181	0.009%
4. Photographic and Cinematographic Instruments	93.4	0.059%	1,493	0.071%
5. Photocopiers	136.7	0.087%	1,451	0.069%
6. Blank Recording Material	8.0	0.005%	182	0.009%
7. Paper	40.1	0.026%	737	0.035%
<b>B. Total Interdependent Copyright</b>	<b>3217.3</b>	<b>2.05%</b>	<b>25,645</b>	<b>1.22%</b>
<b>Partial Copyright Industries</b>				
1. Apparel, Textiles and Footwear	4.3	0.003%	118	0.006%
2. Jewelry and Coins	24.3	0.015%	640	0.031%
3. Other Crafts	22.7	0.014%	683	0.033%
4. Furniture	37.5	0.024%	838	0.040%
5. Household Goods, China and Glass	5.4	0.003%	75	0.004%
6. Wall Coverings and Carpets	1.3	0.001%	33	0.002%
7. Toys and Games	18.6	0.012%	560	0.027%
8. Architecture, Engineering and Surveying	36.6	0.023%	617	0.029%
9. Interior dDesign	10.6	0.007%	250	0.012%
<b>C. Total Partial Copyright</b>	<b>161.2</b>	<b>0.10%</b>	<b>3,815</b>	<b>0.18%</b>
<b>Non-Dedicated Support Industries</b>				
1. General Wholesale and Retail	569.8	0.363%	8,059	0.385%
2. General Transportation	853.0	0.543%	7,736	0.369%
3. Telephony and Internet	187.6	0.119%	739	0.035%
<b>D. Total Non-Dedicated Support</b>	<b>1,610.4</b>	<b>1.03%</b>	<b>16,534</b>	<b>0.79%</b>
<b>Total Copyright-Based (A+B+C+D)</b>	<b>9,647.3</b>	<b>6.14%</b>	<b>118,363</b>	<b>5.65%</b>
<b>Singaporean Economy</b>	<b>157,070.3</b>	<b>100%</b>	<b>2,094,800</b>	<b>100%</b>



**Table VID.3:** Breakdown of Copyright-Based Industries 2000 (Nominal Values)

Core Copyright Industries	Value Added (S\$ millions)	Percentage of Singapore GDP	Employment (Number)	Percentage of Singaporean Employment
1. Press and Literature	1,530.4	0.959%	21,717	1.037%
2. Music, Theatrical Productions and Opera	367.0	0.230%	10,803	0.516%
3. Motion Pictures and Video	79.0	0.049%	2,317	0.111%
4. Radio and Television	262.2	0.164%	4,593	0.219%
5. Photography	61.1	0.038%	2,286	0.109%
6. Software and Databases	1,682.3	1.054%	20,701	0.988%
7. Visual and Graphic Arts	99.1	0.062%	2,976	0.142%
8. Advertising Services	546.9	0.343%	6,686	0.319%
9. Copyright Collecting Societies	13.2	0.008%	290	0.014%
<b>A. Total Core Copyright</b>	<b>4,641.1</b>	<b>2.91%</b>	<b>72,369</b>	<b>3.45%</b>
<b>Interdependent Copyright Industries</b>				
1. TV sets, Radios, VCR and DVD players	348.2	0.218%	4,990	0.238%
2. Computers and Equipment	2618.1	1.640%	16,612	0.793%
3. Musical Instruments	8.1	0.005%	181	0.009%
4. Photographic and Cinematographic Instruments	93.8	0.059%	1,493	0.071%
5. Photocopiers	135.8	0.085%	1,451	0.069%
6. Blank Recording Material	8.0	0.005%	182	0.009%
7. Paper	39.9	0.025%	737	0.035%
<b>B. Total Interdependent Copyright</b>	<b>3,251.9</b>	<b>2.04%</b>	<b>25,645</b>	<b>1.22%</b>
<b>Partial Copyright Industries</b>				
1. Apparel, Textiles and Footwear	4.3	0.003%	118	0.006%
2. Jewelry and Coins	24.2	0.015%	640	0.031%
3. Other Crafts	22.6	0.014%	683	0.033%
4. Furniture	37.6	0.024%	838	0.040%
5. Household Goods, China and Glass	5.5	0.003%	75	0.004%
6. Wall Coverings and Carpets	1.3	0.001%	33	0.002%
7. Toys and Games	18.5	0.012%	560	0.027%
8. Architecture, Engineering and Surveying	36.3	0.023%	617	0.029%
9. Interior Design	10.5	0.007%	250	0.012%
<b>C. Total Partial Copyright</b>	<b>160.6</b>	<b>0.10%</b>	<b>3,815</b>	<b>0.18%</b>
<b>Non-Dedicated Support Industries</b>				
1. General Wholesale and Retail	557.3	0.349%	8,059	0.385%
2. General Transportation	882.4	0.553%	7,736	0.369%
3. Telephony and Internet	194.0	0.122%	739	0.035%
<b>D. Total Non-Dedicated Support</b>	<b>1,633.7</b>	<b>1.02%</b>	<b>16,534</b>	<b>0.79%</b>
<b>Total Copyright-Based (A+B+C+D)</b>	<b>9,687.3</b>	<b>6.07%</b>	<b>118,363</b>	<b>5.65%</b>
<b>Singaporean Economy</b>	<b>159,662.1</b>	<b>100%</b>	<b>2,094,800</b>	<b>100%</b>

## 2. Economic Indicators (Real and Nominal)

**Table VID.4:** Real Output 1986-2001

Industry	Output (Constant 2001 prices in S\$ millions)				
	2001	2000	1995	1990	1986
1. Core Copyright Industries	12,249.8	12,113.7	7,418.4	4,662.4	2,942.1
2. Interdependent Copyright Industries	14,212.4	17,064.4	15,172.7	8,026.7	3,106.1
3. Partial Copyright Industries	339.9	370	392.7	386.7	257.6
4. Non-Dedicated Support Industries	3,712.6	3,800.8	2,532.7	1,429.9	872.6
<b>Total Copyright-Based Industries</b>	<b>30,514.7</b>	<b>33,349</b>	<b>25,516.5</b>	<b>14,505.8</b>	<b>7,178.5</b>

**Table VID.5:** Real Output Growth 1986-2001

Industry	Annual Compounded Growth Rates (Constant 2001 prices)					
	2000 to 2001	1995 to 2000	1990 to 1995	1986 to 1990	1990 to 2001	1986 to 2001
1. Core Copyright Industries	1.1%	10.3%	9.7%	12.2%	9.2%	10%
2. Interdependent Copyright Industries	-16.7%	2.4%	13.6%	26.8%	5.3%	10.7%
3. Partial Copyright Industries	-8.1%	-1.2%	0.3%	10.7%	-1.2%	1.9%
4. Non-Dedicated Support Industries	-2.3%	8.5%	12.1%	13.1%	9.1%	10.1%
<b>Total Copyright-Based Industries</b>	<b>-8.5%</b>	<b>5.5%</b>	<b>12%</b>	<b>19.2%</b>	<b>7%</b>	<b>10.1%</b>

**Table VID.6:** Nominal Output 1986-2001

Industry	Output (Current market prices in S\$ millions)				
	2001	2000	1995	1990	1986
1. Core Copyright Industries	12,249.8	12,057.3	7,513.7	3,879.6	1,955.5
2. Interdependent Copyright Industries	14,212.4	17,333.5	15,011.7	7,158.2	2,420.5
3. Partial Copyright Industries	339.9	369.8	396.2	342.4	195.5
4. Non-Dedicated Support Industries	3,712.6	3,870.9	2,827.4	1,487.4	760.6
<b>Total Copyright-Based Industries</b>	<b>30,514.7</b>	<b>33,631.5</b>	<b>25,749.1</b>	<b>12,867.6</b>	<b>5,332.1</b>

**Table VID.7:** Nominal Output Growth 1986-2001

Industry	Annual Compounded Growth Rates (Current market prices)					
	2000 to 2001	1995 to 2000	1990 to 1995	1986 to 1990	1990 to 2001	1986 to 2001
1. Core Copyright Industries	1.6%	9.9%	14.1%	18.7%	11%	13%
2. Interdependent Copyright Industries	-18%	2.9%	16%	31.1%	6.4%	12.5%
3. Partial Copyright Industries	-8.1%	-1.4%	3%	15%	-0.1%	3.8%
4. Non-Dedicated Support Industries	-4.1%	6.5%	13.7%	18.3%	8.7%	11.1%
<b>Total Copyright-Based Industries</b>	<b>-9.3%</b>	<b>5.5%</b>	<b>14.9%</b>	<b>24.6%</b>	<b>8.2%</b>	<b>12.3%</b>



**Table VID.8:** Real Value Added 1986-2001

Industry	Value Added (Constant 2001 prices in S\$ millions)				
	2001	2000	1995	1990	1986
1. Core Copyright Industries	4,390.3	4,658.5	3,015.9	1,741.8	1,072.7
2. Interdependent Copyright Industries	2,713.3	3,217.3	2,665.3	1,578	918.7
3. Partial Copyright Industries	138.1	161.2	142.9	113	80.7
4. Non-Dedicated Support Industries	1,488.2	1,610.4	1,171	632.6	353.7
<b>Total Copyright-Based Industries</b>	<b>8,729.9</b>	<b>9,647.3</b>	<b>6,995.1</b>	<b>4,065.4</b>	<b>2,425.8</b>
<b>Singaporean GDP</b>	<b>154,078</b>	<b>157,070.3</b>	<b>115,227.2</b>	<b>74,871.7</b>	<b>51,150.8</b>
<b>Relative Value Added Size</b>	<b>5.67%</b>	<b>6.14%</b>	<b>6.07%</b>	<b>5.43%</b>	<b>4.74%</b>

**Table VID.9:** Real Value Added Growth 1986-2001

Industry	Annual Compounded Growth Rates (Constant 2001 prices)					
	2000 to 2001	1995 to 2000	1990 to 1995	1986 to 1990	1990 to 2001	1986 to 2001
1. Core Copyright Industries	-5.8%	9.1%	11.6%	12.9%	8.8%	9.8%
2. Interdependent Copyright Industries	-15.7%	3.8%	11.1%	14.5%	5.1%	7.5%
3. Partial Copyright Industries	-14.3%	2.4%	4.8%	8.8%	1.8%	3.6%
4. Non-Dedicated Support Industries	-7.6%	6.6%	13.1%	15.6%	8.1%	10.1%
<b>Total Copyright-Based Industries</b>	<b>-9.5%</b>	<b>6.6%</b>	<b>11.5%</b>	<b>13.8%</b>	<b>7.2%</b>	<b>8.9%</b>
<b>Singaporean GDP</b>	<b>-1.9%</b>	<b>6.4%</b>	<b>9%</b>	<b>10%</b>	<b>6.8%</b>	<b>7.6%</b>

**Table VID.10:** Nominal Value Added 1986-2001

Industry	Value Added (Current market prices in S\$ millions)				
	2001	2000	1995	1990	1986
1. Core Copyright Industries	4,390.3	4,641.1	3,041.4	1,462.2	722.7
2. Interdependent Copyright Industries	2,713.3	3,251.9	2,655.2	1,409.8	709.4
3. Partial Copyright Industries	138.1	160.6	145.3	99.8	60.4
4. Non-Dedicated Support Industries	1,488.2	1,633.7	1,298.6	652	304
<b>Total Copyright-Based Industries</b>	<b>8,729.9</b>	<b>9,687.3</b>	<b>7,140.5</b>	<b>3,623.8</b>	<b>1,796.5</b>
<b>Singaporean GDP</b>	<b>154,078</b>	<b>159,662.1</b>	<b>118,962.7</b>	<b>66,884.5</b>	<b>39,102.5</b>
<b>Relative Value Added Size</b>	<b>5.67%</b>	<b>6.07%</b>	<b>6.00%</b>	<b>5.42%</b>	<b>4.59%</b>

**Table VID.11:** Nominal Value Added Growth 1986-2001

Industry	Annual Compounded Growth Rates (Current market prices)					
	2000 to 2001	1995 to 2000	1990 to 1995	1986 to 1990	1990 to 2001	1986 to 2001
1. Core Copyright Industries	-5.4%	8.8%	15.8%	19.3%	10.5%	12.8%
2. Interdependent Copyright Industries	-16.6%	4.1%	13.5%	18.7%	6.1%	9.4%
3. Partial Copyright Industries	-14%	2%	7.8%	13.4%	3%	5.7%
4. Non-Dedicated Support Industries	-8.9%	4.7%	14.8%	21%	7.8%	11.2%
<b>Total Copyright-Based Industries</b>	<b>-9.9%</b>	<b>6.3%</b>	<b>14.5%</b>	<b>19.2%</b>	<b>8.3%</b>	<b>11.1%</b>
<b>Singaporean GDP</b>	<b>-3.5%</b>	<b>6.1%</b>	<b>12.2%</b>	<b>14.4%</b>	<b>7.9%</b>	<b>9.6%</b>

**Table VID.12:** Real Productivity 1986-2001

Industry	Value Added Per Worker (Constant 2001 prices in S\$)				
	2001	2000	1995	1990	1986
1. Core Copyright Industries	58,982	64,371	58,474	48,493	39,122
2. Interdependent Copyright Industries	107,272	125,455	78,177	51,381	54,063
3. Partial Copyright Industries	36,953	42,255	33,661	25,866	23,521
4. Non-Dedicated Support Industries	98,214	97,399	74,918	58,394	46,668
<b>Total Copyright-Based Industries</b>	<b>73,597</b>	<b>81,507</b>	<b>66,275</b>	<b>49,679</b>	<b>43,769</b>
<b>Economy Average</b>	<b>75,281</b>	<b>74,981</b>	<b>67,697</b>	<b>48,713</b>	<b>42,120</b>

**Table VID.13:** Real Productivity Growth 1986-2001

Industry	Annual Compounded Growth Rates (Constant 2001 prices)					
	2000 to 2001	1995 to 2000	1990 to 1995	1986 to 1990	1990 to 2001	1986 to 2001
1. Core Copyright Industries	-8.4%	1.9%	3.8%	5.5%	1.8%	2.8%
2. Interdependent Copyright Industries	-14.5%	9.9%	8.8%	-1.3%	6.9%	4.7%
3. Partial Copyright Industries	-12.5%	4.7%	5.4%	2.4%	3.3%	3.1%
4. Non-Dedicated Support Industries	0.8%	5.4%	5.1%	5.8%	4.8%	5.1%
<b>Total Copyright-Based Industries</b>	<b>-9.7%</b>	<b>4.2%</b>	<b>5.9%</b>	<b>3.2%</b>	<b>3.6%</b>	<b>3.5%</b>
<b>Economy Average</b>	<b>0.4%</b>	<b>2.1%</b>	<b>6.8%</b>	<b>3.7%</b>	<b>4%</b>	<b>3.9%</b>

**Table VID.14:** Nominal Productivity 1986-2001

Industry	Value Added Per Worker (Current market prices in S\$)				
	2001	2000	1995	1990	1986
1. Core Copyright Industries	58,982	64,131	58,968	40,708	26,358
2. Interdependent Copyright Industries	107,272	126,807	77,882	45,904	41,746
3. Partial Copyright Industries	36,953	42,097	34,227	22,853	17,599
4. Non-Dedicated Support Industries	98,214	98,809	83,078	60,184	40,114
<b>Total Copyright-Based Industries</b>	<b>73,597</b>	<b>81,844</b>	<b>67,653</b>	<b>44,283</b>	<b>32,415</b>
<b>Economy Average</b>	<b>75,281</b>	<b>76,218</b>	<b>69,892</b>	<b>43,516</b>	<b>32,199</b>

**Table VID.15:** Nominal Productivity Growth 1986-2001

Industry	Annual Compounded Growth Rates (Current market prices)					
	2000 to 2001	1995 to 2000	1990 to 1995	1986 to 1990	1990 to 2001	1986 to 2001
1. Core Copyright Industries	-8%	1.7%	7.7%	11.5%	3.4%	5.5%
2. Interdependent Copyright Industries	-15.4%	10.2%	11.2%	2.4%	8%	6.5%
3. Partial Copyright Industries	-12.2%	4.2%	8.4%	6.7%	4.5%	5.1%
4. Non-Dedicated Support Industries	-0.6%	3.5%	6.7%	10.7%	4.6%	6.2%
<b>Total Copyright-Based Industries</b>	<b>-10.1%</b>	<b>3.9%</b>	<b>8.8%</b>	<b>8.1%</b>	<b>4.7%</b>	<b>5.6%</b>
<b>Economy Average</b>	<b>-1.2%</b>	<b>1.7%</b>	<b>9.9%</b>	<b>7.8%</b>	<b>5.1%</b>	<b>5.8%</b>



**Table VID.16:** Employment 1986-2001

Industry	Employment (Number)				
	2001	2000	1995	1990	1986
1. Core Copyright Industries	74,434	72,369	51,578	35,919	27,420
2. Interdependent Copyright Industries	25,293	25,645	34,093	30,712	16,993
3. Partial Copyright Industries	3,737	3,815	4,245	4,369	3,429
4. Non-Dedicated Support Industries	15,153	16,534	15,631	10,833	7,579
<b>Total Copyright-Based Industries</b>	<b>118,617</b>	<b>118,363</b>	<b>105,546</b>	<b>81,832</b>	<b>55,421</b>
<b>Singaporean Employment</b>	<b>2,046,700</b>	<b>2,094,800</b>	<b>1,702,100</b>	<b>1,537,000</b>	<b>1,214,400</b>
<b>Relative Employment Size</b>	<b>5.80%</b>	<b>5.65%</b>	<b>6.20%</b>	<b>5.32%</b>	<b>4.56%</b>

**Table VID.17:** Employment Growth 1986-2001

Industry	Annual Compounded Growth Rates					
	2000 to 2001	1995 to 2000	1990 to 1995	1986 to 1990	1990 to 2001	1986 to 2001
1. Core Copyright Industries	2.9%	7%	7.5%	7%	6.8%	6.9%
2. Interdependent Copyright Industries	-1.4%	-5.5%	2.1%	15.9%	-1.7%	2.7%
3. Partial Copyright Industries	-2%	-2.1%	-0.6%	6.2%	-1.4%	0.6%
4. Non-Dedicated Support Industries	-8.4%	1.1%	7.6%	9.3%	3.1%	4.7%
<b>Total Copyright-Based Industries</b>	<b>0.2%</b>	<b>2.3%</b>	<b>5.2%</b>	<b>10.2%</b>	<b>3.4%</b>	<b>5.2%</b>
<b>Singaporean Employment</b>	<b>-2.3%</b>	<b>4.2%</b>	<b>2.1%</b>	<b>6.1%</b>	<b>2.6%</b>	<b>3.5%</b>

<sup>38</sup>Nominal and real employment are the same.

### 3. Survey Questionnaire Sample



#### NUS Consulting

7 April 2004

Dear Managing Director/General Manager,

#### ***Estimation of Economic Contribution of Copyright-Based Industries in Singapore***

NUS Consulting is studying the contribution of the copyright industries to the Singaporean economy. IPOS Singapore defines copyright as "A bundle of rights given to creators of works to make sure only they can reproduce what they have created for their own purposes that would enable them to control the commercial exploitation of their works". The study, the first in Singapore, is under the jurisdiction of the IP Academy of Singapore and is endorsed by IPOS (Intellectual Property Office of Singapore). One component of the study is an evaluation of the copyright involvement of companies in Singapore.

A survey on copyright activities was launched three weeks ago. If you have completed the questionnaire and returned to us in the past week, please ignore this reminder. We thank you very much for your kind cooperation.

If you have not responded to our survey, we would like to request again for your help. Please fill up the enclosed one-page survey questionnaire reminder requesting on the proportion of copyright activities in your company. All survey responses will be treated with the strictest confidentiality. Only grouped information or data will be included in the study report. Please assist us by completing the questionnaire and returning it in the enclosed self-addressed envelope preferably by 26 April 2004.

If you have any query, please do not hesitate to contact NUS Consulting manager, Leo Kah Mun (telephone 6775-3955 or e-mail [kmleo@nus.edu.sg](mailto:kmleo@nus.edu.sg)), or Ong Chin Huat (6874-5945 or e-mail [ncoongch@nus.edu.sg](mailto:ncoongch@nus.edu.sg)).

We look forward to your co-operation in this important project.

Thanking you for your kind attention to our request.

Yours sincerely,

CHOW Kit Boey (Ms)  
Director, NUS Consulting

## ECONOMIC IMPACT OF COPYRIGHT-BASED INDUSTRY IN SINGAPORE

Please be assured that all answers will be kept confidential.

### Part A: Company Particulars

Year of Establishment: \_\_\_\_\_ Number of Years in Copyrights Activities: \_\_\_\_\_

Primary Business Activity: \_\_\_\_\_

Ownership (Please tick one only):  
\_\_\_\_\_ Wholly local                      \_\_\_\_\_ Majority local  
\_\_\_\_\_ Wholly foreign                      \_\_\_\_\_ Majority foreign

Name of Contact Person: \_\_\_\_\_ Telephone No. \_\_\_\_\_

A1. Turnover/Sales in 2002 (Please circle one of the following options below.)

1. Less than S\$500K
2. S\$500K to less than S\$1 million
3. S\$1 million to less than S\$5 million
4. S\$5 million to less than S\$10 million
5. S\$10 million to less than S\$50 million
6. S\$50 million and above

A2. Total Workforce (including management)

Number of full-time personnel \_\_\_\_\_ persons

Number of part-time personnel \_\_\_\_\_ persons

### Part B: Estimation of Copyright Activities in Firm

B1. How important is copyright in the daily operations of your firm?  
(Please circle one of the following options below.)

1. Very Significant      2. Significant      3. Slightly Significant      4. Insignificant

B2. Does your firm receive or pay any form of payments for the use of intellectual rights in the form of royalties, patents or other licensing fees in the course of your business?

1. Yes                      2. No (Please proceed to question B5.)

B3. On average, what percentage of annual total expenditure does your business spend on royalties, patents or other licensing fees?

\_\_\_\_\_ %

B4. In your opinion, what percentage of turnover in the company is attributable to copyright or creative activities in your firm?

\_\_\_\_\_ %

B5. What percentage of the workforce in your business is involved in creative activities? Creative activities include product/service creation and development, for example "A jewelry craftsman drawing the designs for his jewelry".

Number of full-time personnel \_\_\_\_\_ persons

Number of part-time personnel \_\_\_\_\_ persons

Thank You For Completing This Questionnaire  
Please return the questionnaire in the self-addressed envelope.  
For any query, please contact NUS Consulting Project Managers,  
Leo Kah Mun at 6775 3955 or Ong Chin Huat at 6874 5945.

If you wish to have a summary of the report,  
please attach your name card.

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# The Economic Contribution of Copyright-Based Industries in Canada

THE 2004 REPORT

## Note

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The views expressed in this report are those of Wall Communications Inc. and, as such, they are not intended to and nor do they necessarily reflect the views of Canadian Heritage.

Wall Communications Inc. is an economics consulting firm specializing in telecommunications, broadcasting, film and television production, new media, copyright and intellectual property and competition policy.

The firm provides policy and strategic planning advice, conducts economic research and analysis and prepares evidence for regulatory and other proceedings.

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## Executive Summary

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### The economic contribution of copyright industries to the Canadian economy

There is a growing body of international research demonstrating that the economic contribution of copyright based (CB) industries is becoming increasingly important.

Copyright-Based (CB) industries, according to WIPO, are industries that are engaged in the creation, production and manufacturing, performance, broadcast, communication and exhibition, or distribution and sales of works and other protected subject matter. WIPO also recognizes that economic impact can be related to both “core” CB industries (i.e. those that produce goods that are copyright protected) and “non-core” CB industries (i.e. those that support or are inter-related to core CB industries).

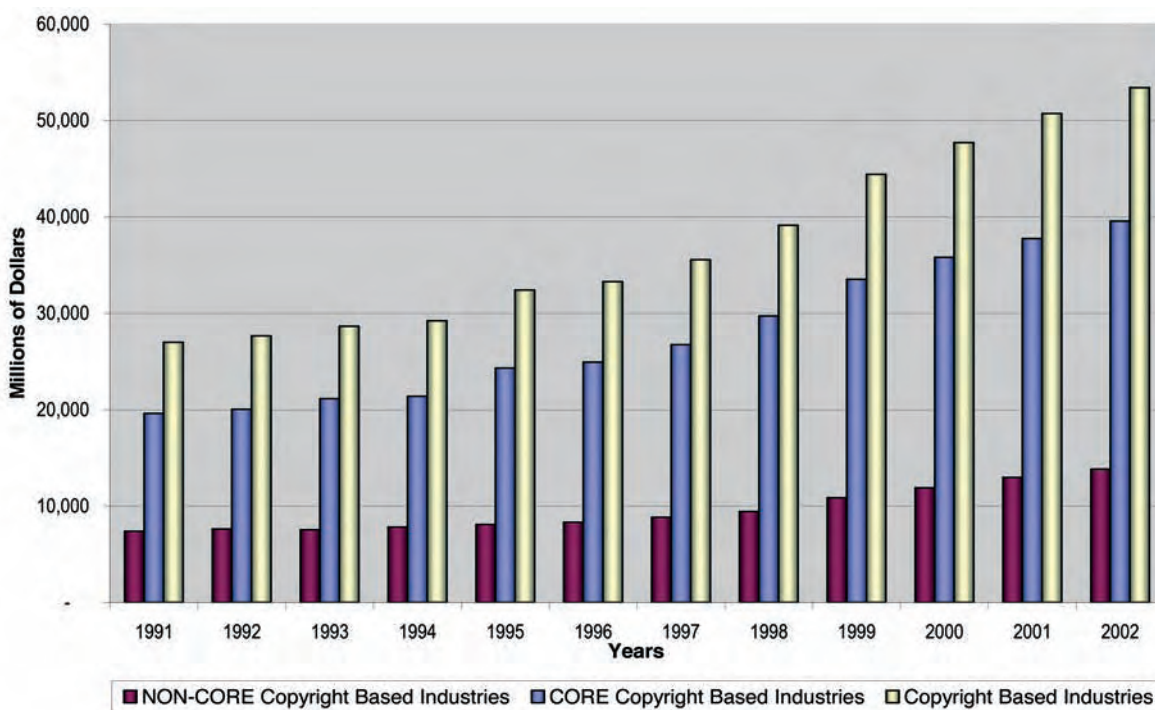
This study is intended to examine Canadian copyright based industries and determine their contribution over time to the Canadian economy. In addition to measuring GDP contribution, we also examine employment and trade levels and trends. Comparisons to other Canadian industry sectors are provided, as are comparisons with results from other countries.

We also examine the role and individual contributions of various industry sub-sectors including publishing, film, TV and sound recording, software and databases and broadcasting.

## The Value Added (GDP) of Canadian Copyright-Based Industries

Much like the findings in studies from other countries, Canada's copyright based industries have seen a significant growth in the last decade. Core CB industries have grown from a value-added of \$19,598 million dollars in 1991 to \$39,561 million in 2002. When non-core industries are added, the totals become \$26,987 million in 1991 and \$53,408 million in 2002.

**GDP: Copyright-Based Industries (1991-2002)** Millions of Constant (1997) Dollars

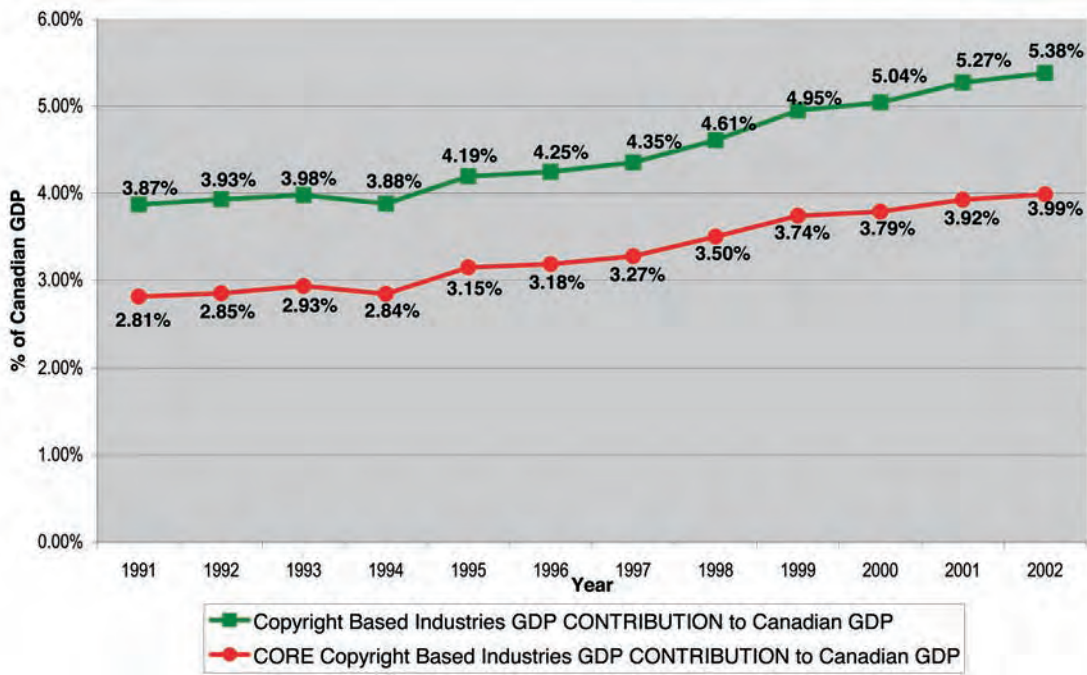


Source: Wall Communications Inc. 2004

Calculated as a percentage of economy-wide GDP, CB industries have steadily increased their contribution to the economy. The 1991 contribution of 3.87% grew to 5.38% by 2002.



**GDP:** Copyright-Based Industries CONTRIBUTION to CANADIAN GDP (1991 to 2002)



Source: Wall Communications Inc. 2004

Two conclusions can be drawn when comparing growth in the CB industries with growth in the overall economy. First, the variability in growth from year to year is more extreme in the CB industries. Second, average annual rate of growth for the CB industries was approximately twice the rate of the general economy. Overall, the CB industries grew at an average annual rate of 6.46% between 1991 and 2002. This compares with an economy-wide average annual growth over the period of 3.27%.

Comparing the contribution of CB industries to other industries, CB industries now provide a significant contribution to overall GDP, contributing more than accommodation and food, agriculture, or mining.

**Contribution of Copyright-Based Industries Compared to Selected Other Industries, 2002**

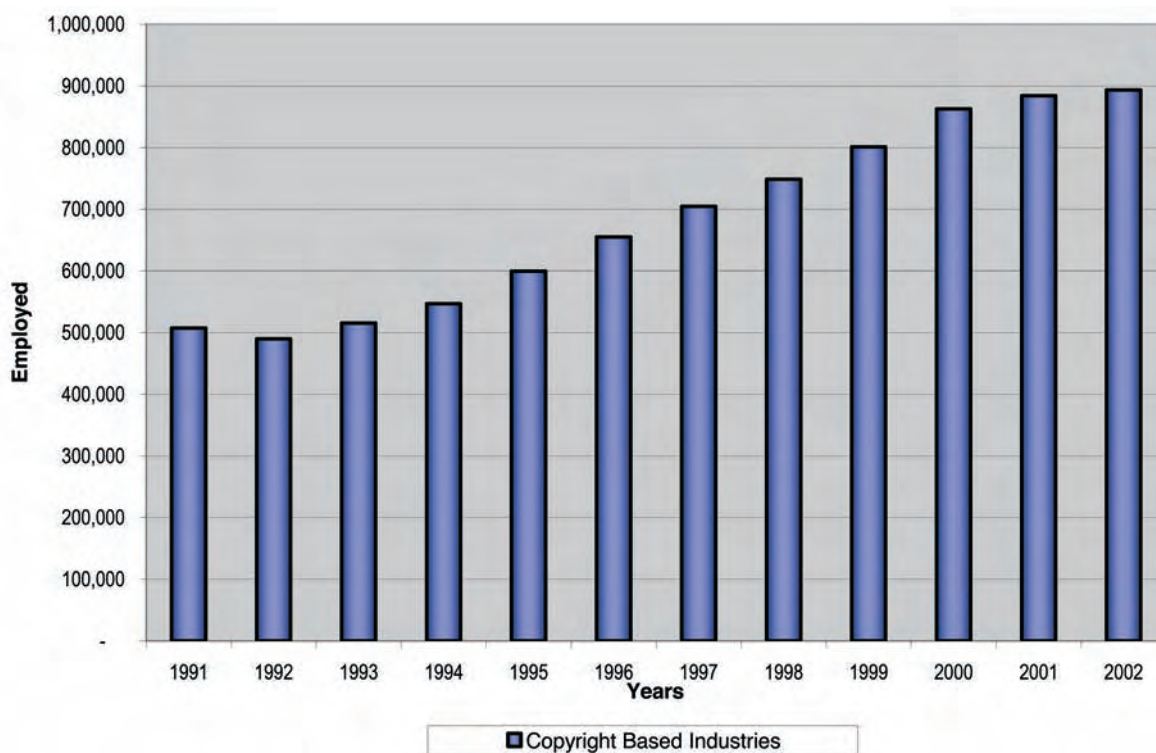
Industry	2002 Annual Growth Rate	GDP 1997 Chained \$
Copyright Based	6.5 %	53.4 billion
Agriculture, Forestry, Fishing and Hunting	-3.4 %	20.5 billion
Mining and Oil and Gas Extraction	1.9 %	37.4 billion
Utilities	4.2 %	28.3 billion
Accommodation and Food Services	4.7 %	23.5 billion
Retail Trade	1.9 %	53.9 billion

Source: The Daily, January 31, 2003 Statistics Canada, and Wall Communications Inc.

## Employment in Copyright-Based Industries

Much like the GDP data, the employment numbers reflect the increasing importance of CB industries to the overall economy. From roughly 500,000 employees in 1991, the CB industries reached almost 900,000 employees by 2002.

### Employment : Copyright-Based Industries (1991-2002)



Source: Wall Communications Inc. 2004

Compared to the Canadian economy, the CB industries outperformed the economy in general growing at more than three times the overall rate. Between 1991 and 2002, employment in the CB industries grew at about 5.3% while the national economy only grew at 1.4%. As should be expected, the growth rate of the economy displays less volatility than the CB industries.

## Trade in Copyright-Based Industries

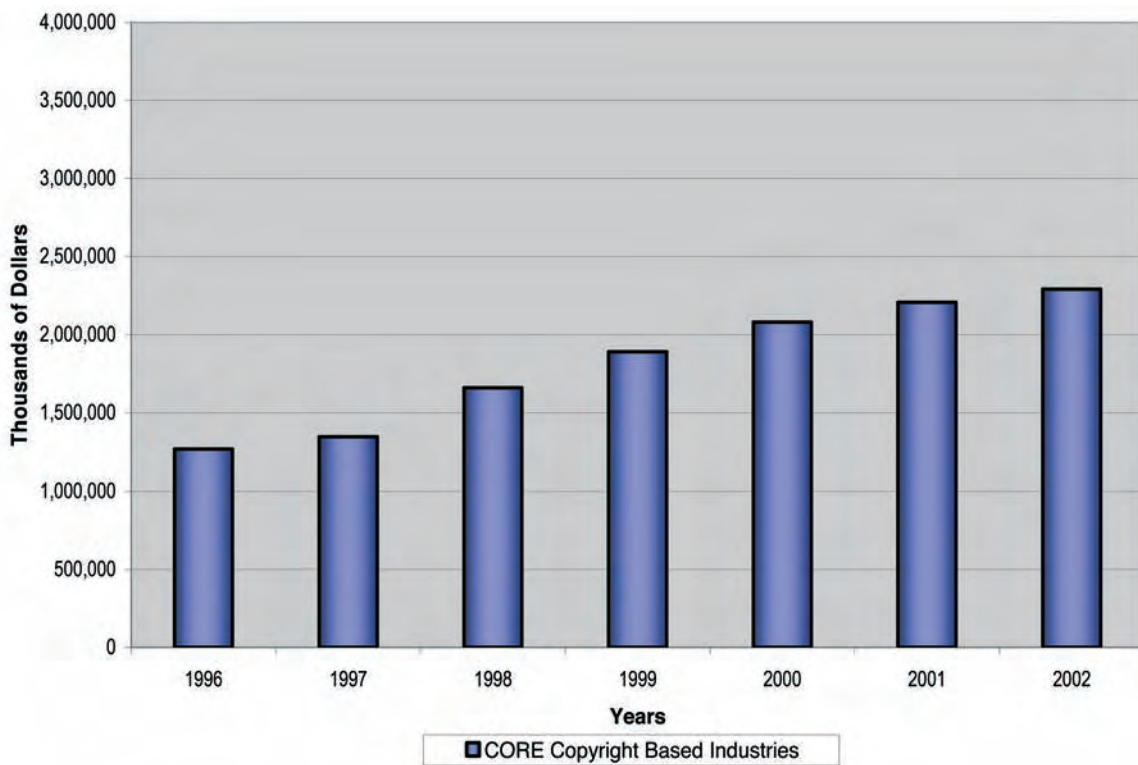
Valuations are on a “customs basis” in current dollars. Customs basis measures the change in the stock of material resources of the country resulting from the physical movement of merchandise into or out of Canada. When goods are imported in or exported from Canada, declarations giving information such as the description and value of goods, origin and port of clearance of shipments, and mode of transport must be filed with Canada Customs and Revenue Agency.

These estimates use the value of domestic exports and retained imports rather than the values of total exports and total imports (the typical measures used in measuring international trade). To calculate domestic exports and retained imports, the value of re-exports is deducted from both sides of the total.

As noted in other studies, export and import data generally fail to completely capture the full contribution of trade activities. A major factor to this is the recording of “goods” data only (i.e. “services” are not recorded). For example, a single master version of a copyrighted work (such as for a feature film) may only be valued at a few hundred dollars in trade statistics. However, copies and exhibition rights may generate millions of additional dollars in sales. It is not possible to adjust for this under-valuation so the trade statistics should be viewed with that in mind.

Putting measurement issues aside, exports of core CB goods have increased each year since 1996, reaching almost \$2.3 billion in 2002. This represents almost a doubling from the 1996 export level of \$1.2 billion.

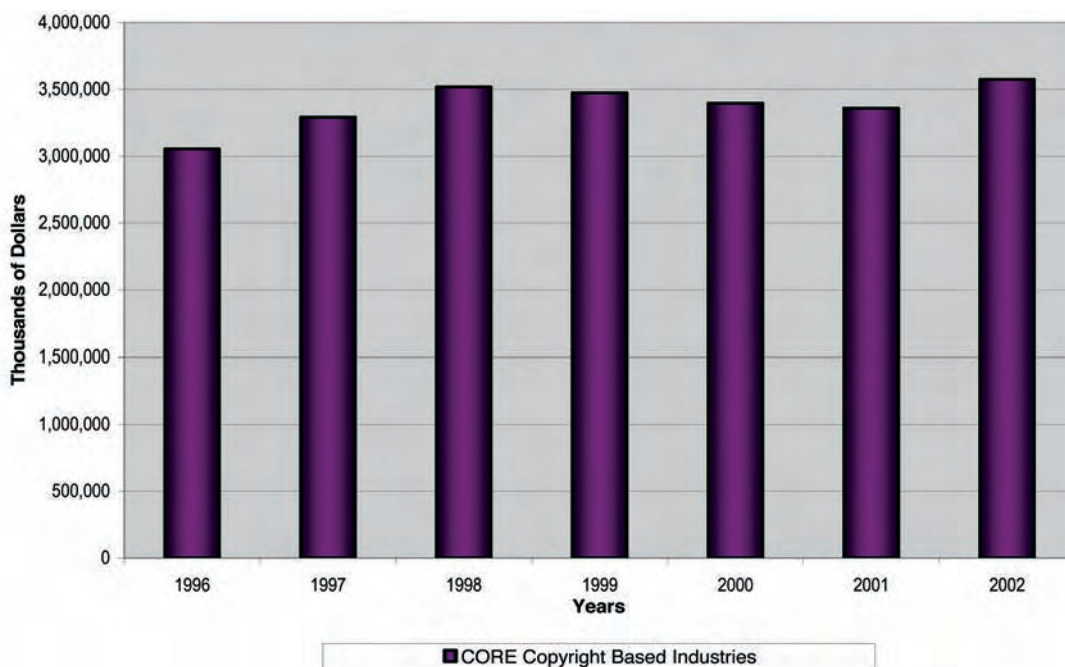
**CORE Copyright-Based Industries** Domestic Exports (1996-2002) Thousands of Dollars



Source: Wall Communications Inc. 2004

Imports in the CB industries, which typically exceed exports, have generally been in the \$3 billion to \$3.5 billion range since 1996. A peak of \$3.5 billion was not surpassed until 2002 and only by a marginal amount. Imports increased between 1996 and 1998, and then declined until 2001.

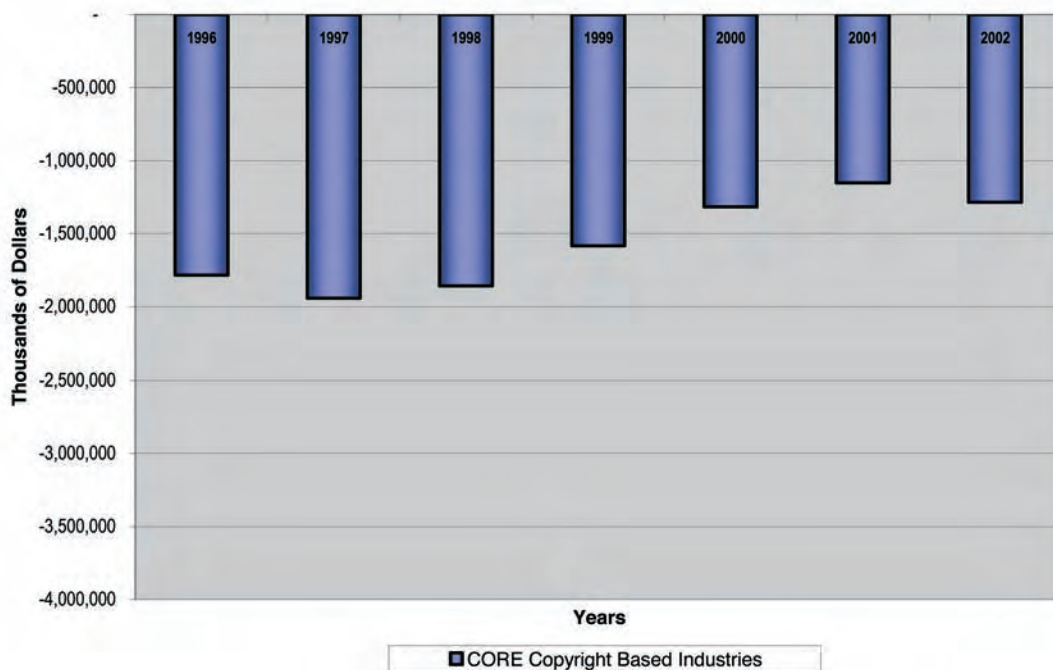
**CORE Copyright-Based Industries** Retained Exports (1996-2002) Thousands of Dollars



Source: Wall Communications Inc. 2004

Although Canada remains a net importer of CB goods, the gap between exports and imports has been decreasing since 1997 with the exception of 2002. The CB goods trade deficit decreased from almost \$2 billion in 1997 to about \$1.2 billion in 2001.

**CORE Copyright-Based Industries** Trade Balance (1996-2002) Thousands of Dollars



Source: Wall Communications Inc. 2004



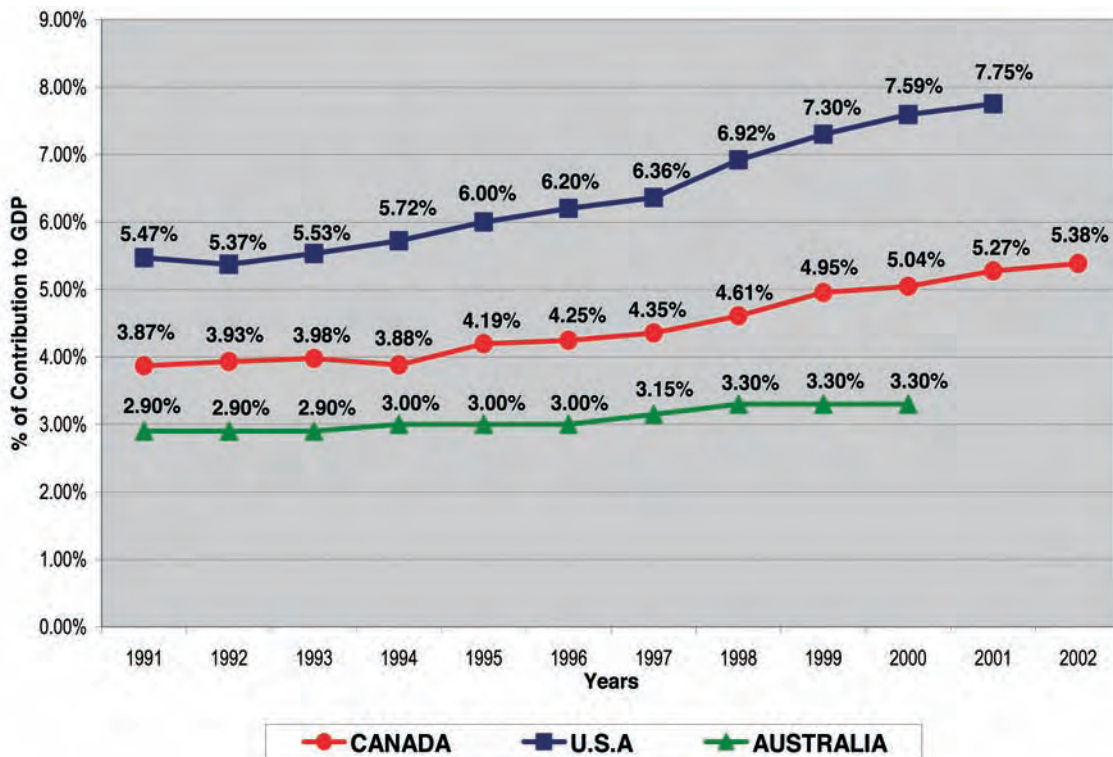
## Comparisons with other Countries

The key comparable studies come from the United States and Australia. It should be noted at the outset that even though the approach of the U.S. and Australian studies contain many similarities to this study, significant differences still remain. These differences mainly arise in the area of CB category definitions. Consequently the data does not measure exactly the same activities in each study. In fact, both the U.S. and Australian studies were conducted prior to the WIPO guidelines and can therefore not possibly employ the exact methodology adopted for this study.

The following comparisons can therefore only provide a rough indication of any country's CB activities vis a vis any other country.

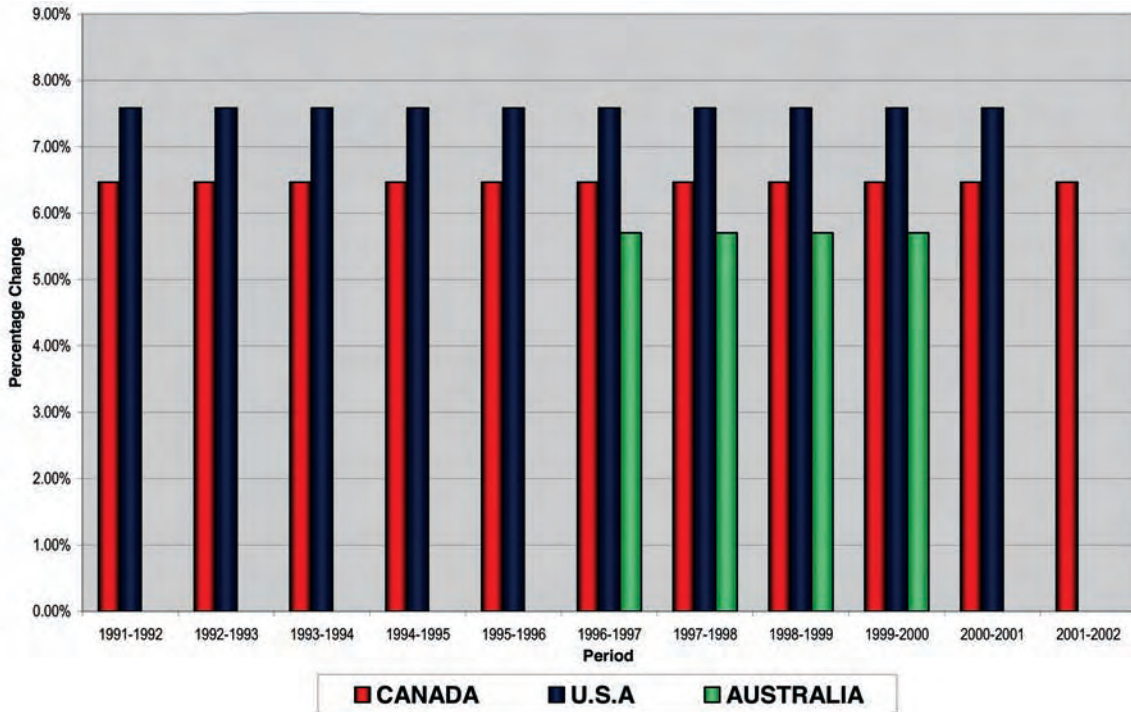
While the U.S. has led the way in terms of percentage of national GDP attributable to copyright based industries, Canada has also seen the importance of these industries grow. The U.S. study estimates that in 2002 7.75 % of U.S. national GDP was related to copyright industries while Canada stood at 5.4 % in 2002. Australia has remained in the 3% range.

### Canadian, American and Australian Copyright-Based Industries GDP CONTRIBUTION to National GDP



Source: Wall Communications Inc. 2004

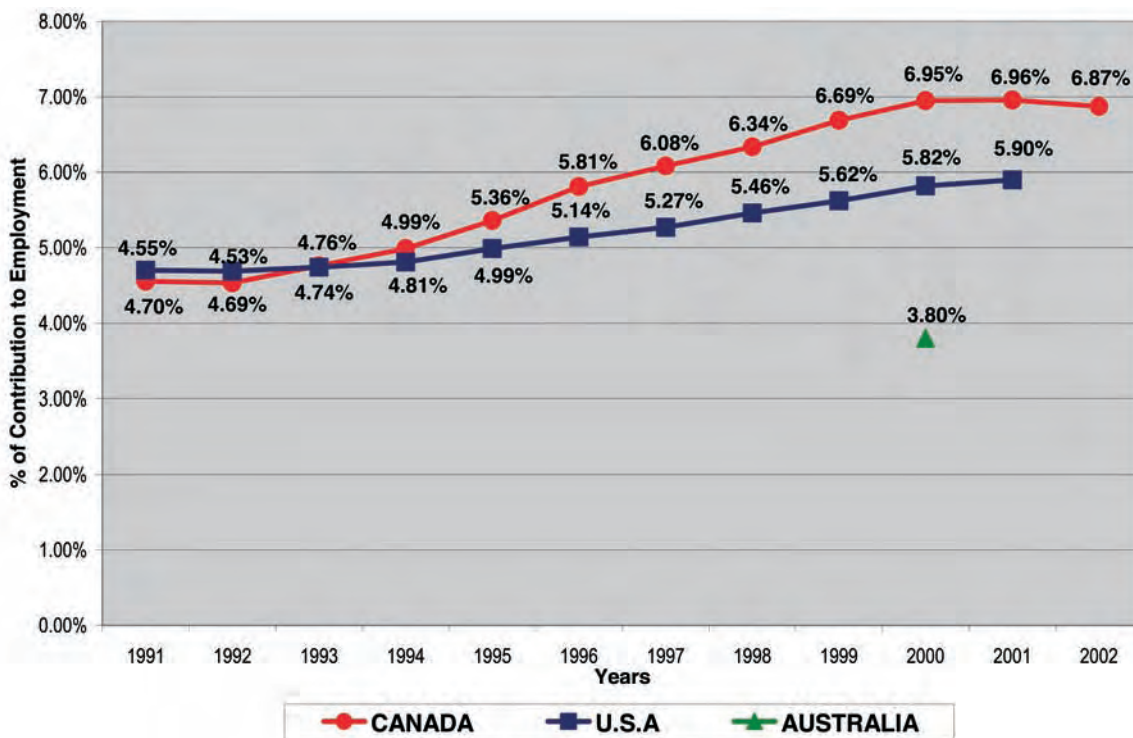
**Canadian, American and Australian  
Copyright-Based Industries GDP AVERAGE Annual Growth**



Source: Wall Communications Inc. 2004

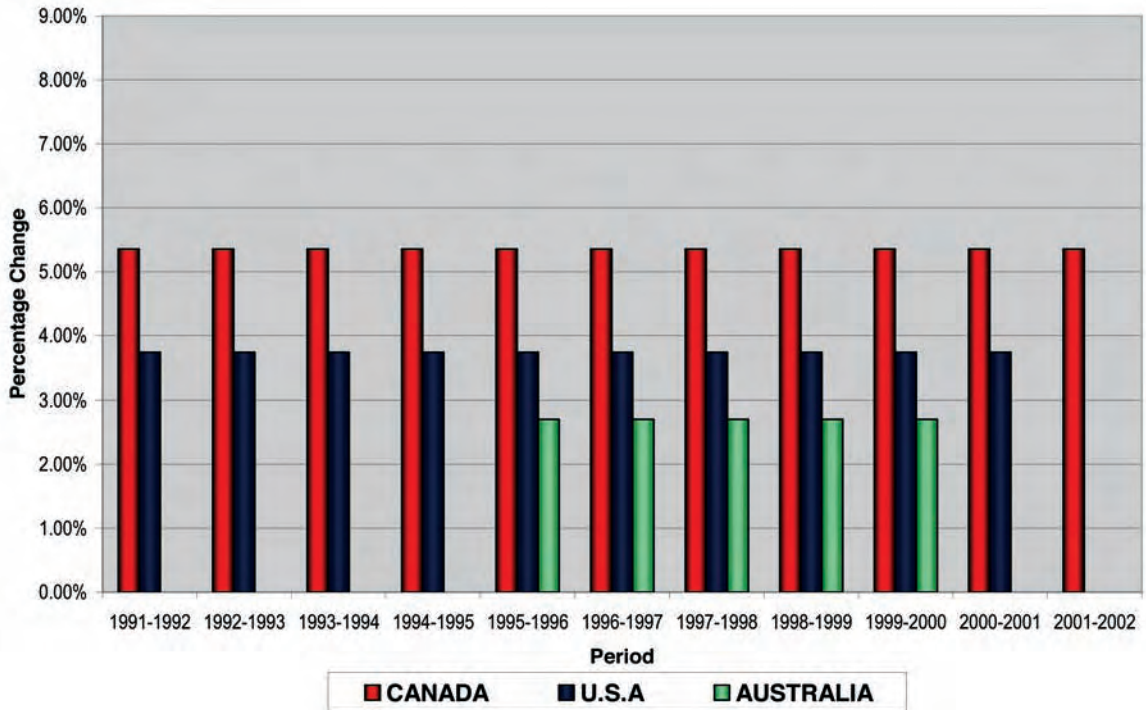
In the employment area, Canadian growth exceeds that of the U.S. after 1993.

**Canadian, American and Australian  
Copyright-Based Industries CONTRIBUTION to National Employment**



Source: Wall Communications Inc. 2004

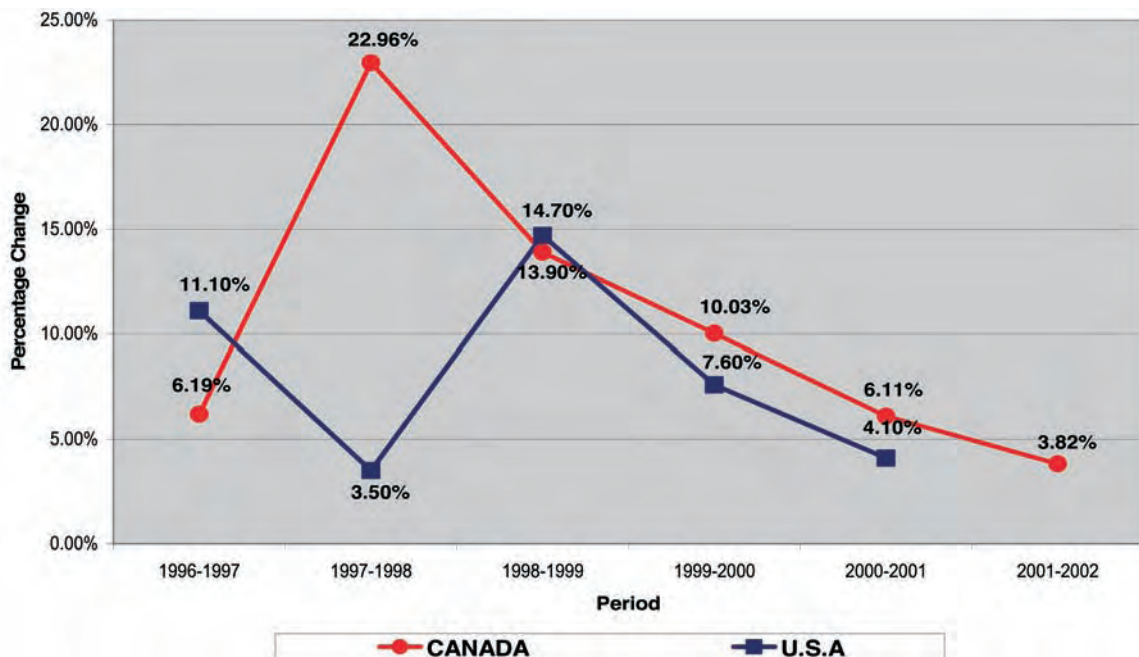
**Canadian, American and Australian Copyright-Based Industries Employment AVERAGE Annual Growth**



Source: Wall Communications Inc. 2004

The rate of growth in Canadian exports has generally exceeded the growth rate of U.S. exports. Both growth rates have tailed off in the last few years.

**Canadian and American EXPORTS : CORE Copyright-Based Industries Annual Growth**



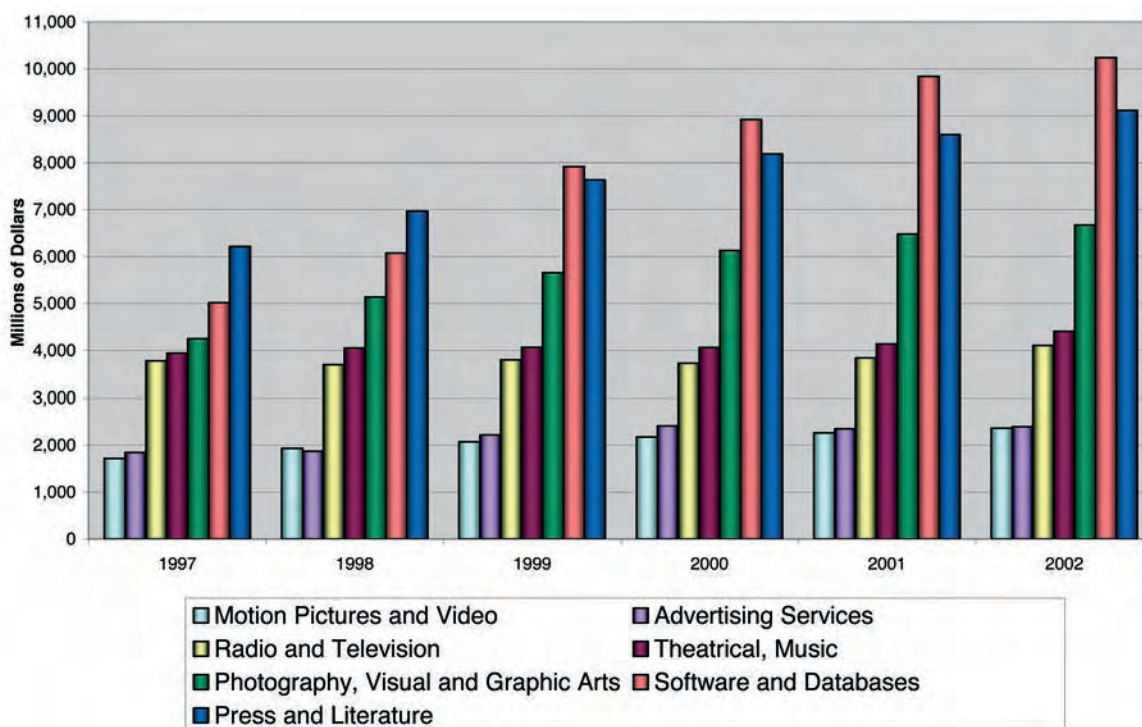
Source: Wall Communications Inc. 2004



## Analysis of CORE Sub-sectors and Environmental Considerations

Of all the core copyright based sub-sectors, Press and Literature (publishing) began the decade as the most important contributor. By 1999, software and databases had surpassed publishing to become the largest sub-sector. The Motion Picture and Advertising sub-sectors remained the smallest contributors. Publishing, photography, visual and graphic arts and software were noticeably larger than the other sub-sectors by 2002.

**GDP: CORE Copyright-Based Industries (1997-2002) By Subcategory** Millions of Chained 1997 Dollars

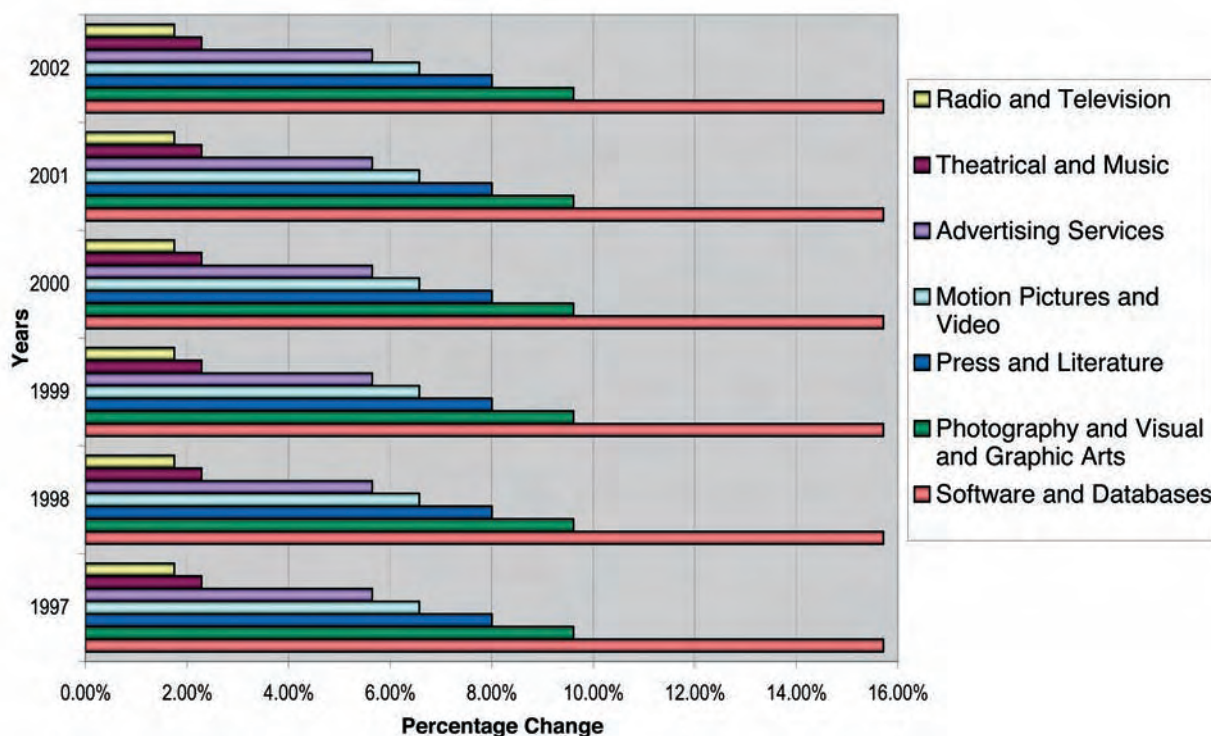


Source: Wall Communications Inc. 2004

The growth trend that is implied above is displayed explicitly in the following chart where the growth in software dominates the period. This category achieved close to 16% annual average growth over the period. By comparison, Broadcasting grew at just under 2% on average over the period. Four sub-sectors (Software, Photography/Graphic and Professional Services, Press and Motion Pictures each achieved at least 6% annual growth on average.



**GDP: CORE Copyright-Based Industries (1997-2002) By Subcategory AVERAGE Annual Growth**



Source: Wall Communications Inc. 2004

Looking at the core sub-sectors, software and databases (including new media services) has grown to become the largest contributor to GDP. Press and Literature (publishing) held the lead until 1999

According to industry views, the main issues and challenges facing sub-sectors have a degree of commonality but also individuality. Technological change and regulation/policy matters seem to be key issues for virtually all sub-sectors. On the other hand, no two sub-sectors have exactly the same priorities or concerns.

In terms of what factor has been most important in shaping the financial health of each industry over the last decade, government regulation and policy ranked first (1) followed by technological change (2), access to financing (3), global competition (4) and access to skilled labour (5).

The factor that has caused the most significant change in the way business is conducted (over the last decade) was overwhelmingly identified as new (often digital) technology. The most significant change facing CB industries today brought a mixed response with respondents noting difficulty in getting financing, becoming more client-oriented, ability to influence government policy, variations in Canada's versus other countries copyright protection (and related competitive implications), falling demand, and dealing with fundamental technological change. Many of the sub-sectors noted the exceptional creative abilities of Canadians as a source of on-going strength in our CB industries.

As a final matter, we believe that the contribution estimates in this study are conservative. While there are undoubtedly some sub-sector core industry data that include activities that are not particularly related to copyright, they are not likely to be too significant since the NAICS categories which have been used are quite well-defined. On the other hand, we can point to several instances where the data used in this study exclude relevant activities.

Perhaps the most important of these exclusions is in wholesale and retail trade. Due to the way in which retail and wholesale data is recorded in NAICS accounts, it is not possible to add it to the relevant core CB GDP categories. In addition, the WIPO guidelines identify several types of core activity that only appear within larger NAICS aggregates and could therefore not be reasonably estimated for this study. We expect that with more granular data, even higher estimated levels and rates of growth are likely.

## 1. Introduction

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There is a growing body of international research demonstrating that the economic contribution of copyright based (CB) industries is becoming increasingly important. It was aptly noted in a recent Australian study “While the value of copyright has traditionally been seen in cultural and social terms, the rise of the information economy and the services sector is changing this traditional perception so that copyright is increasingly being seen as core infrastructure underpinning a number of (Australian) industries”<sup>1</sup>. This is equally true of the Canadian situation and for many other countries as evidenced by examinations conducted in the United States (1990-2002), Australia (2001) and elsewhere.<sup>2</sup>

Copyright-Based (CB) industries, according to WIPO, are industries engaged in the creation, production and manufacturing, performance, broadcast, communication and exhibition, or distribution and sales of works and other protected subject matter<sup>3</sup>. WIPO also recognizes that economic impact can be related to both “core” CB industries (i.e. those that produce goods that are copyright protected) and “non-core” CB industries (i.e. those that support or are inter-related to core CB industries).

This study is intended to examine Canadian copyright based industries and determine their contribution over time to the Canadian economy<sup>4</sup>. In addition to measuring GDP contribution, we also examine employment and trade levels and trends. Comparisons to other Canadian industry sectors are provided, as are comparisons with results from other countries.

To the extent that the data allow, we examine the role and individual contributions of various industry sub-sectors including publishing, motion pictures, television and sound recording, software and databases and broadcasting. These sub-sector examinations also benefit from a survey of CB related national and regional associations. Further, personal interviews were conducted with key industry representatives to provide context to the quantitative results.

The methodology for this study is described more fully in the next section, but it should be noted at the outset that there have been several approaches to measuring the economic contribution of CB industries. Most approaches recognize that economic impact can be related to both “core” CB industries (i.e. those that depend totally or mostly on the existence of copyright laws) and “non-core” CB industries (i.e. those that support or are inter-related to CB industries). WIPO has published a comprehensive set of guidelines that includes a set of definitions pertaining to “core” and “non-core” CB industries. With some minor exceptions<sup>5</sup>, we have adopted the WIPO definitional framework, which is as follows:

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<sup>1</sup> Allen Consulting Group, *The Economic Contribution of Australia’s Copyright Industries*, 2001, Page 1.

<sup>2</sup> Identified in WIPO Guide on Surveying the Economic Contribution of the Copyright-Based Industries, WIPO, 2003. Other countries include the United Kingdom (1993), India (2000), Netherlands (2000), Finland (2000), Japan (2001) and South America (2002).

<sup>3</sup> Ibid. They might also, as an economic consideration, be seen as those industries that materially rely on copyright protection for their commercial viability.

<sup>4</sup> See Charles, S., G. McDougall and J. Tran, “The Importance of Intellectual Property Industries in the Canadian Economy”, Industry Canada, May, 2001 for an earlier study and background on the role of the Copyright Act.

<sup>5</sup> Differences between our final core categorizations and the WIPO categories are necessary due to the way data is collected and recorded in Canada. A detailed description of the categories, as well as the differences, is provided in the next section on Methodology and in the Appendices.

**Core Industries**

- a) *Press and literature* (including authors, writers, translators, newspapers, magazines, book publishing<sup>6</sup>, music publishing, software publishing and libraries);
- b) *Music, theatrical productions, opera* (including choreographers, directors, acting and musical performers and allied agencies);
- c) *Motion picture, video and sound* (including writers, directors, actors, production, distribution and exhibition, sales and rentals);
- d) *Radio and television* (including conventional radio and television broadcasting, cable and DTH distribution);
- e) *Photography, visual and graphic arts, related professional and technical services* (including studios and professional photography, artists, art galleries, graphic design and specialized design,);
- f) *Software, databases and new media* (including programming, development and design, software and video games, database processing, web portals, on-line services and ISP's);
- g) *Advertising services* (including agencies and buying services); and
- h) *Copyright collective management societies*.

**Non-core Industries**

- a) *Interdependent copyright industries* (including manufacture, wholesale and retail of TV sets, radios, DVD players, electronic game consoles, computers, musical instruments, photographic instruments, blank recording material, paper);
- b) *Partial copyright industries* (including architecture, engineering and surveying, interior design, museums, and furniture); and
- c) *Non-dedicated support industries* (including general wholesale and retailing, general transportation, telephony and Internet).

Intellectual property is unique in that it requires well-defined property rights to allow its exploitation, to permit commercial transactions and to allow optimal levels of effort to be directed to its creation. Copyright legislation, which defines rights for creative works, allows creators to market the manifestations of their creative efforts and to disseminate information and knowledge in a well-organized and predictable manner.

The benefits to society are multifold. This study examines one of the key benefits: the economic contribution of copyright based activities in Canada.

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<sup>6</sup>Book publishing includes book publishing and publications printing.



## 2. Methodological Approach

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### 2.1 Data Collection - Core Industries

The collection and categorization of data for this project represents a sizeable and complex chore. Statistics Canada played an invaluable role in helping to collect and understand various data series. It is important to maintain data measurement methodology consistency over time series and across industries. The use of Statistics Canada industry and sub-industry data for core CB industries provides a significant degree of comfort regarding consistency in data collection and measurement methodology and therefore in the accuracy of our conclusions.

It should be noted however that while the underlying data comes primarily from Statistics Canada sources, we have had to apply WIPO mandated categorizing and related methodologies to estimate the value and quantitative characteristics of the CB industries. As such, the estimates in this study represent the views of Wall Communications and do not necessarily reflect the views of Statistics Canada or any other government agency.

Beginning with the WIPO CB industry definitions, we were able to map various NAICS industry classifications into the WIPO framework. Statistics Canada uses the NAICS data classification system, most recently revised in 2002. The system, which is used by Canada, the United States and Mexico is revised every five years and supersedes the Standard Industrial Classification utilized prior to 1997. For purposes of this project, the 1997 NAICS data provided the most comprehensive data set and was utilized.

The WIPO categorization has been adopted with a few minor exceptions. At the most aggregate level, our definition and measurement of the core industries is exactly the same as that of WIPO. However, the definitions in certain sub-sectors may have slight variations. Specifically, WIPO groups “music” (which includes composers, lyricists, arrangers, printing and publishing of music, production/manufacturing of recorded music and wholesale and retail of recorded music) into a category with theatrical productions and operas. We have followed the Statistics Canada practice of placing the sound recording portion of “music” in the “Motion Picture and Video” (including sound recording) category<sup>7</sup>.

The category that is most comparable to WIPO’s “Music, Theatrical Performances and Opera” is NAICS 71, Arts, Entertainment and Recreation. Subcategory 713 (Amusement, Gambling and Recreation) has been removed, leaving Performing Arts, Spectator Sports and Related Industries as well as Heritage Institutions and Independent artists, writers and performers.

In addition, WIPO puts software publishing in its “Software and Databases” category while Statistics Canada incorporates software publishing within the “Publishing” category (NAICS 511). Since it is not possible to accurately separate software publishing from other publishing activities in the Statistics Canada data, we have retained the Statistics Canada approach.

Finally, WIPO has two separate categories for “Photography” and “Visual Arts and Graphic Arts”. These

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<sup>7</sup>The Statistics Canada NAICS category 512 includes motion picture and video industries (5121) and sound recording (5122), but excludes musical groups and artists and songwriters (which appear in category 711) and wholesaling of sound recordings (which appears in category 411 Wholesale Trade).

categories include studios and commercial photography and photo agencies (photography) and artists, art galleries and other wholesale and retail, picture framing and other allied services and graphic design (visual and graphic arts). In Statistics Canada classifications, photographic and some graphic design activities are buried in Professional, Scientific and Technical Services (NAICS 54) while Artists and gallery activities appear under “Arts, Entertainment and Recreation” (NAICS 71). These sub-sector activities cannot be obtained directly and must therefore be estimated as a portion of a larger category. They have been grouped into a single category of “Photographic, Visual and Graphic Arts and Professional Services”.

We would also point out that most CORE industry GDP measures should (according to WIPO guidelines) include wholesale and retail activity specific to an area (e.g. book wholesaling and retailing, wholesale and retail of recorded music, etc.). However, wholesale and retail figures for all industries (including CB industries) are reported in aggregate wholesale and retail classifications (NAICS 41 and 44-45). As a result, our estimates of the CORE GDP will be understated. A discussion of this omission and other possible omissions (as well as possible impacts) is provided in Chapter 8: Conclusions and Suggestions for Further Research.

A complete mapping of the WIPO to Statistics Canada categorizations is provided in Appendix 1. Detailed descriptions of the relevant Statistics Canada NAICS categorizations are provided in Appendix 2.

## 2.2 Data Collection – Non-Core Industries

While the contribution of core copyright industries can be measured directly from the NAICS base data, it is necessary to adjust the non-core copyright industries to reflect the fact that only a portion of their output, employment and trade is derived from copyright. The proportion of activity that is attributable to copyright is a much less rigorous and less precise exercise than the determination of core CB industries, primarily because core industries have been directly measured (for the most part) by Statistics Canada whereas non-core industries have not. As a result, we would note that contribution estimates for non-core CB industries are ultimately less precise than core industry estimates.<sup>8</sup>

As noted earlier, WIPO has defined three types of non-core industries: Interdependent, Partial and Non-dedicated Support. Regarding Interdependent industries, WIPO has noted:

“There is no close correspondence between the different national studies in respect of the interdependent copyright industries. When undertaking the analysis it has to be borne in mind that statistically, the interdependent copyright industries add a relatively little portion – in average between 1% to 1.5% GDP over and above what the core industries contribute.<sup>9</sup>”

Interdependent industries include the manufacture, wholesale and retail of primary equipment and appliances such as TV sets, radios, DVD players, electronic game equipment, computers, musical instruments as well as secondary devices and materials (in part) such as photographic instruments, blank recording media and paper.

<sup>8</sup>The lesser pedigree of non-core CB industry estimates appears to be common to all studies conducted in this field. However, for purposes of maintaining a standardized approach with studies

conducted in other countries and because the contribution of non-core industries is clearly important (even though the level is less precise), we have included estimates and analysis of both core and non-core CB industries.

<sup>9</sup>WIPO Guide on Surveying the Economic Contribution of the Copyright-Based Industries, WIPO, 2003.

Partial industries are those in which a portion of the activities relates to works and other protected subject matter and may involve creation, production and manufacturing, performance, broadcast, communication and exhibition or distribution and sales. Only the portion attributable to works and other protected subject matter should be included in the contribution calculation. WIPO has identified the following industries as being candidates for “partial” non-core industries<sup>10</sup>:

- Apparel, textiles and footwear;
- Jewelry and coins;
- Other crafts;
- Furniture;
- Household goods, china and glass;
- Wall coverings and carpets;
- Toys and games;
- Architecture, engineering and surveying;
- Interior design; and
- Museums.

For purposes of this study, the only categories from the list above that are separately identified in NAICS relate to architectural and engineering and museums. Architecture and engineering appears as part of NAICS 54 (5413 Professional, Scientific and Technical Services). Similarly, museums are reported in the NAICS category 71, where subcategory 7121 is Heritage institutions.

Non-dedicated Support industries are industries in which a portion is related to facilitating broadcast, communication, distribution or sales of works and other protected subject matter, and whose activities have not been included in core industries. These industries include:

- General wholesaling and retailing<sup>11</sup>;
- General transportation; and
- Telephony and Internet.

These industries support many industries, including CB industries, and therefore should only be accorded a partial contribution. For certain services, such as ISP services, the share may be relatively large.

In summary, the contribution of non-core industries may be sizable in total, but the available data is considerably less precise than for core CB industries. Certain non-core industry data is available (most notably architecture, engineering and survey, as well as telecommunications and general retailing and wholesale). However, these constitute only a portion of the total non-core industries described in the WIPO guidelines. Perhaps more importantly, there is no obvious way to determine the relevant percentages attributable to the non-core industries. Consequently, there is no satisfactory means of estimating the GDP (or employment) of non-core industries based on available NAICS data.

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<sup>10</sup>In our view, it is not apparent how all these items substantively relate to copyright. However, they are noted for completeness in describing the WIPO approach.

<sup>11</sup>Note that this category differs from the wholesale and retail activities associated with specific CORE industries (discussed in Data Collection – Core Industries). “General Wholesaling and Retail” refers to those operations that may include sales of recorded music (for example) by a department store or other non-dedicated outlet.

However, the relative size of non-core to core can be determined from previous studies. By way of comparison, the Australian study estimated that non-core CB industries contributed roughly 30% to overall economic contribution, the U.S. study estimated that non-core (in 2001) added 32% and an earlier Canadian study<sup>12</sup> estimated that in the year 2000 non-core CB industries contributed 35% of the overall CB value-added.

For purposes of this study, we have adopted a non-core value of 35% (of total CB GDP) for the year 2002. The annual growth rates for Telecommunications (NAICS 5133) were then used to back-cast non-core GDP for the years 1991 to 2001<sup>13</sup>.

### 2.3 Sub-sector Estimation and Analysis

GDP data is available for the core CB sub-sectors for the period 1997 to 2002 in chained 1997 dollars, often at the 3 and 4 digit NAICS code level.<sup>14</sup> Because the 1997 to 2002 data is of the highest quality, we have focused on this period for sub-sector analysis.

In addition to the quantitative analysis related to the collection and analysis of data, the study employed two sampling vehicles.

The first involved an electronic questionnaire that was sent to approximately sixty national and regional associations representing various sub-sectors in the CB core industries. The reason for the “written” questionnaire is to ensure consistency and to achieve a degree of standardization with respect to topics, format and responses. A listing of the surveyed agencies is provided in Appendix 4 and the questionnaire is provided in Appendix 5. 25% of the agencies responded.

The second survey exercise involved personal interviews with key industry representatives across the country. A listing of interviewees is provided in Appendix 6. The areas discussed involved identification and discussion of major economic and competitive issues facing each sub-sector, the perceived appropriateness of the policy environment (including support and funding programs as well as copyright legislation and tariff-setting processes), and the impact of globalization and/or global trade. The purpose of the interviews was to allow for a fuller exploration of industry-specific issues as well as providing an opportunity for more free-ranging consideration of hypothetical scenarios and expected future developments.

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<sup>12</sup>Charles, S., G. McDougall and J. Tran, “The Importance of Intellectual Property Industries in the Canadian Economy”, Industry Canada, May, 2001.

<sup>13</sup>See Chapter 8 for a more complete discussion of how this approach might still undervalue the contribution of non-core industries.

<sup>14</sup>See Appendix 2 for a more complete description of NAICS classifications used in this Study.



## 2.4 Other Methodological Issues

The time series for core CB industries is available from 1997 to 2002 in all cases. Furthermore, most of the core industries are also available back to 1991. In order to provide the most comprehensive snapshot of the core industries and to better assess trends, we have extrapolated the publishing and some other smaller sub-sectors from 1997 backwards to 1991. This was done by using the employment growth rates in those years applied to the base year of 1997 GDP series. It should be noted that most of the core data is directly obtainable back to 1991.

Aggregate core CB industry data for the period 1991 to 2002 is constant 1997 dollars. Disaggregated data for core sub-sectors for the period analysis 1997 to 2002 is chained 1997 dollars.

Employment data is derived from the Statistics Canada Labour Force Survey at the 4 digit NAICS code level.

Trade data is derived from the Statistics Canada Culture trade and investment project 2002 and data tables in November 2003, catalogue no. 87-007-XIE.

### 3. The Value Added (GDP) of Canadian Copyright-Based Industries

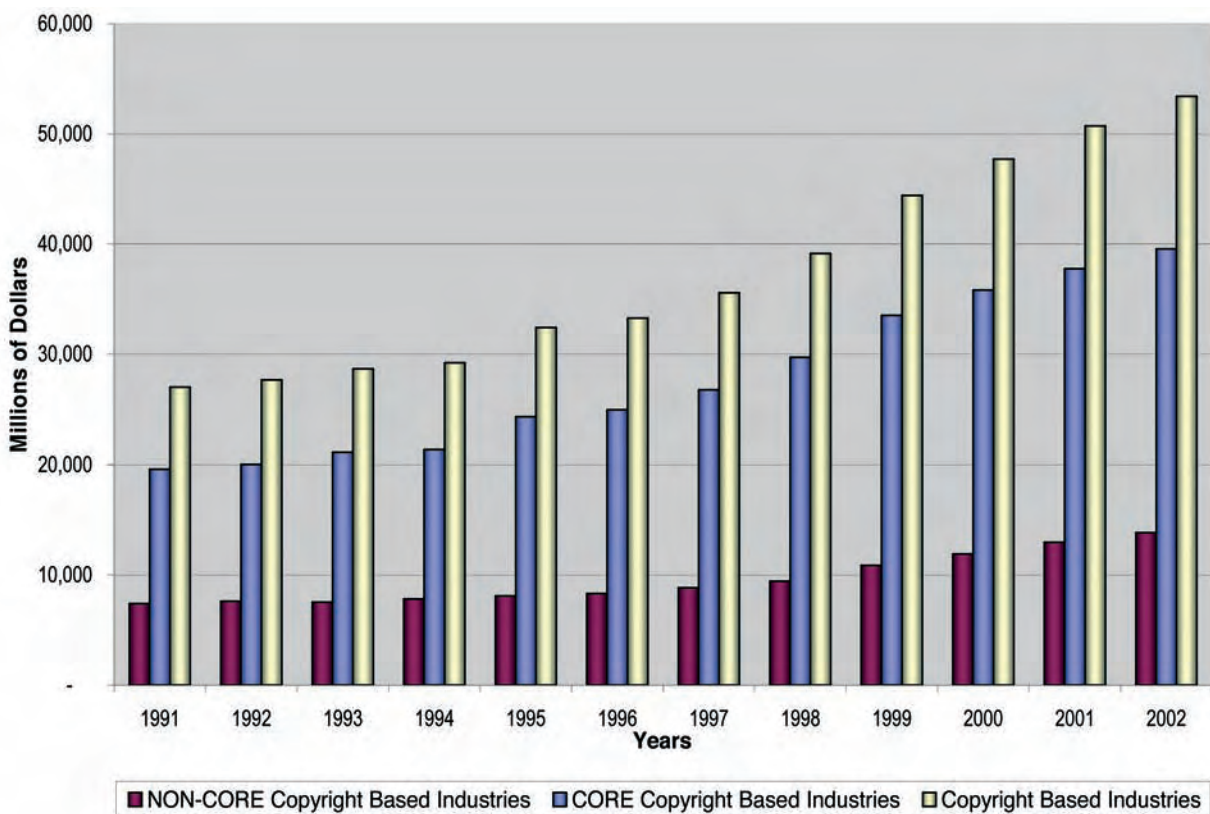
#### Contribution of CB Industries 1991 to 2002

Much like the findings in studies from other countries, Canada's copyright based industries have seen a significant growth in the last decade. Core CB industries have grown from a value-added of \$19,598 million dollars in 1991 to \$39,561 million in 2002. When non-core industries are added, the totals become \$26,987 million in 1991 and \$53,408 million in 2002 (see Chart 1).

#### Chart 1

##### GDP: Copyright-Based Industries (1991-2002)

Millions of Constant (1997) Dollars

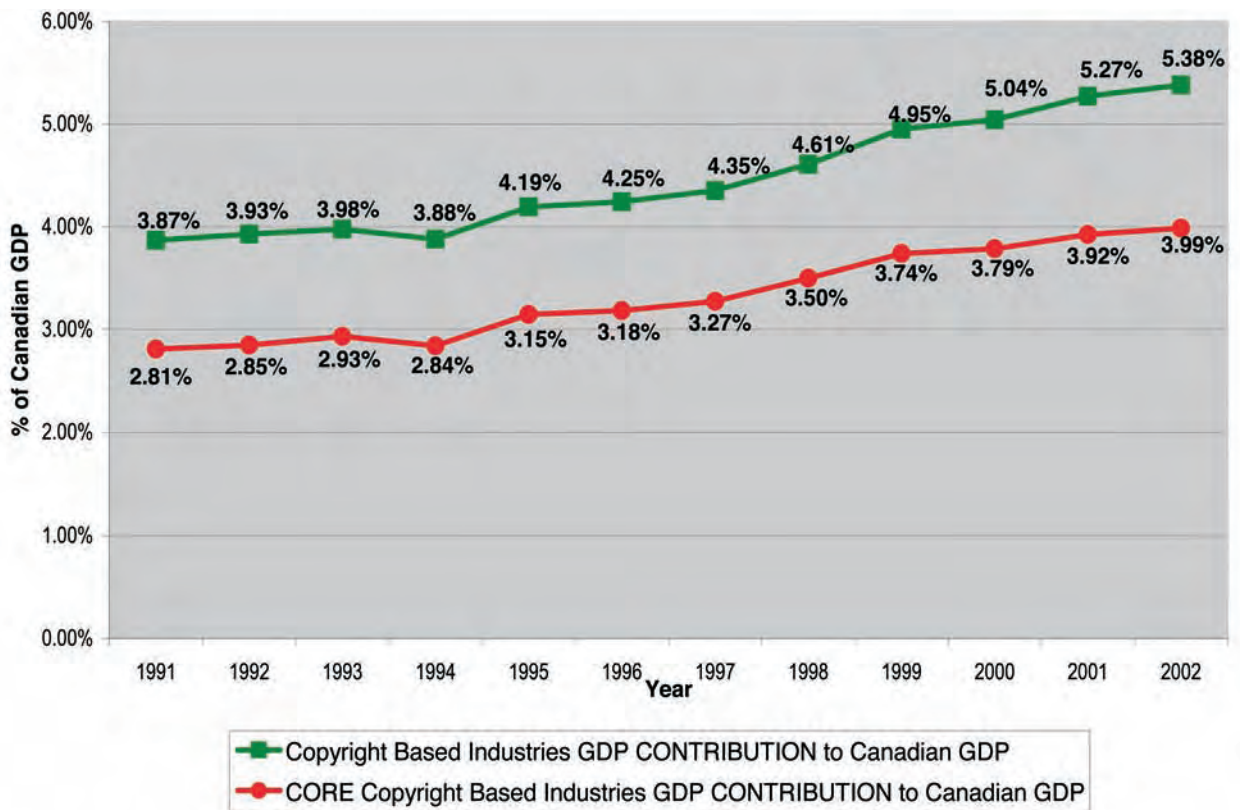


Source: Wall Communications Inc. 2004

Calculated as a percentage of economy-wide GDP, CB industries have steadily increased their contribution to the economy. The 1991 contribution of 3.87% grew to 5.38% by 2002 (See Chart 2).

### Chart 2

**GDP:** Copyright-Based Industries CONTRIBUTION to CANADIAN GDP (1991 to 2002)

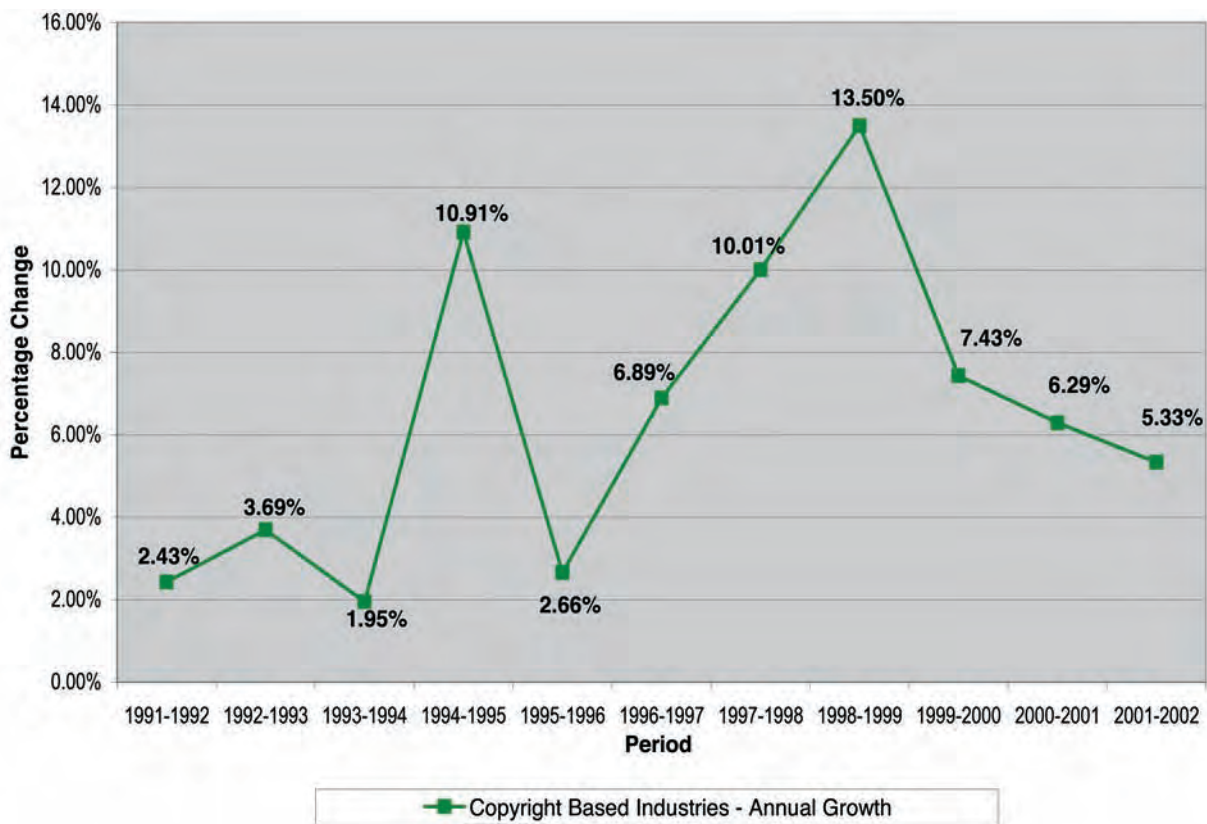


Source: Wall Communications Inc. 2004

This becomes especially clear when examining the rates of growth of CB industries versus the general economy. Although somewhat erratic, the CB industries grew at relatively high rates throughout the period, ranging from a period low of 2.43% in 1991 to a period high of 13.5% in 1999 (see Chart 3). It should be noted that the slower rates of growth in the early 1990's coincides with the general economy-wide slowdown.

**Chart 3**

**GDP:** Copyright-Based Industries (1991-1992 to 2001-2002) Annual Growth



Source: Wall Communications Inc. 2004

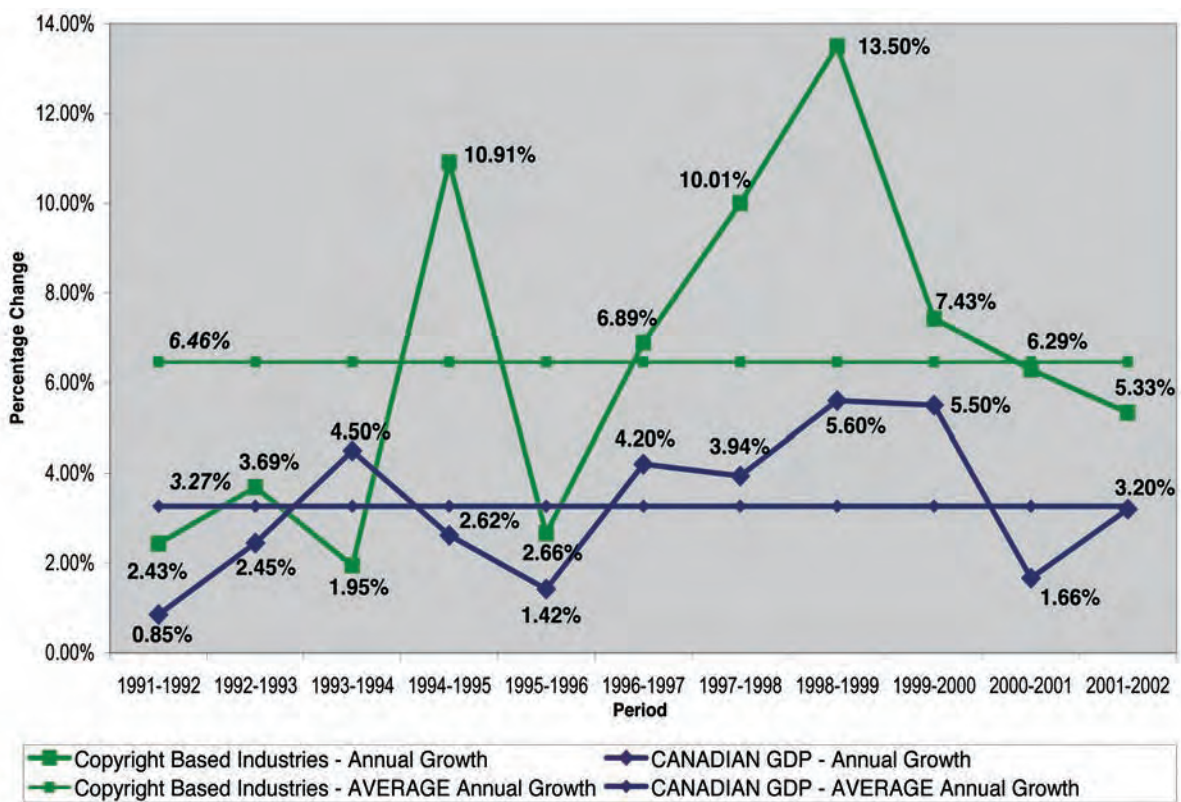


Two conclusions can be drawn when comparing growth in the CB industries with growth in the overall economy. First, the variability in growth from year to year is more extreme in the CB industries. Second, average annual rate of growth for the CB industries was approximately twice the rate of the general economy. Overall, the CB industries grew at an average annual rate of 6.46% between 1991 and 2002. This compares with an economy-wide average annual growth over the period of 3.27% (see Chart 4).

**Chart 4**

Canadian GDP and Copyright-Based Industries GDP (1991-1992 to 2001-2002)

Annual Growth/AVERAGE Annual Growth



Source: Wall Communications Inc. 2004

Comparing the contribution of CB industries to other industries, CB industries now provide a significant contribution to overall GDP, contributing more than accommodation and food, agriculture, or mining.

**Table 1**

Contribution of Copyright-Based Industries Compared to Selected Other Industries, 2002

Industry	2002 Annual Growth Rate	GDP 1997 Chained \$
Copyright Based	6.5 %	53.4 billion
Agriculture, Forestry, Fishing and Hunting	-3.4 %	20.5 billion
Mining and Oil and Gas Extraction	1.9 %	37.4 billion
Utilities	4.2 %	28.3 billion
Accommodation and Food Services	4.7 %	23.5 billion
Retail Trade	1.9 %	53.9 billion

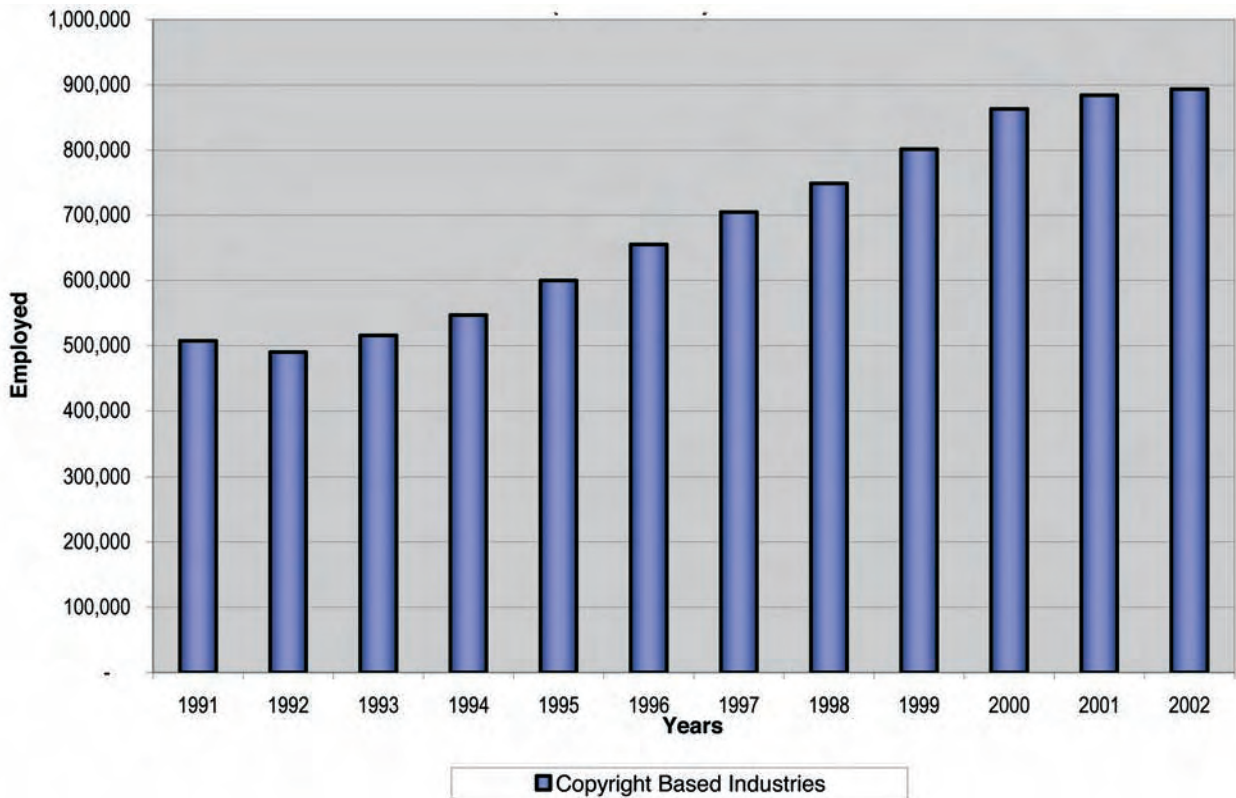
Source: *The Daily*, January 31, 2003 Statistics Canada, and Wall Communications Inc.

## 4. Employment in Copyright-Based Industries

Much like the GDP data, the employment numbers reflect the increasing importance of CB industries to the overall economy. From roughly 500,000 employees in 1991, the CB industries reached almost 900,000 employees by 2002 (see Chart 5).

**Chart 5**

**Employment:** Copyright-Based Industries (1991-2002)

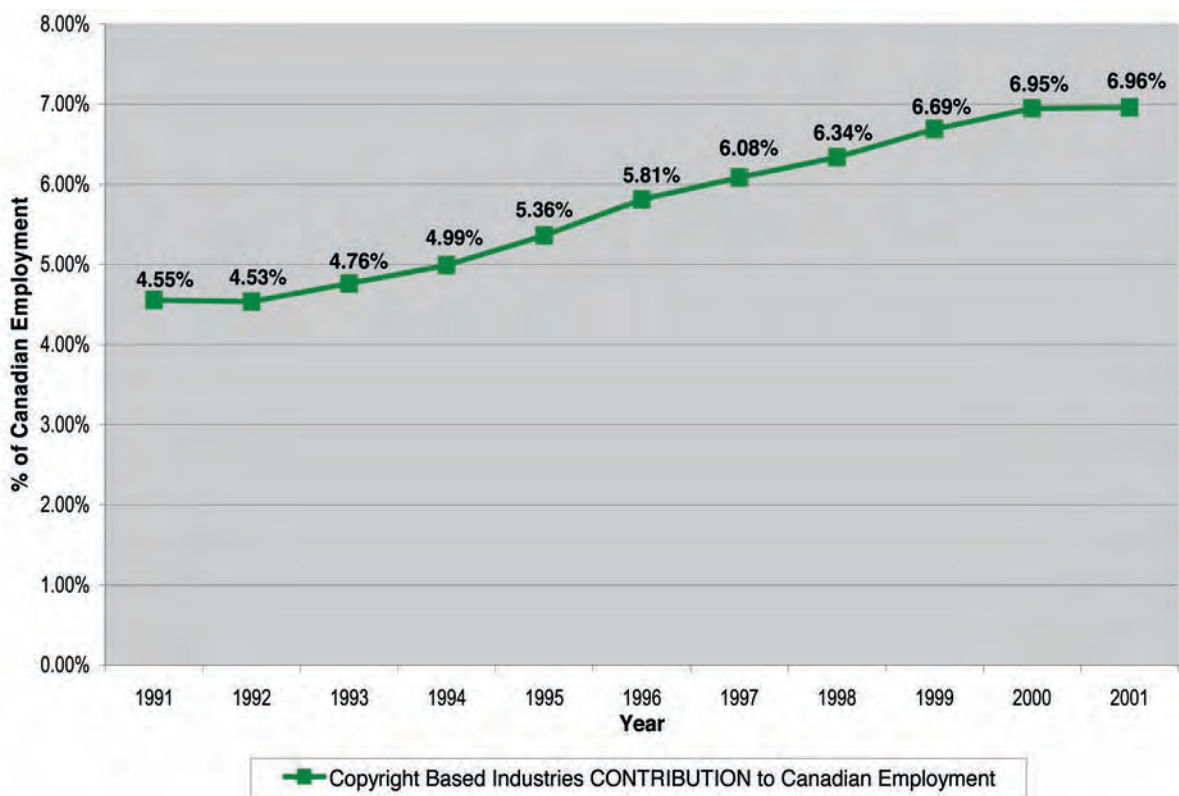


Source: Wall Communications Inc. 2004

In terms of contribution to economy-wide employment, the CB industries have continued to increase their share. Beginning in 1991 with a share of roughly 4.5%, the CB industries reached a share of 6.9% in 2002. It should be noted that employment share growth was not significant between 2002 and 2001. In fact, it declined nominally in 2002 (see Chart 6). This is not necessarily a case of employment falling off in the CB industries. Employment in CB industries actually grew in 2002 over 2001 (by over 5%). However, the rest of the economy simply outperformed the CB industries in generating jobs.

### Chart 6

**Employment:** Copyright-Based Industries CONTRIBUTION to CANADIAN Employment (1991-2002)



Source: Wall Communications Inc. 2004

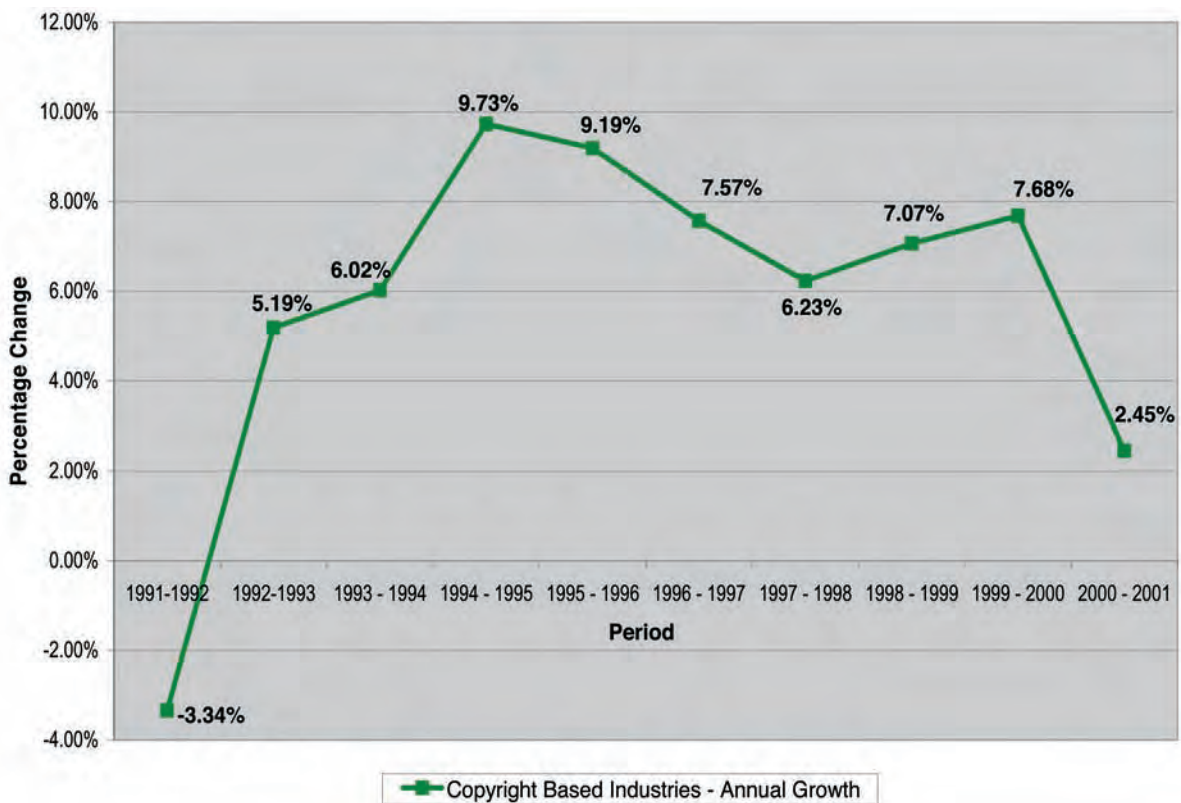


When examining the growth of employment in the CB industries, it is interesting that growth has been continual since 1992. In fact for the years 1992 through to 2000, the industry experienced growth rates in excess of 5%, peaking at a rate of 9.7% in 1993.

### Chart 7

**Employment:** Copyright-Based Industries (1991-1992 to 2001-2002)

Annual Growth



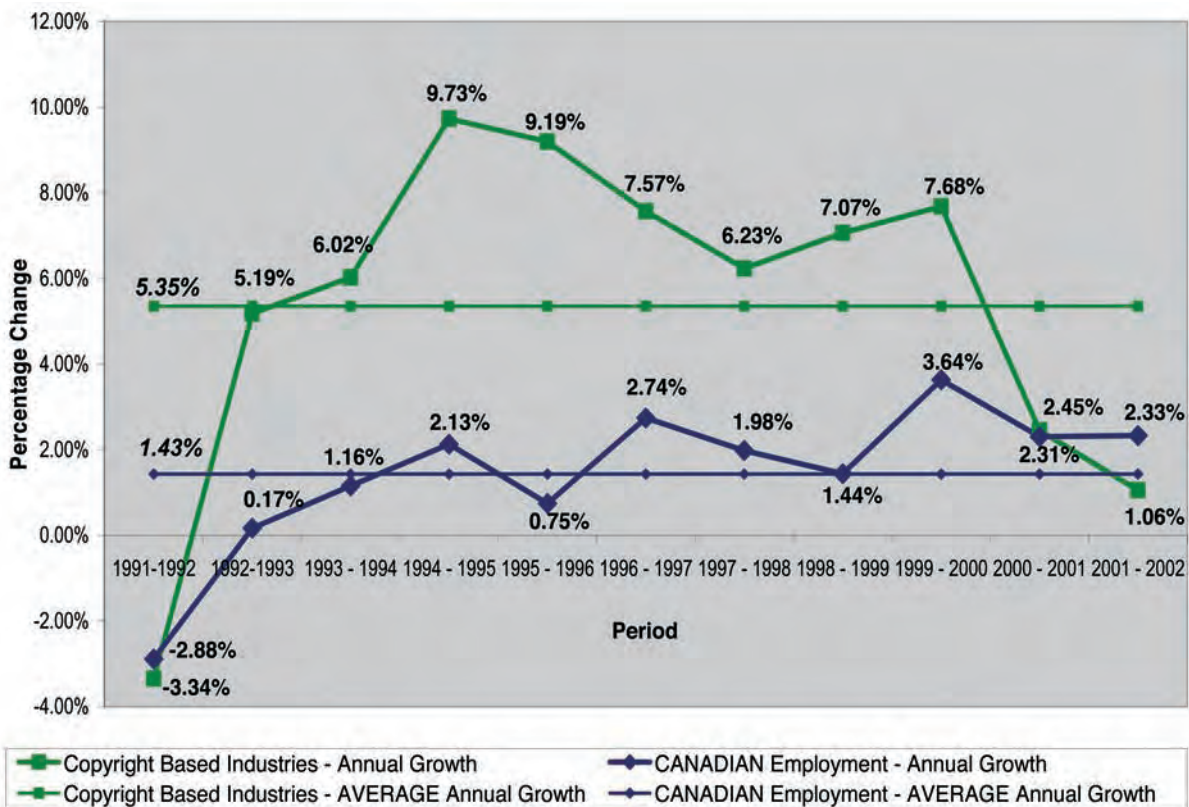
Source: Wall Communications Inc. 2004

Compared to the Canadian economy, the CB industries outperformed the economy in general growing at more than three times the overall rate. Between 1991 and 2002, employment in the CB industries grew at about 5.3% while the national economy only grew at 1.4% (see Chart 8). As should be expected, the growth rate of the economy displays less volatility than the CB industries.

**Chart 8**

**CANADIAN Employment and Copyright-Based Industries (1991-1992 to 2001-2002)**

Annual Growth/AVERAGE Annual Growth



Source: Wall Communications Inc. 2004

Employment in CB industries was 863,000 in 2000. This compares with about 499,000 in Construction and 871,000 in Accommodation and Food Services. Retail Trade, traditionally a large employer, employed just under a million and a half people.

**Table 2:**

Employment in Copyright-Based Industries Compared to Selected Other Industries, 2000<sup>15</sup>

<b>Industry</b>	<b>Employment (000's)</b>
Copyright Based	863
Construction	499
Mining and Oil and Gas Extraction	141
Utilities	909
Accommodation and Food Services	871
Retail Trade	1,463

*Source: Catalogues 72-002-XIB, XPB Statistics Canada, and Wall Communications Inc*

<sup>15</sup> Data for 2000 was the most recently available for cross industry comparisons.

## 5. Trade in Copyright-Based Industries

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Valuations are on a customs basis in current dollars<sup>16</sup>. Customs basis measures the change in the stock of material resources of the country resulting from the physical movement of merchandise into or out of Canada. When goods are imported in or exported from Canada, declarations giving information such as the description and value of goods, origin and port of clearance of shipments, and mode of transport must be filed with Canada Customs and Revenue Agency.

These estimates use the value of domestic exports and retained imports rather than the values of total exports and total imports (the typical measures used in measuring international trade). To calculate domestic exports and retained imports, the value of re-exports is deducted from both sides of the total.

As noted in other studies<sup>17</sup>, export and import data generally fail to completely capture the full contribution of trade activities. For example, a single master version of a copyrighted work (such as for a feature film) may only be valued at a few hundred dollars in trade statistics. However, copies and exhibition rights may generate millions of additional dollars in sales. It is not possible to adjust for this under-valuation so the trade statistics should be viewed with that in mind. The under-valuation may be most pronounced in the Motion Picture sub-sector and the Broadcasting sub-sector.<sup>18</sup>

Culture services (as opposed to products), which are intangible products such as performances and broadcasts, are not included in these estimates.<sup>19</sup>

However, exports of core CB goods have increased each year since 1996, reaching almost \$2.3 billion in 2002. This represents almost a doubling from the 1996 export level of \$1.2 billion. (see Chart 9)

The export of core CB goods, while increasing each year, has been slowing (in growth rate) since 1997. Although the pace of growth has been diminishing, it still was a healthy 3.8% between 2001 and 2002. Growth in 1997/98 reached a high of almost 23%. (see Chart 10)

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<sup>16</sup>Data description provided by Jamie Carson of Statistics Canada.

<sup>17</sup>See Siwek, *op.cit.*, page 17.

<sup>18</sup>See Appendix 7 for some examples.

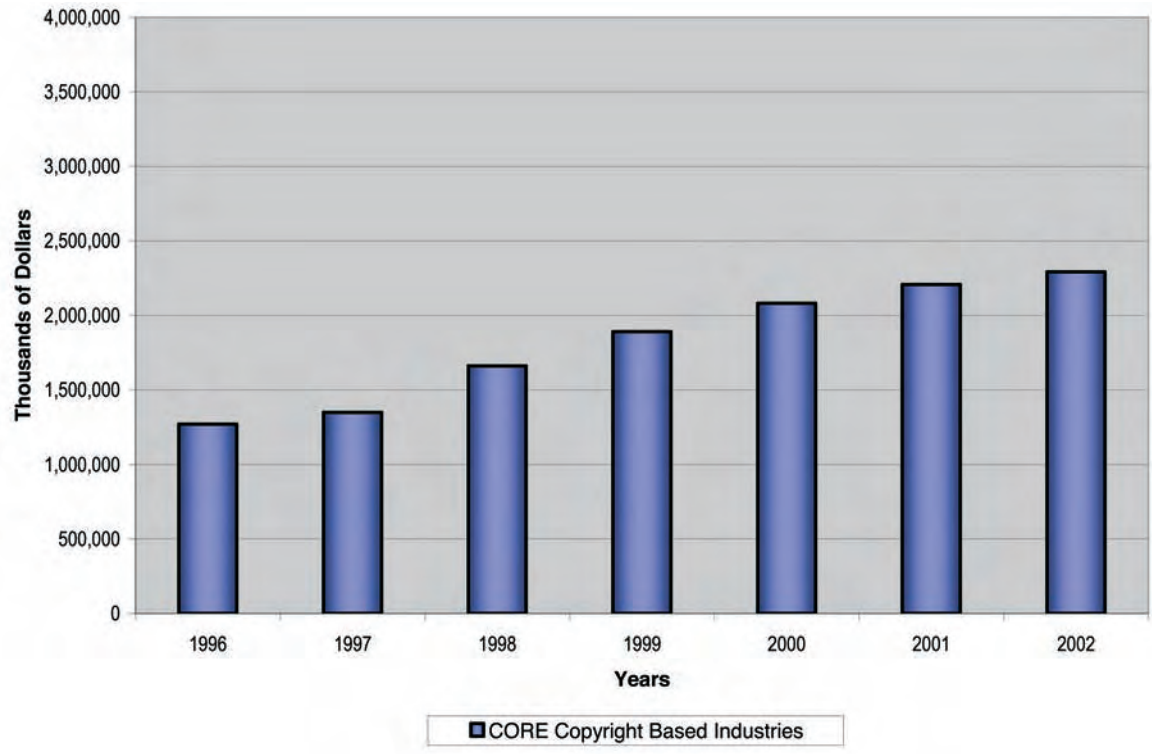
<sup>19</sup>See Appendix 8 for a more complete description of cultural goods trade data.



**Chart 9**

CORE Copyright-Based Industries Domestic Exports (1996-2002)

Thousands of Dollars

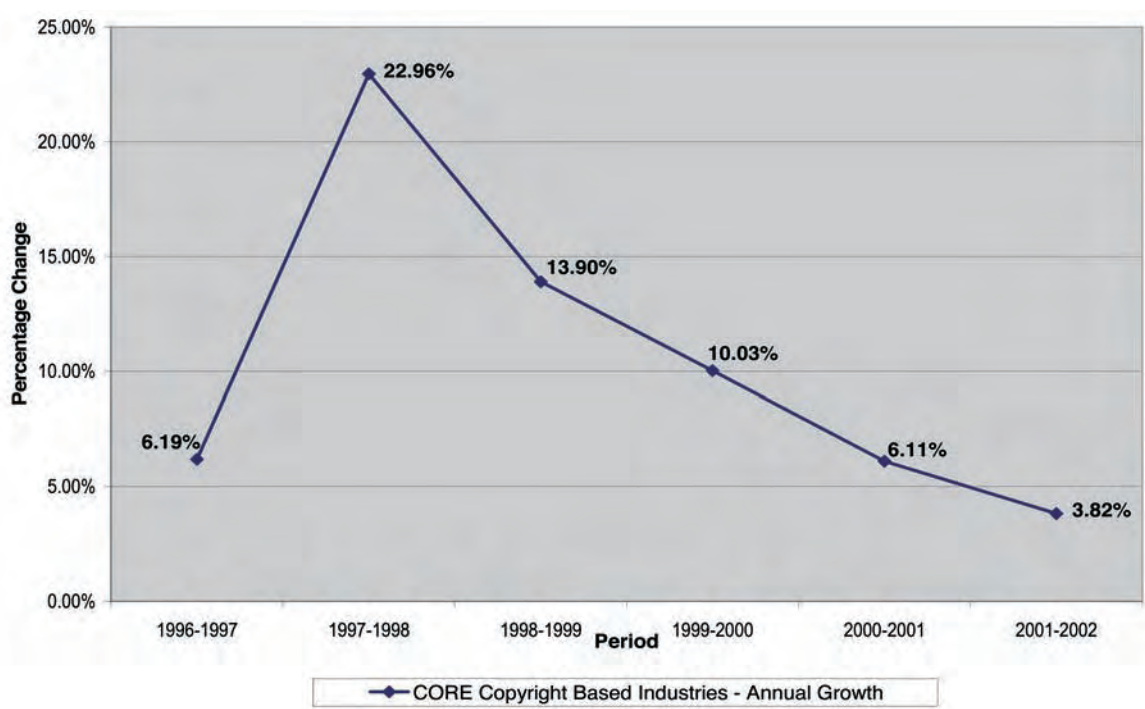


Source: Wall Communications Inc. 2004

**Chart 10**

CORE Copyright-Based Industries Domestic Exports

Annual Growth



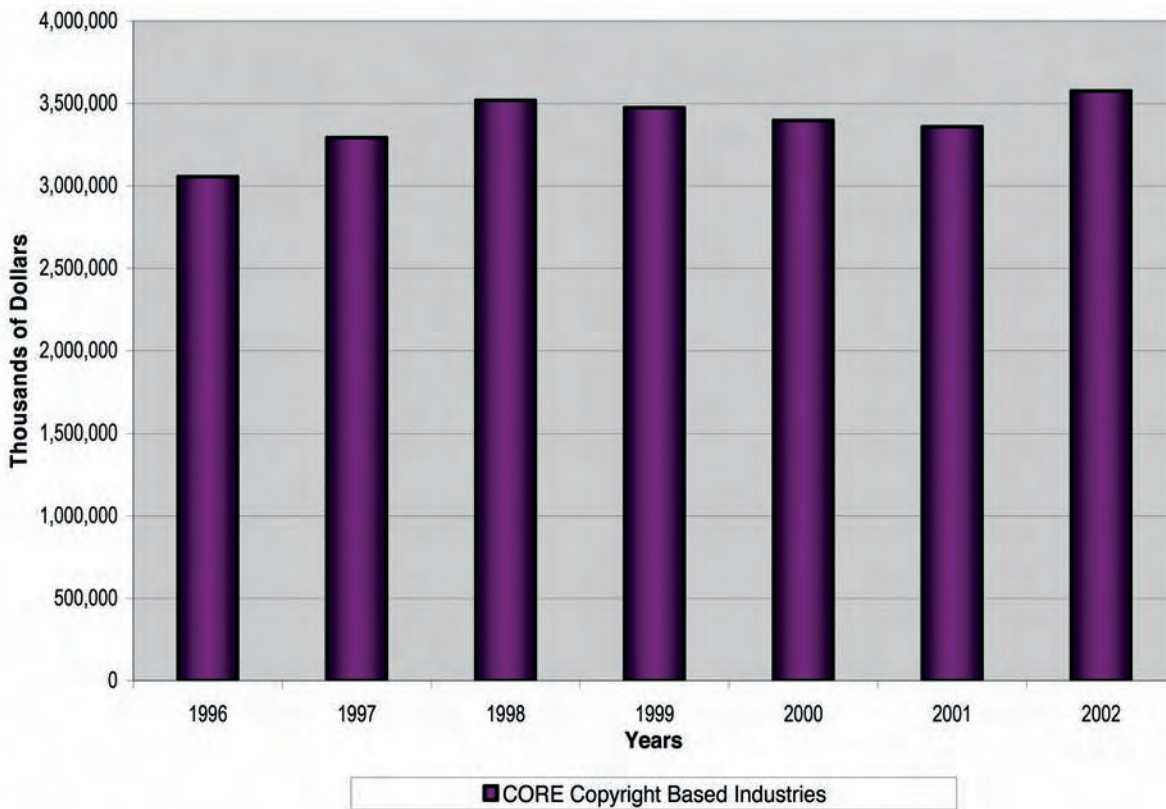
Source: Wall Communications Inc. 2004

Imports in the CB industries, which typically exceed exports, have generally been in the \$3 billion to \$3.5 billion range since 1996. A peak of \$3.5 billion was not surpassed until 2002 and only by a marginal amount. Imports increased between 1996 and 1998, and then declined until 2001.

**Chart 11**

**CORE Copyright-Based Industries Retained Imports (1996-2002)**

Thousands of Dollars

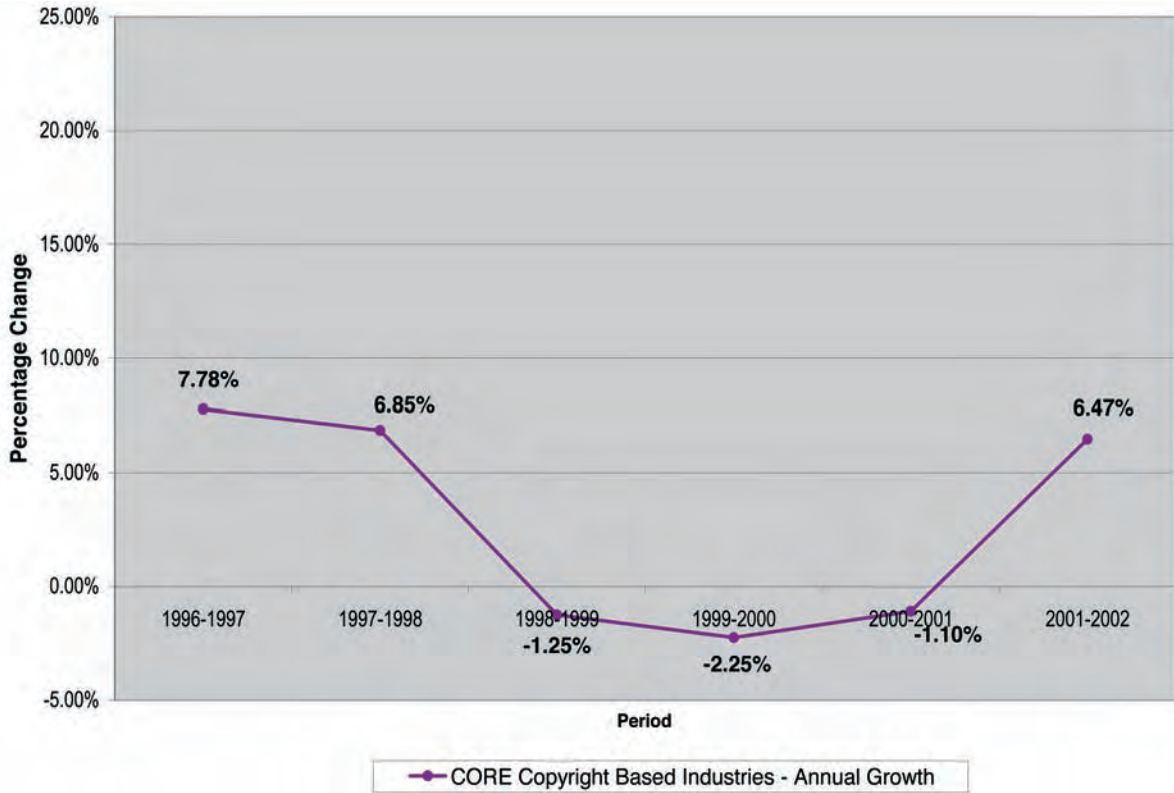


Source: Wall Communications Inc. 2004

Looking at rates of growth, imports have not hit the peaks achieved by the export sector. In fact, as noted previously, declines occurred in the years between 1998 and 2001. The most recent year for which data is available (2001/02) experienced a return to pre-1998 growth rates, reaching 6.5%.

**Chart 12**

CORE Copyright-Based Industries Retained Imports  
Annual Growth



Source: Wall Communications Inc. 2004

Although Canada remains a net importer of CB goods, the gap between exports and imports has been decreasing since 1997 with the exception of 2002. The CB goods trade deficit decreased from almost \$2 billion in 1997 to about \$1.2 billion in 2001.

In 2002<sup>20</sup>:

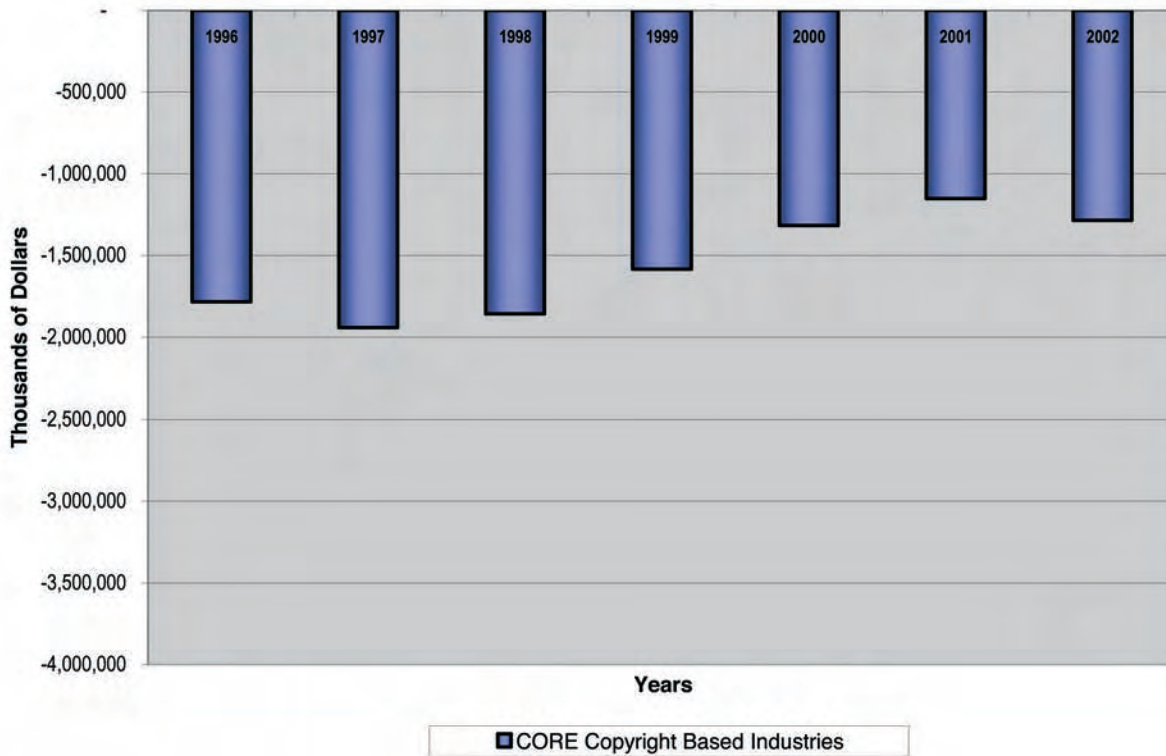
“The United States dominated Canada's international market for culture goods, accounting for 96% of exports and 80% of imports. In terms of exports, Canada continued to lose business in European markets, particularly the United Kingdom and France, as well as in Japan.”

<sup>20</sup> International Trade in Culture Goods”, Statistics Canada, 2003.

### Chart 13

#### CORE Copyright-Based Industries TRADE BALANCE (1996-2002)

Thousands of Dollars



Source: Wall Communications Inc. 2004

Publishing and publications printing are key to the CB trade performance. Canada in 2002 exported just over \$1.2 billion worth of publishing and printed products (52% of total cultural goods exports). However, Canada imported just over \$2.9 billion in publishing products, which accounted for 81% of all imports. The resultant trade deficit for the printing and publishing category was \$1.7 billion, the largest of any culture goods category. Books accounted for \$1.0 billion of this deficit.



## 6. Comparisons with other Countries

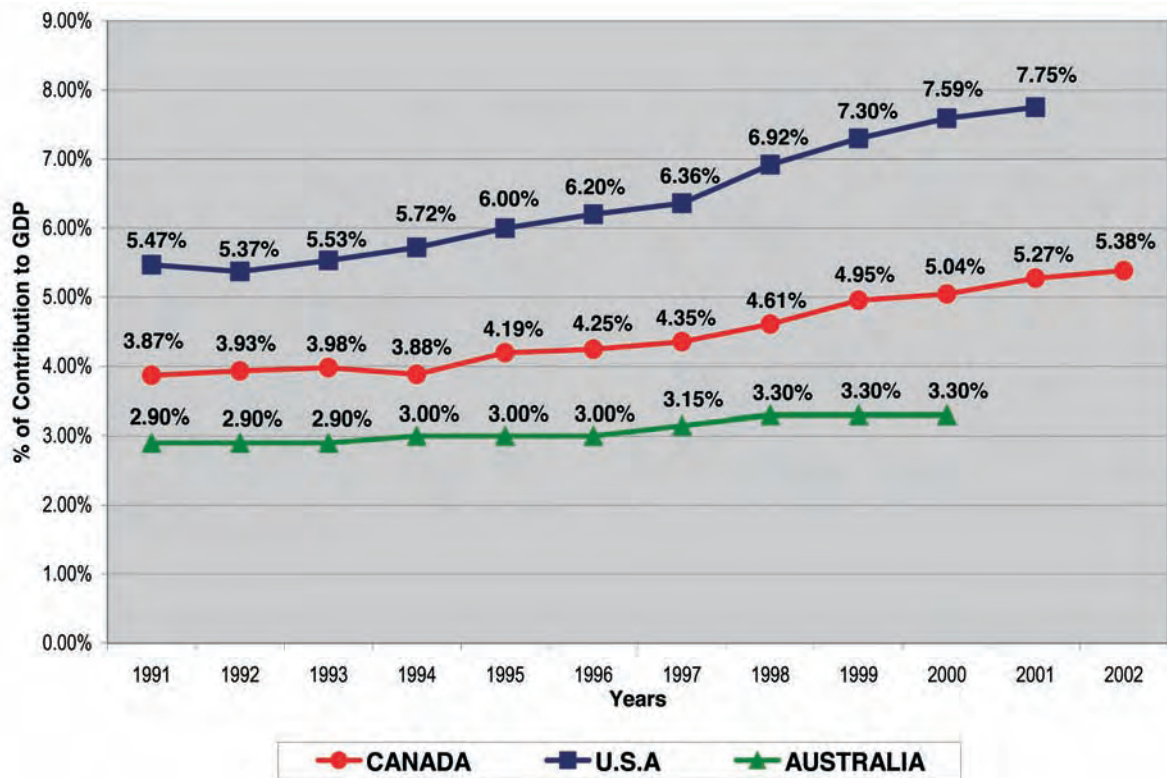
The key comparable studies come from the United States and Australia. It should be noted at the outset that even though the approach of the U.S. and Australian studies contain many similarities to this study, significant differences still remain. These differences mainly arise in the area of CB category definitions. Consequently the data does not measure exactly the same activities in each study. In fact, both the U.S. and Australian studies were conducted prior to the issuance of the WIPO guidelines and can therefore do not employ the exact methodology adopted for this study.

The following comparisons accordingly only provide a rough indication of any country's CB activities vis a vis any other country.

While the U.S. has led the way in terms of percentage of national GDP attributable to copyright based industries, Canada has also seen the importance of these industries grow. The U.S. study estimates that in 2002 7.75 % of U.S. national GDP was related to copyright industries while Canada stood at 5.4 % in 2002. Australia has remained in the 3% range although its contribution slowly continues to grow.

**Chart 14**

Canadian, American and Australian Copyright-Based Industries GDP CONTRIBUTION to National GDP

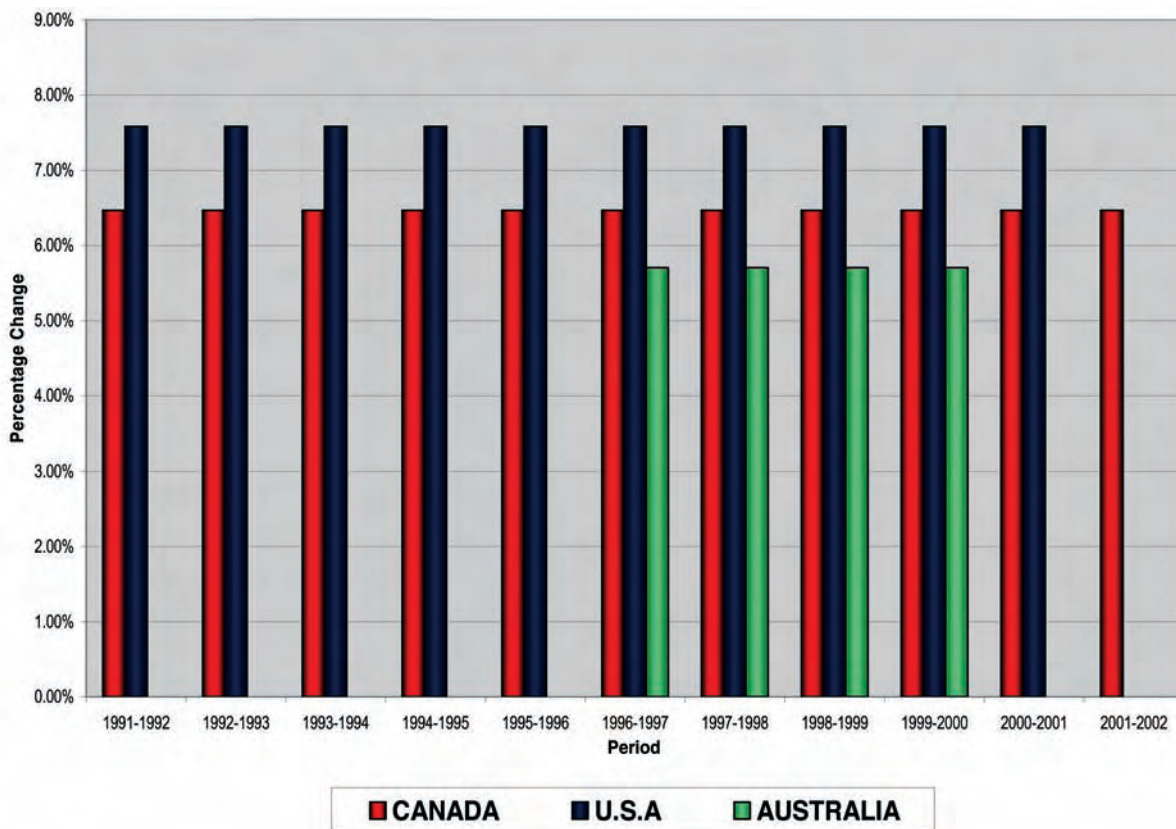


Source: Wall Communications Inc. 2004

The average annual growth of CB industry activity is relatively high in all three countries. The U.S. has experienced the highest growth rate at 7.7% while Canada's CB industries grew a point below that at 6.5%. Australia's growth between 1997 and 2000 was 5.8%.

**Chart 15**

Canadian, American and Australian Copyright-Based Industries GDP AVERAGE Annual Growth

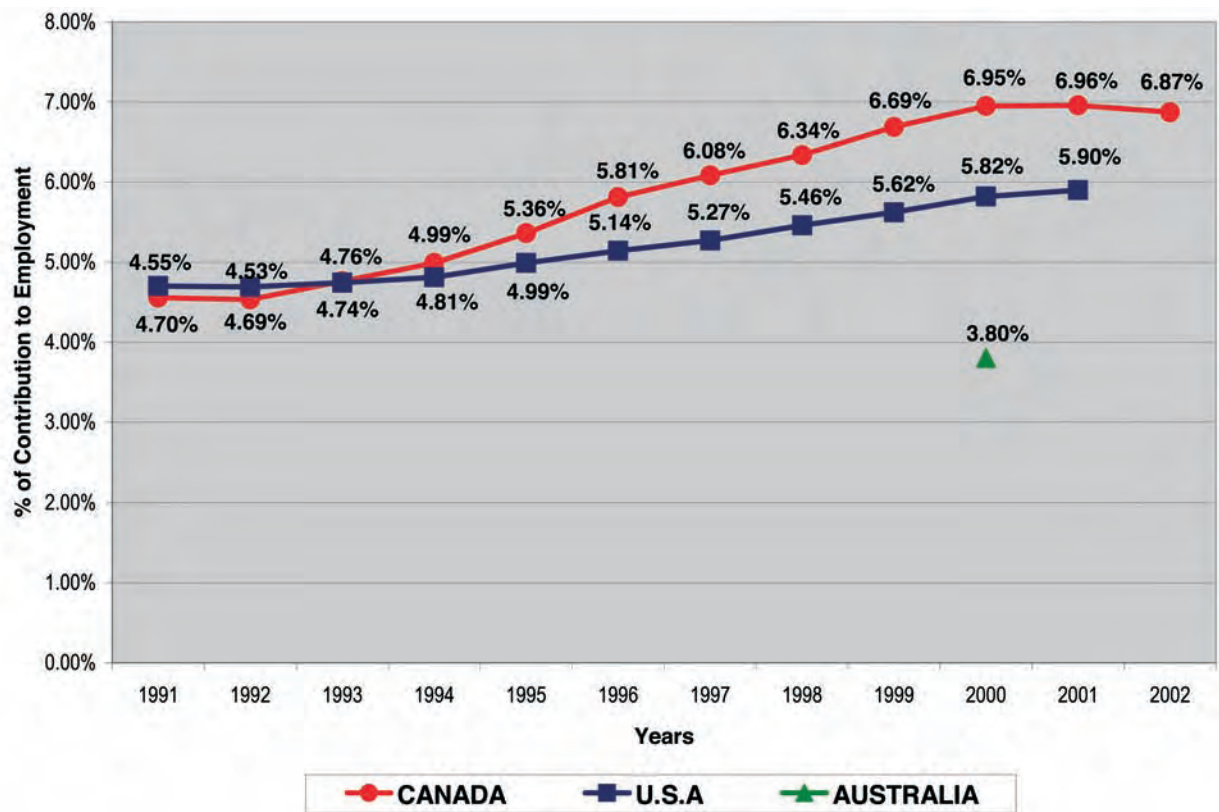


Source: Wall Communications Inc. 2004

In terms of employment, both Canada and the U.S. have been increasing the share of national employment attributable to copyright based industries. By the year 1999, Canada was a percentage point higher than the U.S. However, most recently, Canada appears to have slowed its share growth somewhat relative to the U.S. Nonetheless, the latest data indicates that the share of employment due to CB industries was almost 7% in the years 2000 through to 2002. Limited data for Australia indicates that the percentage of employees working in CB industries is just less than 4%.

**Chart 16**

Canadian, American and Australian Copyright-Based Industries CONTRIBUTION to National Employment

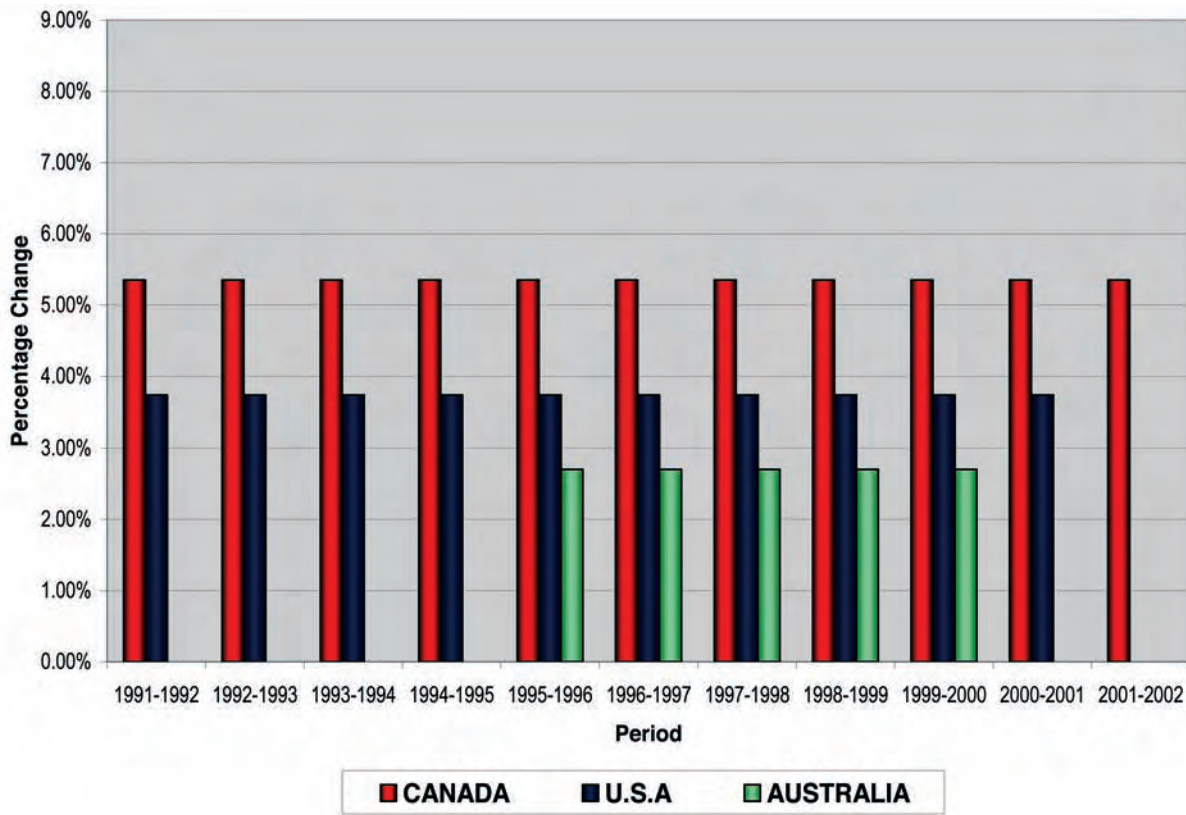


Source: Wall Communications Inc. 2004

The average annual growth of CB industry employment was 5.4% in Canada over the period 1991 to 2002 while it was 3.8% for the U.S. (1991-2001) and 2.8% for Australia (1995-2000).

**Chart 17**

Canadian, American and Australian Copyright-Based Industries Employment AVERAGE Annual Growth



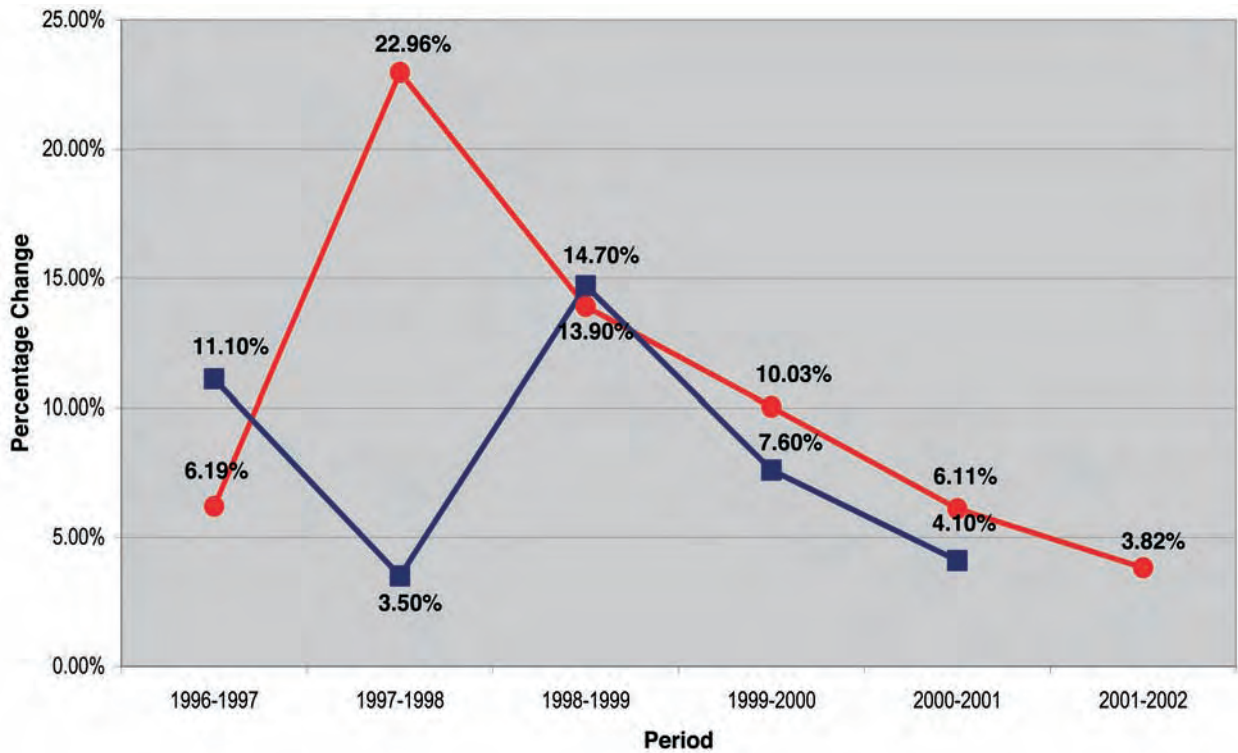
Source: Wall Communications Inc. 2004



While both the U.S. and Canada have experienced relatively high rates of growth in exports over the last five to six years, Canada's growth has typically been higher. Export growth peaked in Canada at almost 23% in 1997/98. The annual growth in both countries appears to be slowing in recent years, although the Canadian growth rate remains above the U.S. rate. This is an area that should be monitored closely in future years.

**Chart 18**

Canadian and American EXPORTS: CORE Copyright-Based Industries Annual Growth



Source: Wall Communications Inc. 2004

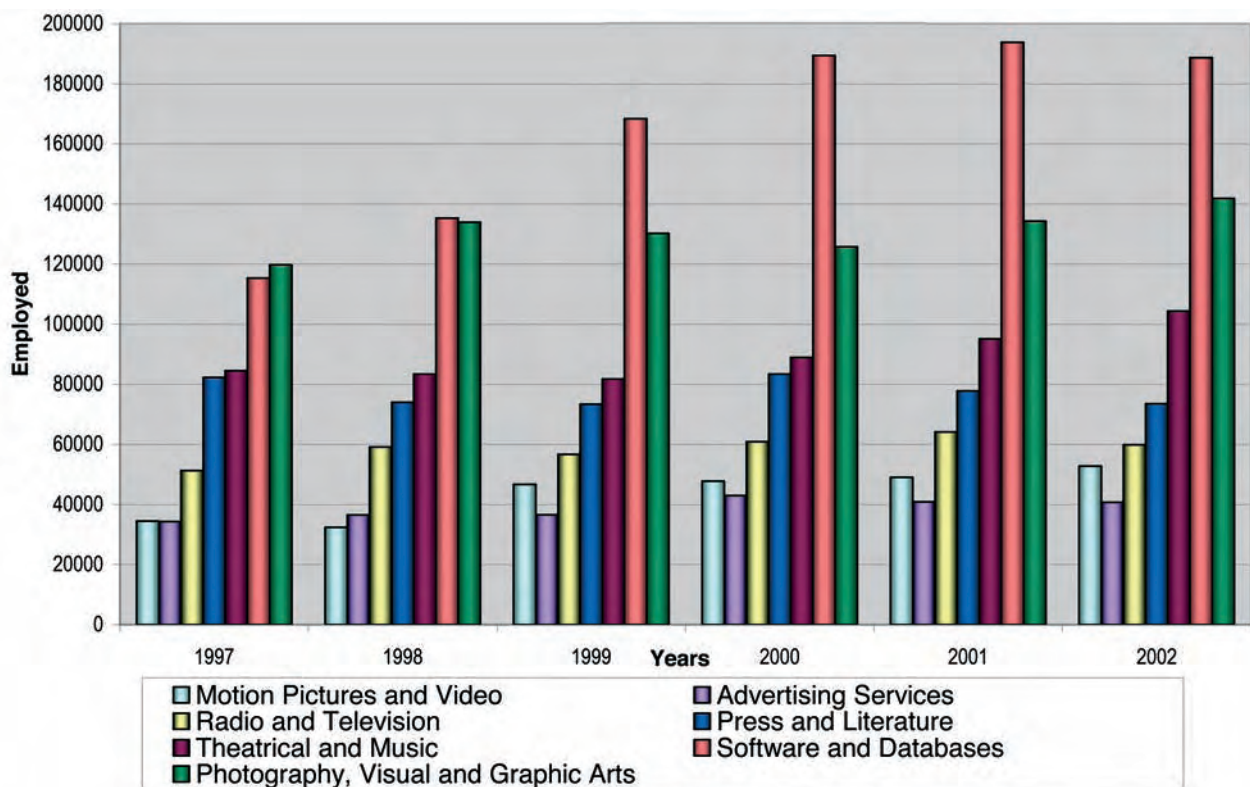
## 7. Analysis of CORE Sub-sectors and Environmental Considerations

Of all the core copyright based sub-sectors, Press and Literature (publishing) began the decade as the most important contributor. By 1999, software and databases had surpassed publishing to become the largest sub-sector. The Motion Picture and Advertising sub-sectors remained the smallest contributors. As can be seen from Chart 19, publishing, photography, visual and graphic arts and software were noticeably larger than the other sub-sectors by 2002.

### Chart 19

GDP: CORE Copyright-Based Industries (1997-2002) By Subcategory

Millions of Chained 1997 Dollars

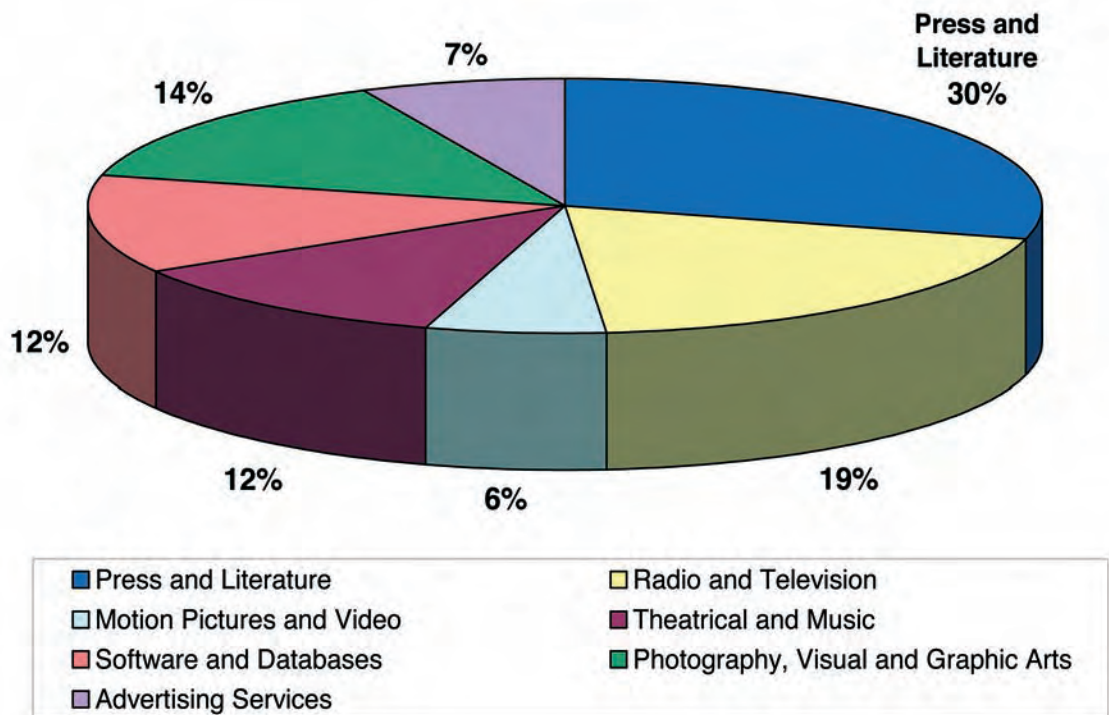


Source: Wall Communications Inc. 2004

The trend displayed in Chart 19 is most clearly seen in the following “snap shot” pie charts that depict 1991, 1997 and 2002.

**Chart 20**

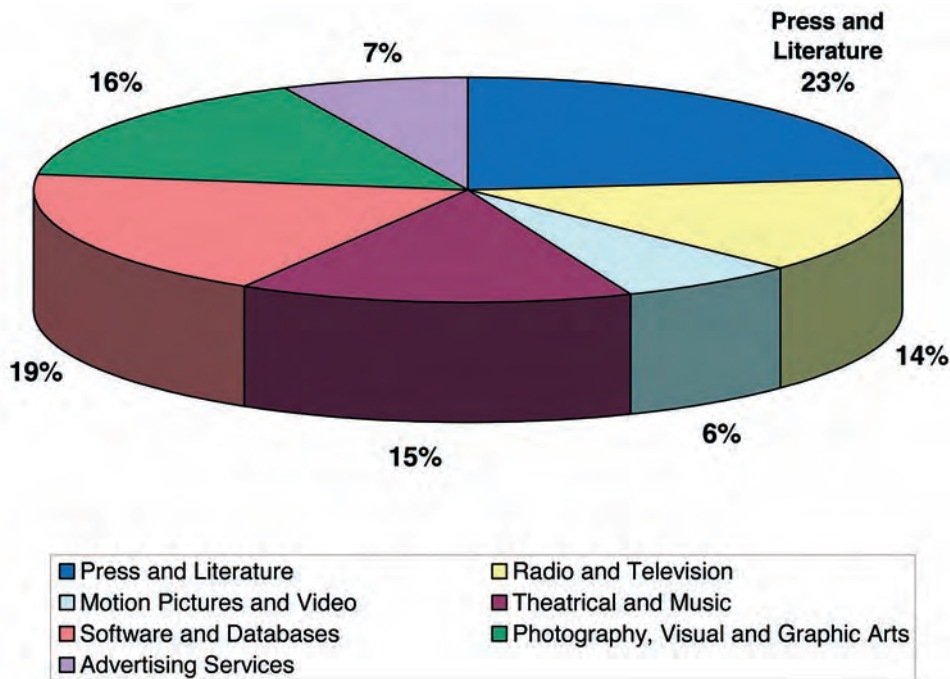
**GDP:** CORE Copyright-Based Industries 1991



Source: Wall Communications Inc. 2004

**Chart 21**

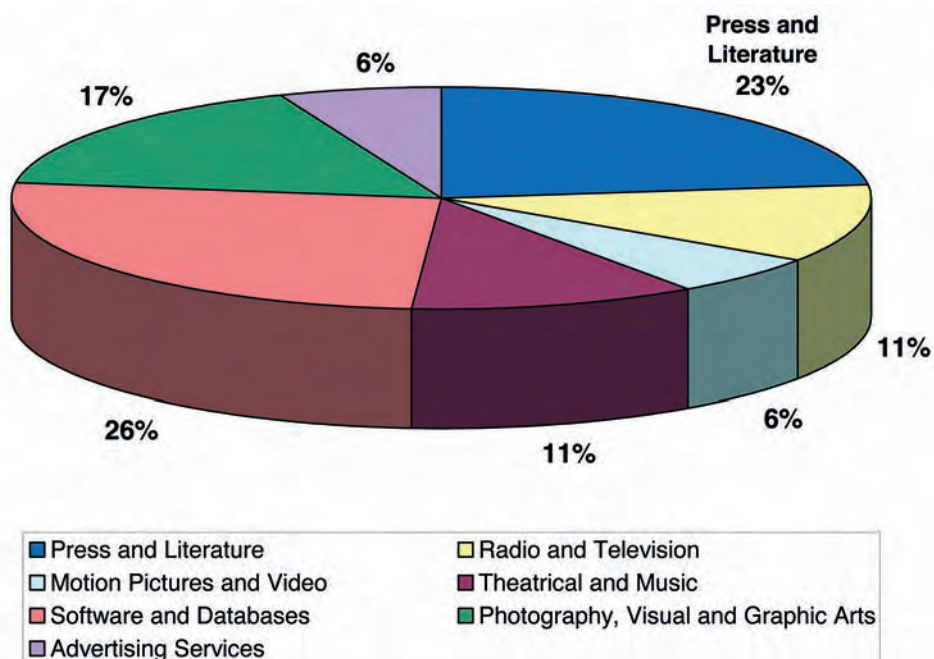
**GDP: CORE Copyright-Based Industries 1997**



Source: Wall Communications Inc. 2004

**Chart 22**

**GDP: CORE Copyright-Based Industries 2002**



Source: Wall Communications Inc. 2004

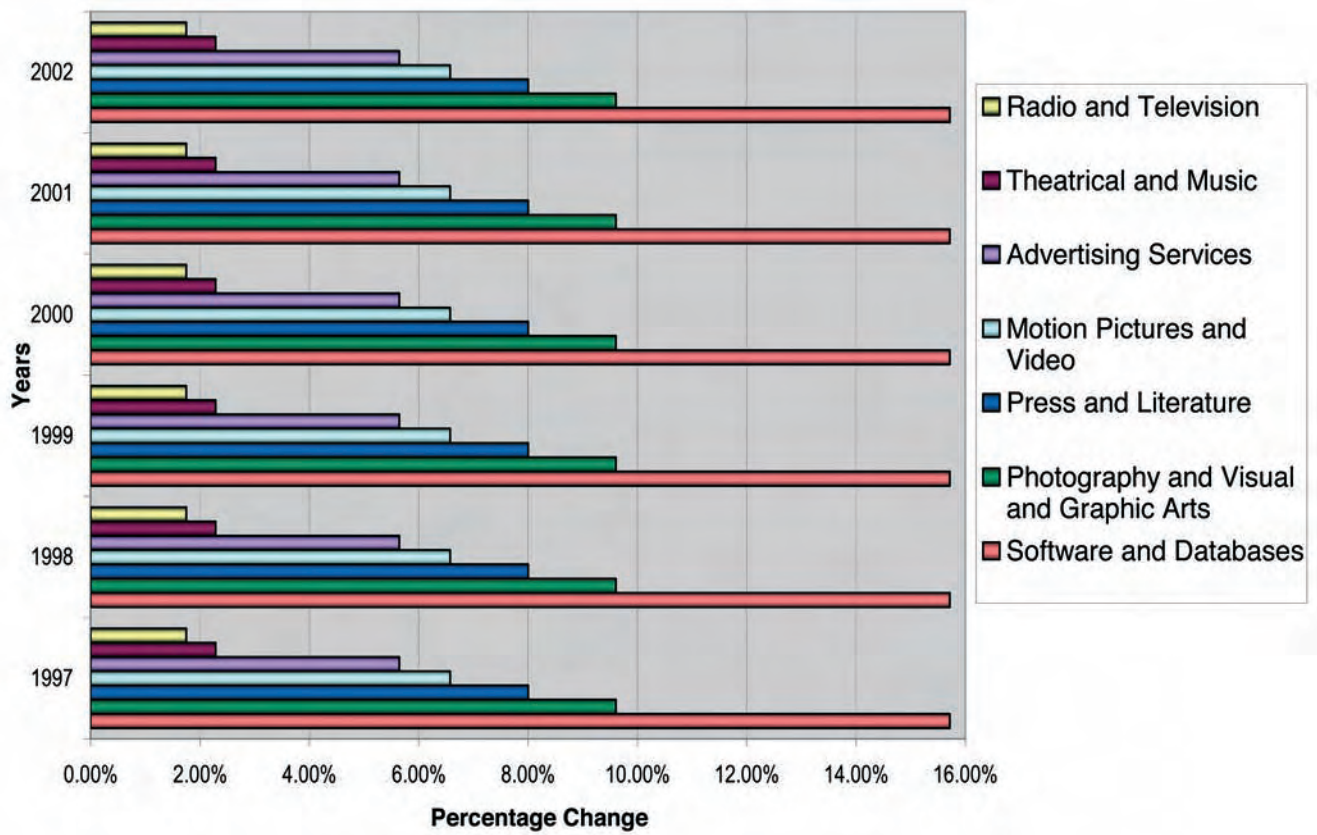


The growth trend that is implied in the pie charts is displayed explicitly in Chart 23 where the growth in software dominates the period. This category achieved close to 16% annual average growth over the period. By comparison, Broadcasting grew at just under 2% on average over the period. Four sub-sectors (Software, Photography/Graphic and Professional Services, Press and Motion Pictures each achieved at least 6% annual growth on average.

**Chart 23**

GDP: CORE Copyright-Based Industries (1997-2002) By Subcategory AVERAGE

Annual Growth

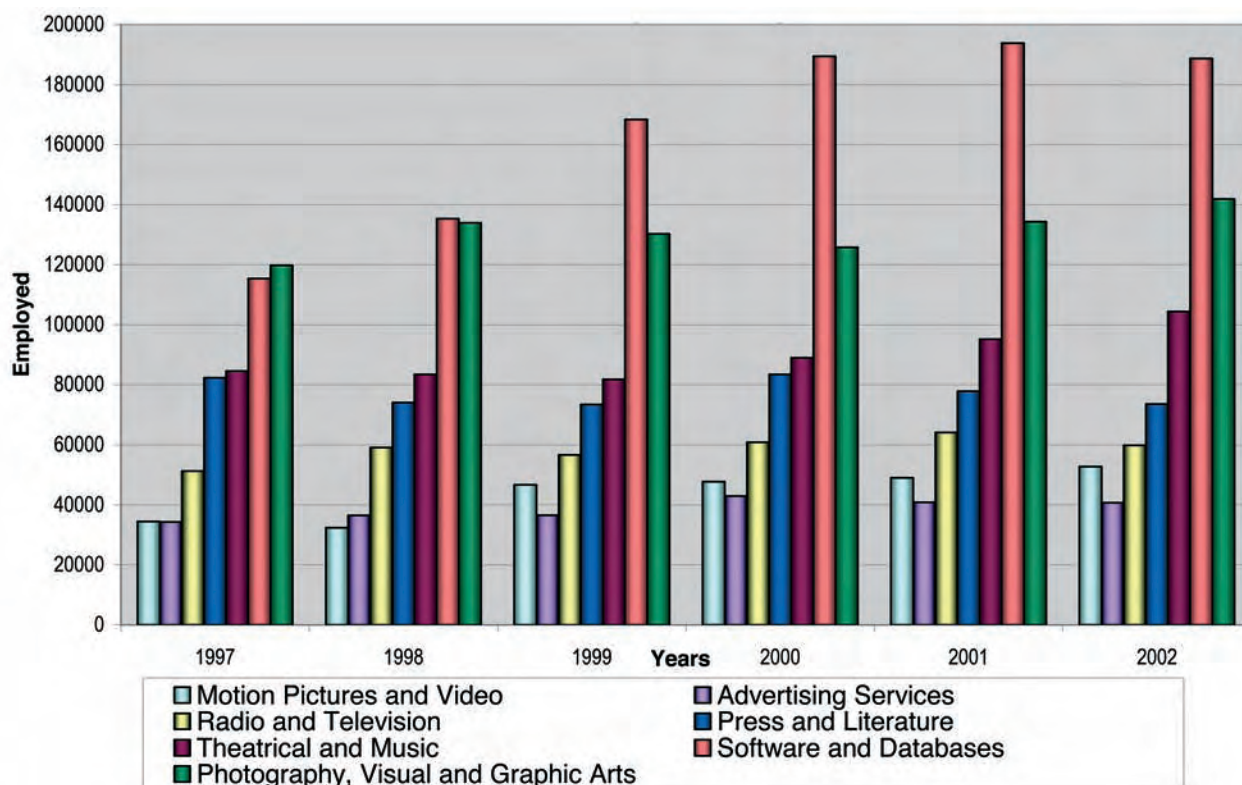


Source: Wall Communications Inc. 2004

In many respects, employment performance mirrors GDP performance for the core sub-sectors. Software employment, however, has become the clear industry leader by 1999 although it has dropped off in 2002.

**Chart 24**

Employment: CORE Copyright-Based Industries (1991-2002) By Subcategories

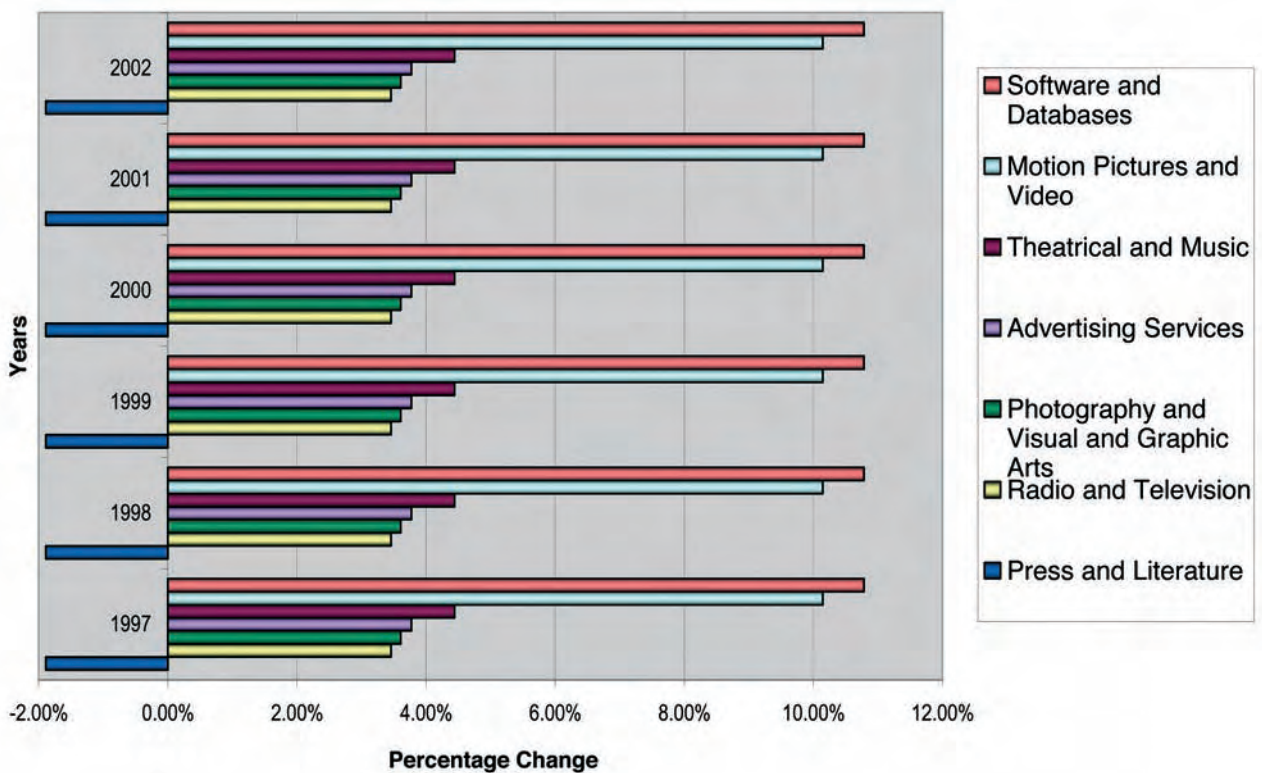


Source: Wall Communications Inc. 2004

Employment in software, as might be expected, led the CB sub-sectors in terms of growth. However, the average annual growth in Motion Pictures was not far behind at just over 10%. Press and Literature (publishing) actually experienced negative growth of almost 2% during the period.

**Chart 25**

**Employment:** CORE Copyright-Based Industries (1997-2002) By Subcategories AVERAGE Annual Growth



Source: Wall Communications Inc. 2004

## 7.1 Press and literature (Publishing)

There are several distinct divisions within the publishing industries: newspapers, books and magazines (as well as others). Disaggregated GDP data is not available but there is no reason to expect that each of these industry divisions has performed in similar fashions. In fact, observations by key industry participants and partial revenue and related data suggest that the last decade has brought considerable variability to the performance of each (see below).

Statistics Canada reports that there were 627 book publishers in Canada in 2001.<sup>21</sup> Revenues in that year were \$2.4 billion (of which \$1.8 billion was earned in Canada) with 10,273 full and part-time employees. Profitability for Canadian-controlled publishers was significantly lower in 2000/01 than it was for their foreign-owned competitors. Canadian-controlled firms generated a pre-tax profit of \$85.0 million in 2000/01, or 5.5% of revenues. On the other hand, their foreign competitors generated a pre-tax profit of \$82.8 million, or 9.5% of revenues. Overall, Canadian-controlled publishers generated 64% of total revenues for the industry in 2000/01, down from 66% in both 1996/97 and 1998/99.

In 2000/01, the industry sold products in Canada worth \$1.8 billion, up 7.6% from two years earlier. However, sales from exports reached \$154.8 million, up 16.2%. The large majority of these export sales, \$133 million, was generated from sales of publishers' own titles. The United States continued to be Canada's biggest foreign market.

The language of titles had a direct and obvious effect on the accessibility of markets for books. For English-language publishers, 78.8% of their export revenues were earned in the United States. For French-language publishers, France accounted for 63.5% of export sales, and the United States for 15.6%.

Periodical publishers in Canada earned about \$1.2 billion in 1999 with 2,027 periodicals<sup>22</sup> in publication.<sup>23</sup> There were a reported 8,108 full and part-time Canadian employees. Advertising revenues accounts for twice the revenue of sale of copies of the periodicals. About 36% of periodical publishers were not profitable in 1999.

Ontario had the largest number of periodical publishers with 951 while Quebec had 489 and B.C. had 213.

While the 1990's seem to have been generally favourable to the newspaper industry, 2001 was a challenging year for the Canadian newspaper publishing industry<sup>24</sup> The Daily, Annual Survey of Newspaper Publishers, Statistics Canada, August 6, 2003., for several reasons including a slowing economy, declining advertising and circulation revenues, and rising newsprint costs. In Ontario, a very competitive market (described as a newspaper war) contributed to a steep decline in profits.

Operating revenues for the newspaper publishing industry were \$4.56 billion in 2001, down 2.4% from \$4.67 billion in 2000. Advertising revenues, the main source of revenue for the industry, decreased 2.6%. Circulation revenues also fell about 2% in 2001 after having remained steady the previous year.

<sup>21</sup> Statistics Canada: Survey of Book Publishers and Exclusive Agents, 2000; *Book publishers and exclusive agents: data tables*, November 2003, catalogue no 87F0004XIE.

<sup>22</sup> Statistics Canada track periodicals, newspapers and community newspapers separately. The 2,027 periodicals do not include Canada's newspapers.

<sup>23</sup> Periodical Publishing in Canada, 1998-1999, Statistics Canada

<sup>24</sup> The Daily, Annual Survey of Newspaper Publishers, Statistics Canada, August 6, 2003.



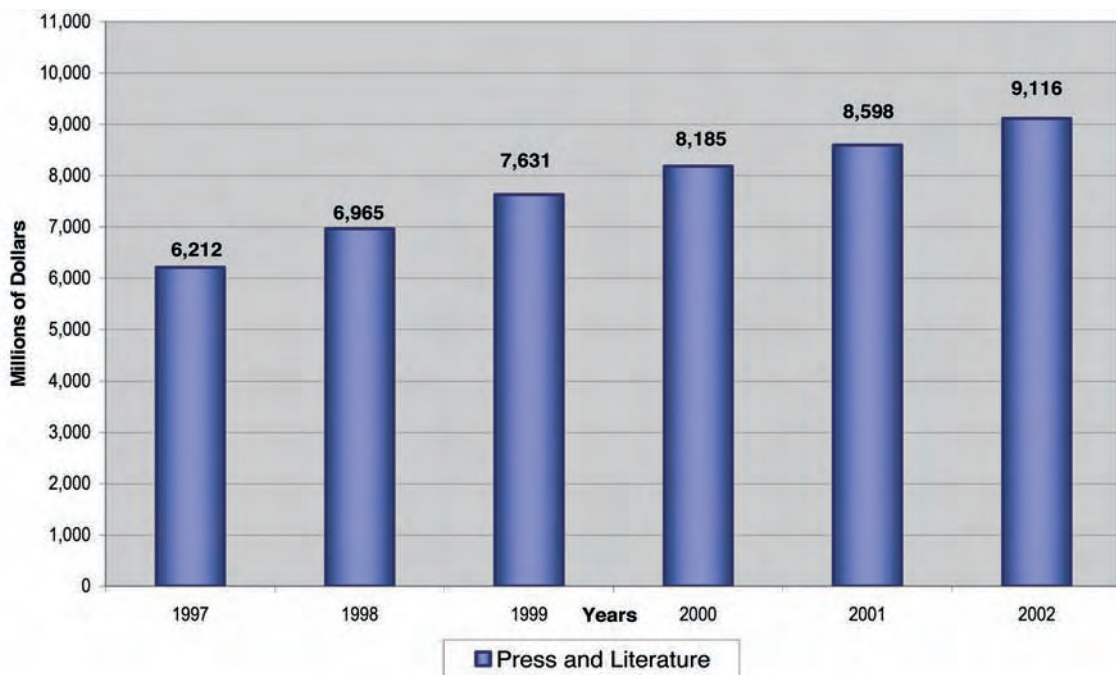
In recent years, the Canadian newspaper publishing industry has witnessed numerous changes in ownership. One result of these changes has been a decline in the proportion of nationwide operating revenues in the hands of the largest publishers. In 2001, the five largest newspaper owners generated 73% of total operating revenues for the industry, compared with 82% in 1999. Nonetheless, there is still a very high concentration of ownership in the Canadian newspaper business.

As a sub sector, press and literature (publishing) provided the second highest contribution to GDP in 2002. Its average annual growth has been third highest from 1997 to 2002.

### Chart 26

#### GDP: CORE Copyright-Based Industries Press and Literature

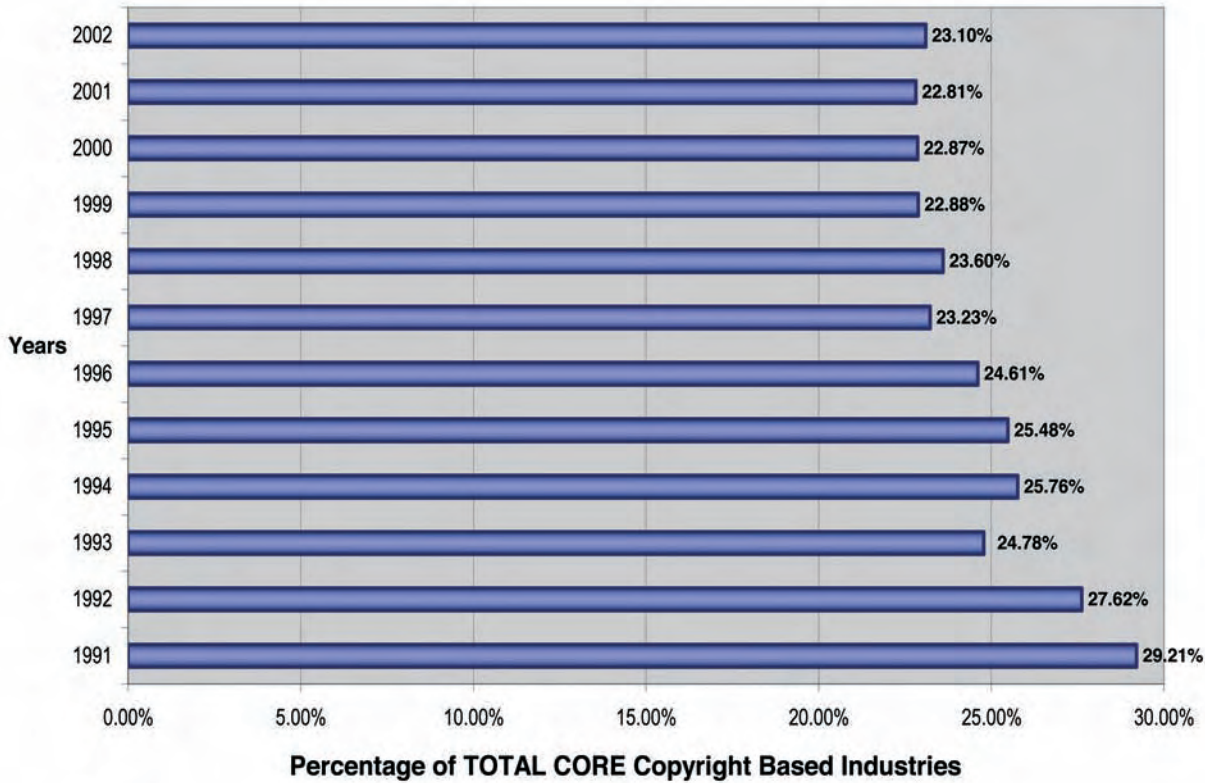
Millions of Dollars



Source: Wall Communications Inc. 2004

### Chart 27

GDP: CORE Copyright-Based Industries Press and Literature

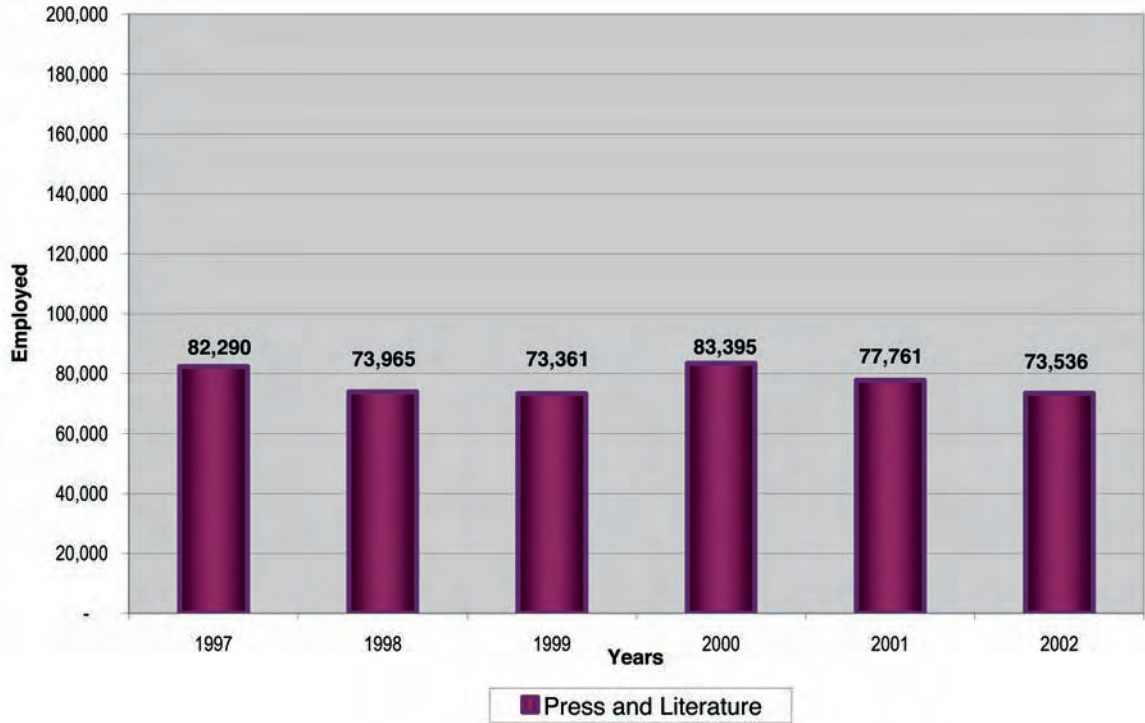


Source: Wall Communications Inc. 2004

The NAICS approach to recording publishing data includes both data base publishing and software publishing. It is likely that these two areas have contributed significantly to the performance of this sub-sector, particularly in terms of the relatively high growth rate. Industry comments on both the book and magazines/periodicals publishing areas suggest that they have not been particularly strong performers over the last decade. Newspapers seem to have performed relatively better than books or magazines.

**Chart 28**

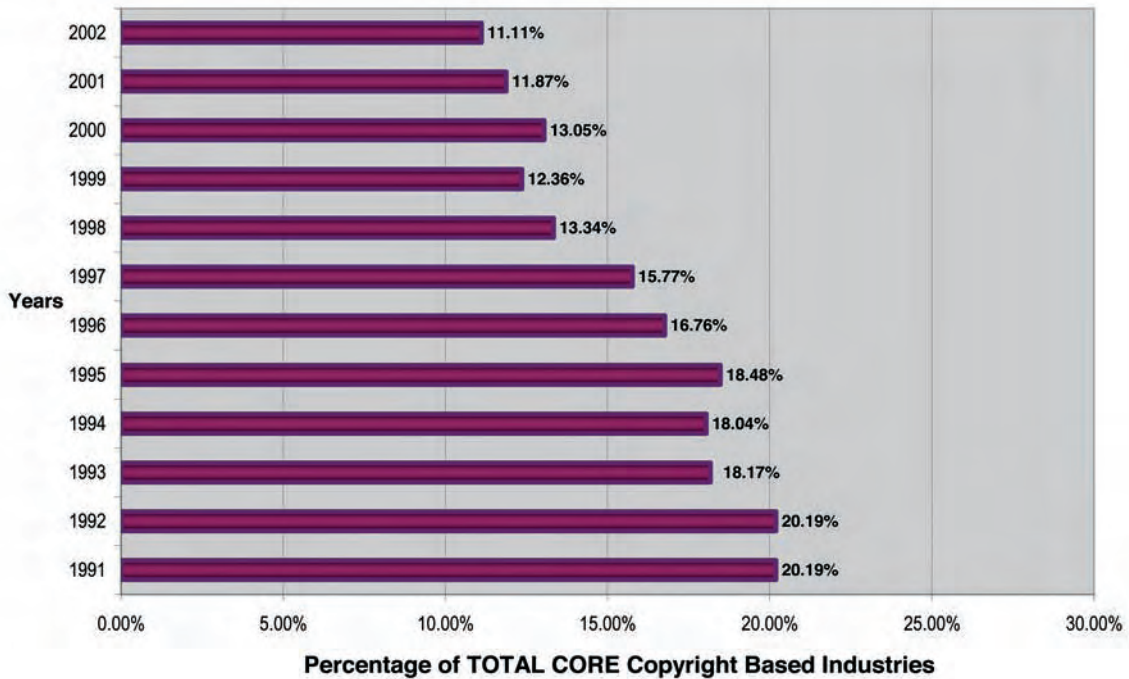
**Employment:** CORE Copyright-Based Industries Press and Literature



Source: Wall Communications Inc. 2004

**Chart 29**

**Employment:** CORE Copyright-Based Industries Press and Literature



Source: Wall Communications Inc. 2004



## 7.2 Theatrical and Music Performances (Performing Arts and Heritage Institutions)

This category contains a mix of performance arts (musical performances, theatrical performances, and dance performances) as well as the promoters, booking agents and management agents and related functions. Independent artists, writers and performers are also included. Heritage institutions are recorded here as well as part of NAICS 712.

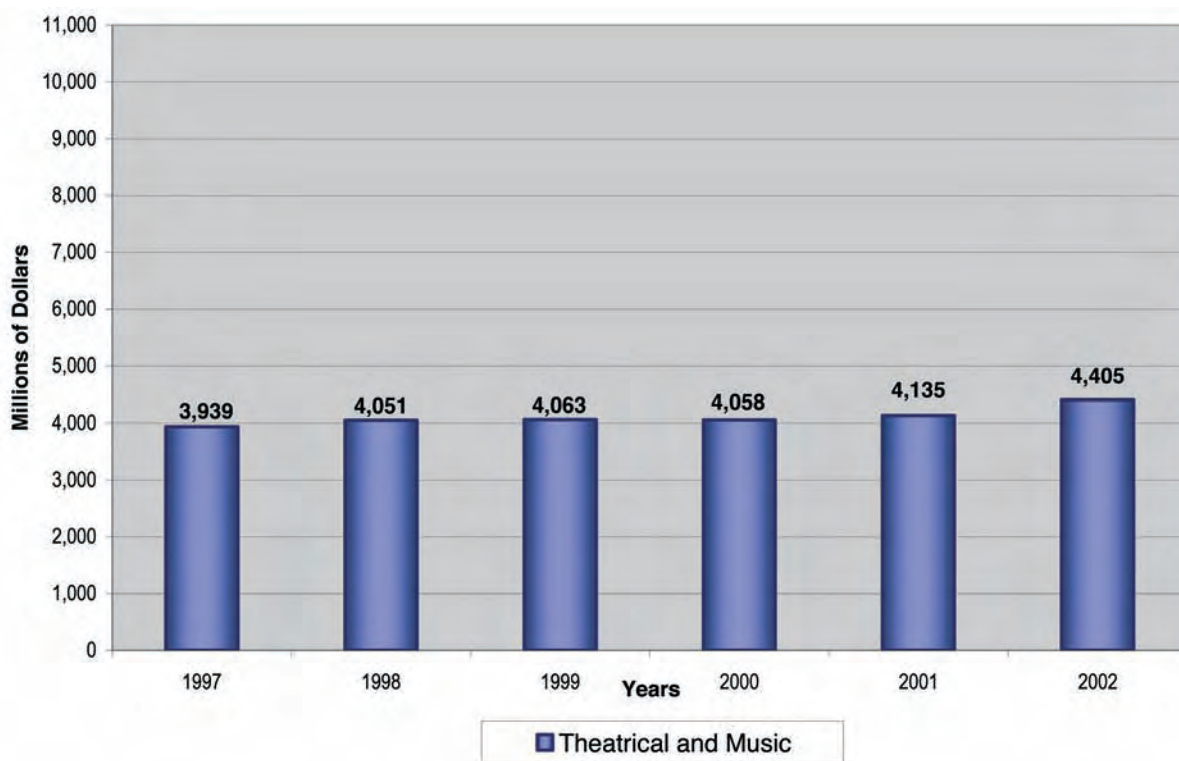
Consumer spending on performing arts tends to be less than spending on movies. The average annual household spent \$66 dollars on live performing arts versus \$90 dollars per household on movie theatres in 1999.<sup>25</sup>

While this area is not the smallest (by its GDP contribution) it has been growing at the slowest rate (notwithstanding a sizeable jump in 2002). As a result its contribution as a percentage of CORE GDP has continued to diminish since 1993 (see Chart 31).

### Chart 30

#### GDP: CORE Copyright-Based Industries Theatrical and Music

Millions of Dollars



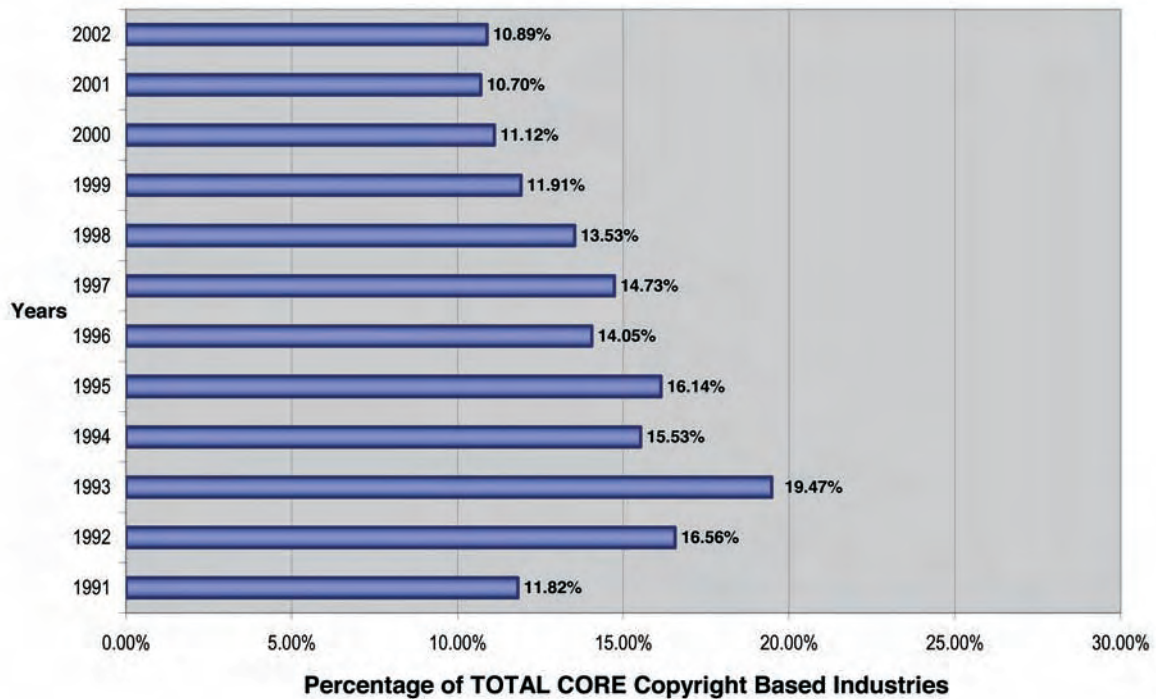
Source: Wall Communications Inc. 2004

<sup>25</sup> "Consumer Demand for Entertainment Services", Janine Stafford, Analytical Paper Series # 42, Statistics Canada, March 2003. Average annual household spending on museums was \$33 while live sports was \$39.



**Chart 31**

**GDP: CORE Copyright-Based Industries**  
Theatrical and Music Performances



Source: Wall Communications Inc. 2004

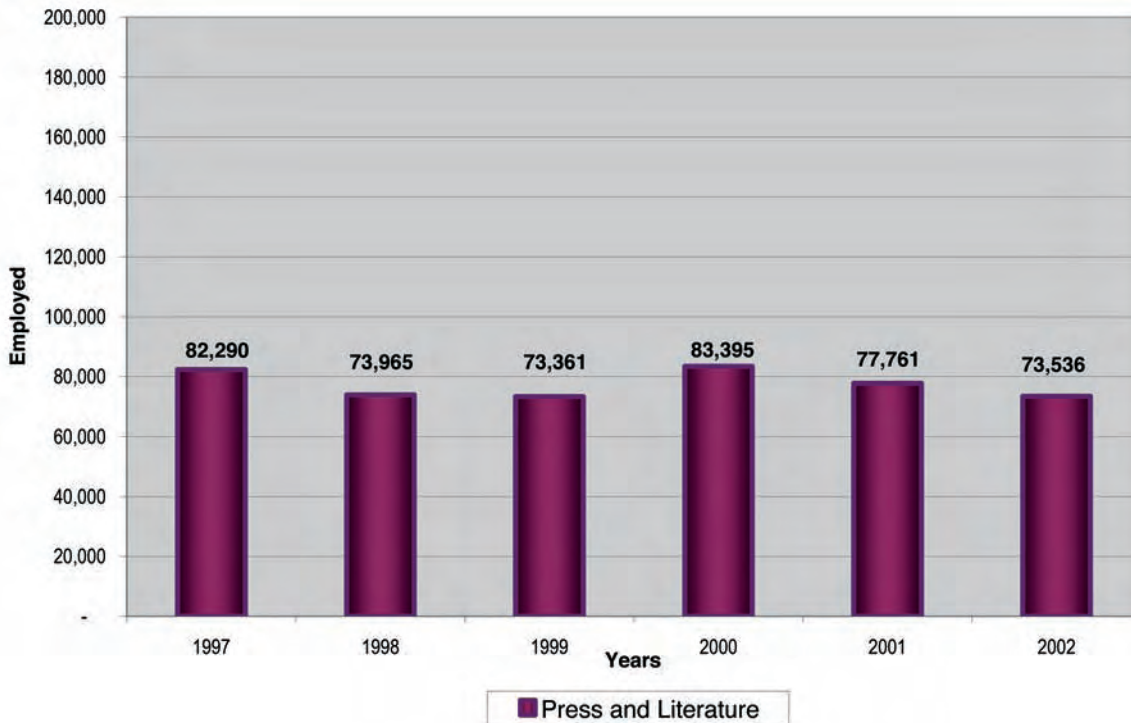
Employment, which fell off in the mid-nineties has climbed in the last few years. However, as a share of CORE industry employment it's much lower than the peak of 21% reached in 1993 (see Chart 33).

There are a number of possible explanations for the slow growth of this area. Observers of the music performance area point out that live concerts and local musical performances have suffered due to stronger sanctions and public opinion against the consumption of alcohol and driving<sup>26</sup>. Stricter laws against smoking in public and private establishments are also identified as a cause of lower participation in live music events. Some observers point out that while the live performance business has suffered in a relative sense, there are more opportunities for performers to earn income from the recording of performances.

<sup>26</sup> Please note that observers are attributing causal factors and are in no way arguing for a repeal of stricter DUI laws or disagreeing with the public attitude towards these laws.

**Chart 32**

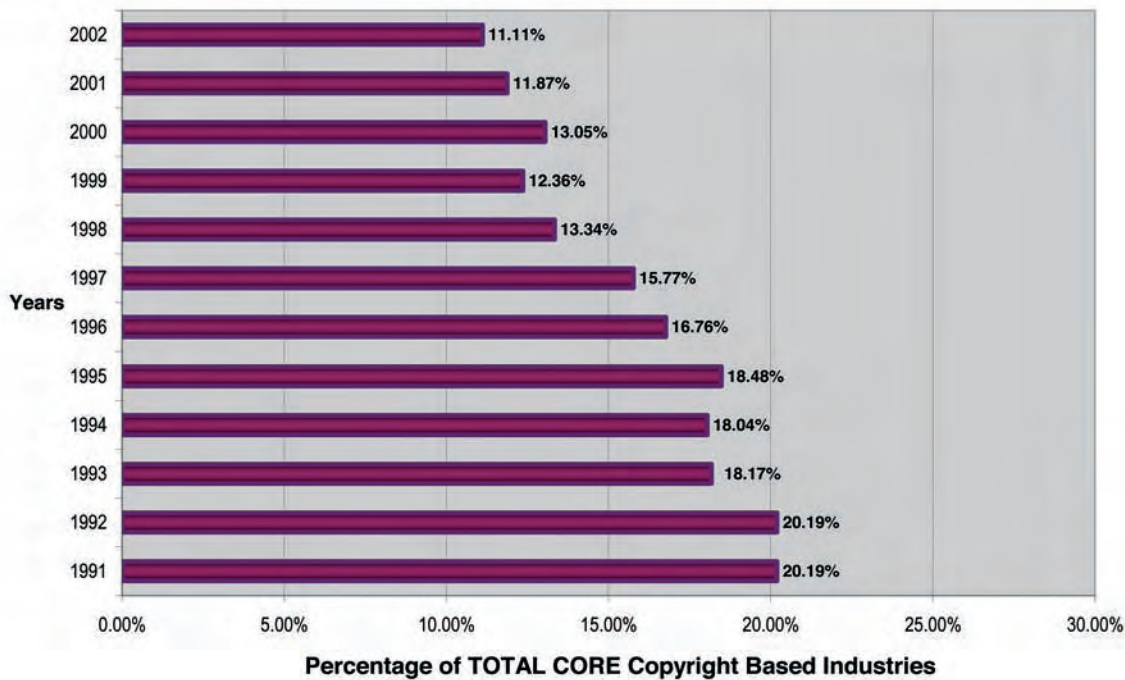
**Employment:** CORE Copyright-Based Industries Theatrical and Music Performances



Source: Wall Communications Inc. 2004

**Chart 33**

**Employment:** CORE Copyright-Based Industries Theatrical and Music Performances



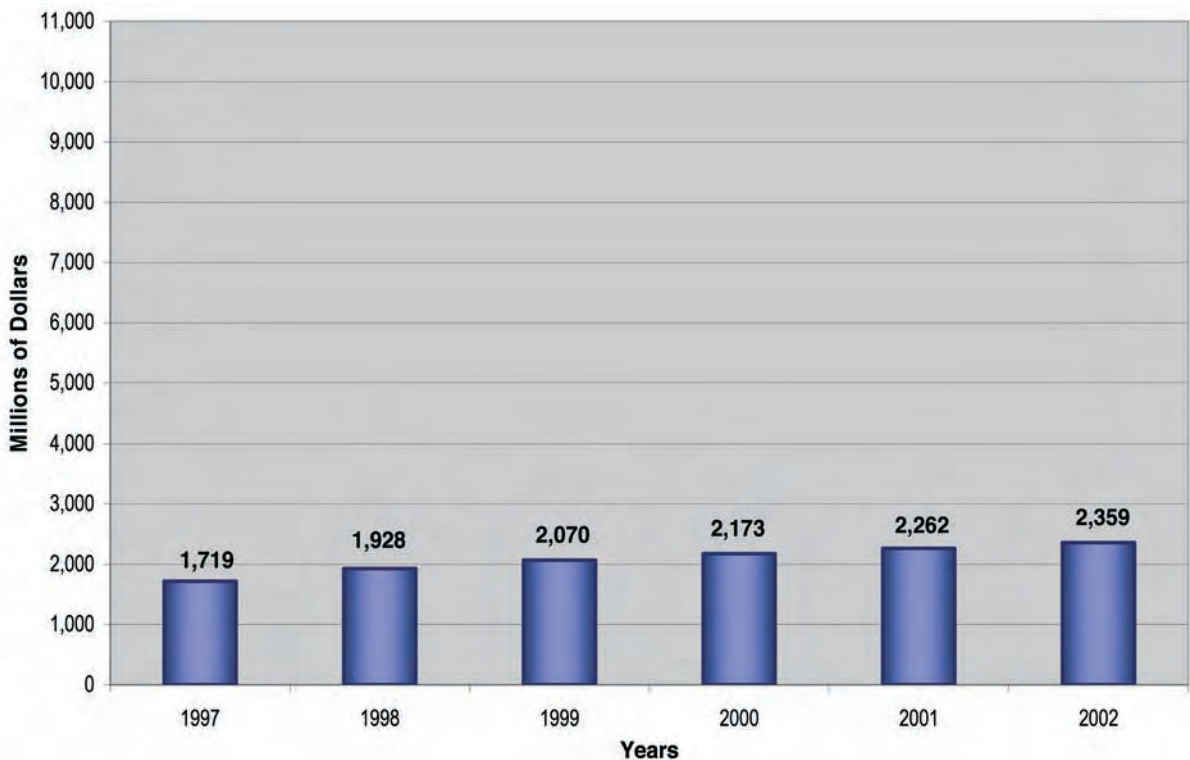
Source: Wall Communications Inc. 2004

### 7.3 Motion Picture and Video (including Sound Recording)

The movie and TV production, distribution and exhibition industries have undergone numerous changes over the last few decades. Greater vertical integration has characterized these industries, with many of the larger producers becoming very active in distribution. Revenues from distribution have led the way over production or exhibition mostly due to TV distribution which rose from \$317 million in 1997/98 to \$573 million in 2001/02. Consolidation has also been an ongoing feature of the industry.

This category is measured in NAICS 512 (Motion Picture and Sound Recording). Although it is still (in 2002) the smallest sub-sector as measured by GDP, it enjoyed a healthy rate of growth since 1991, although that has slowed somewhat since 1997. It has continued to grow since 1991 and has seen a gradual diminishment in its share of CORE copyright industries contribution since 1994 (see Chart 35).

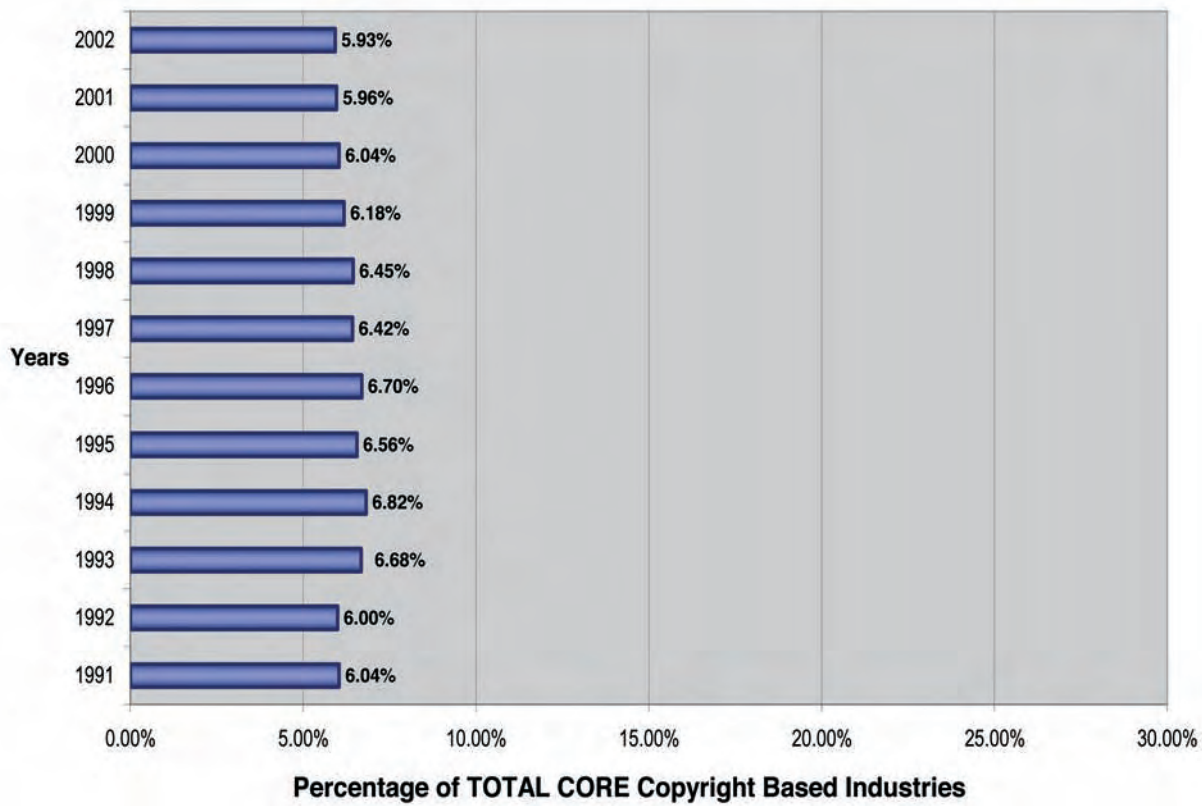
**Chart 34**  
**GDP: CORE Copyright-Based Industries Motion Pictures and Video**  
Millions of Dollars



Source: Wall Communications Inc. 2004

**Chart 35**

**GDP:** CORE Copyright-Based Industries Motion Pictures and Video



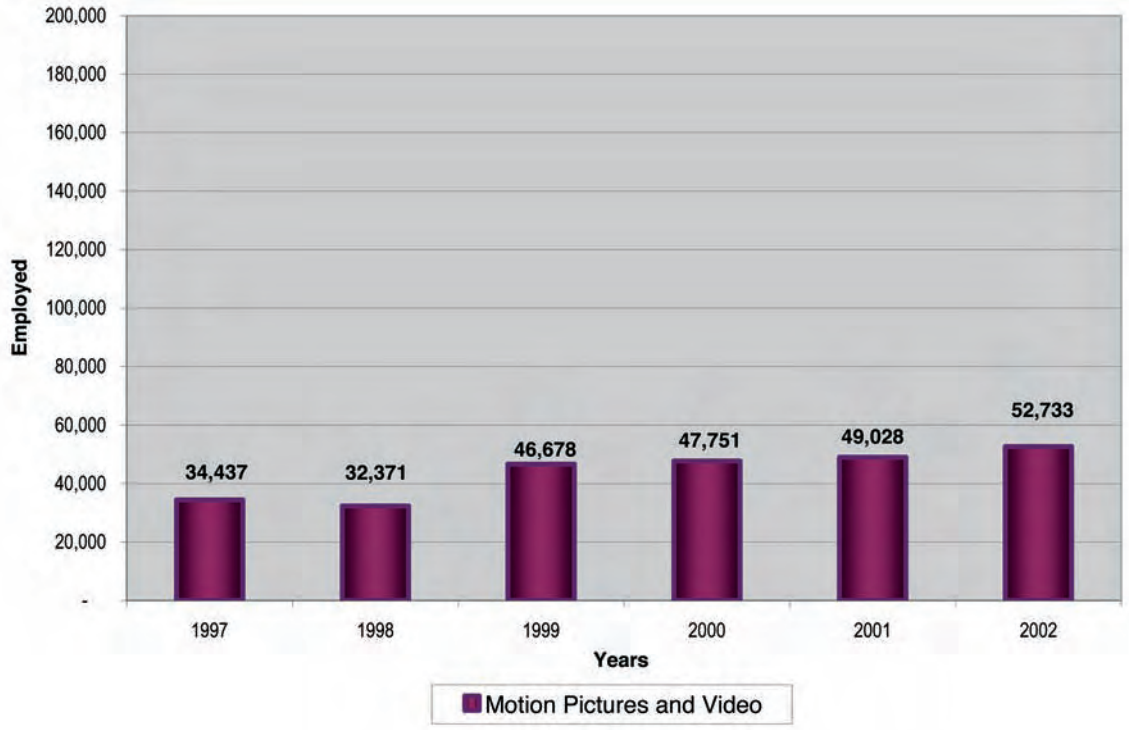
*Source: Wall Communications Inc. 2004*

Employment in the Motion Picture and Sound Recording industries has generally risen throughout the 1990's and has also gained a greater share of the core industries employment.



**Chart 36**

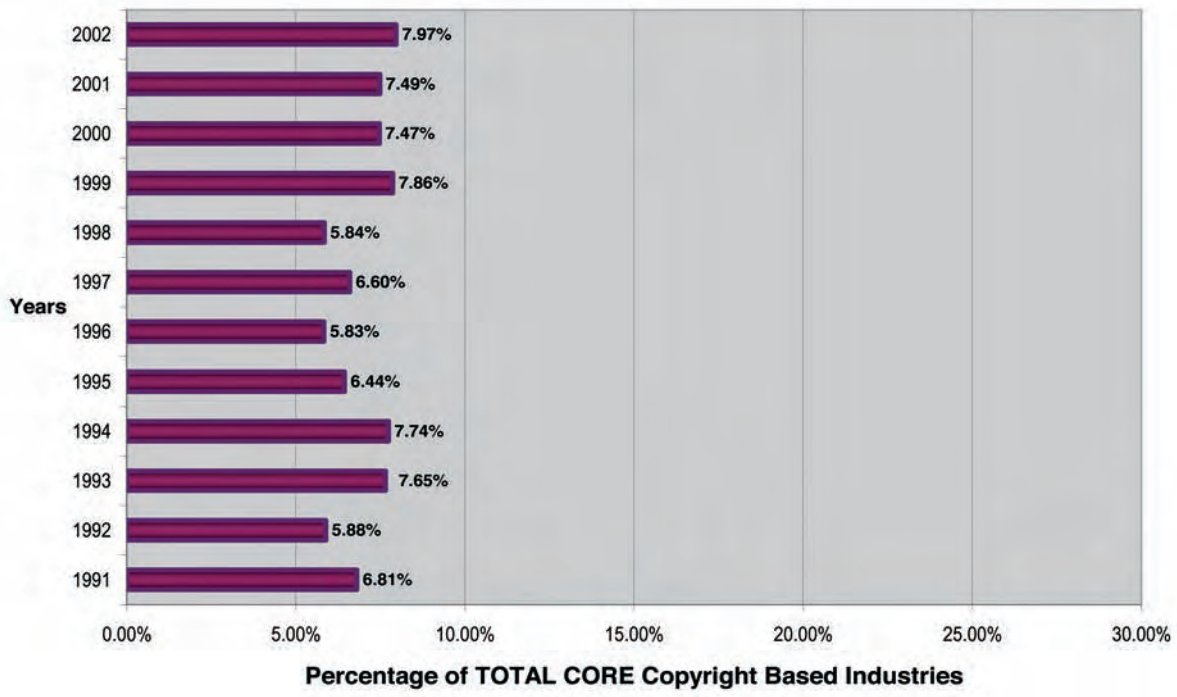
**Employment:** CORE Copyright-Based Industries: Motion Pictures and Video



Source: Wall Communications Inc. 2004

**Chart 37**

**Employment:** CORE Copyright-Based Industries: Motion Pictures and Video



Source: Wall Communications Inc. 2004

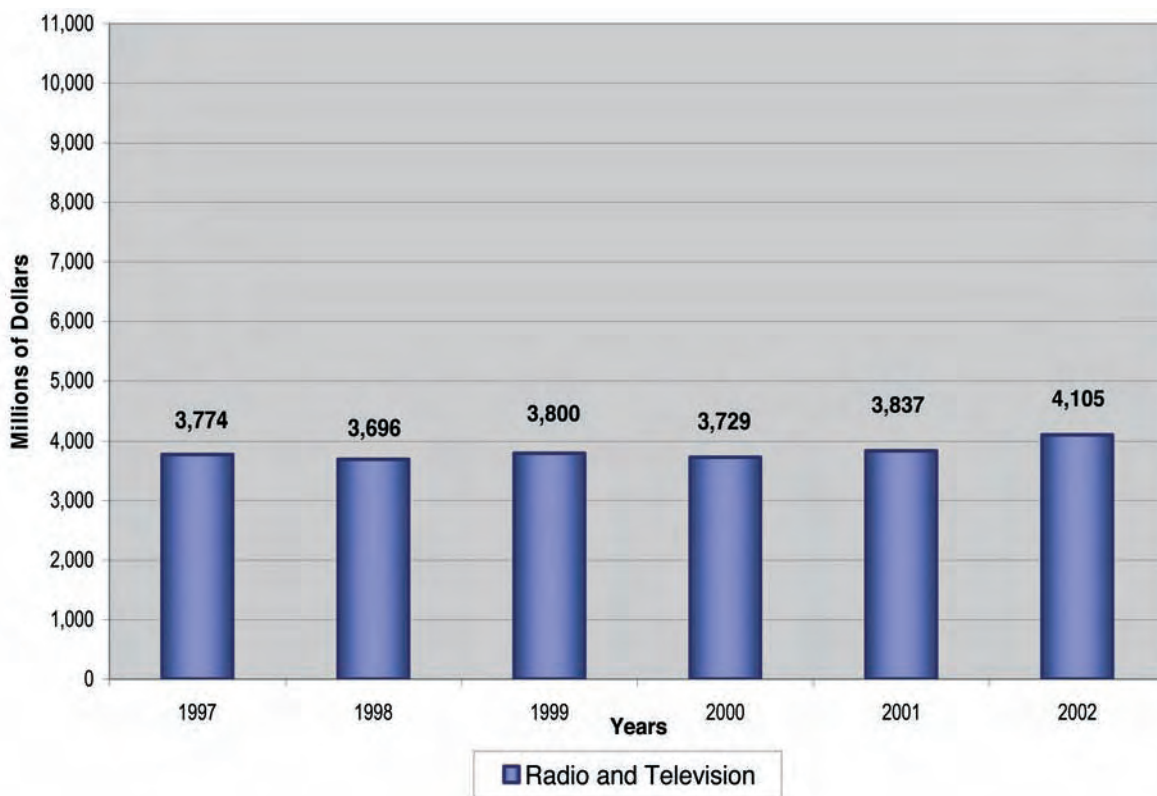
## 7.4 Radio and Television (including cable pay and specialty, cable distribution and DTH)

The radio and television category has experienced one of the slowest rates of growth amongst the sub-sectors, even slower than the growth rate of the national economy. In GDP terms, the area was almost stagnant between the years of 1997 and 2001 (see Chart 38).

### Chart 38

#### GDP: CORE Copyright-Based Industries Radio and Television

Millions of Dollars

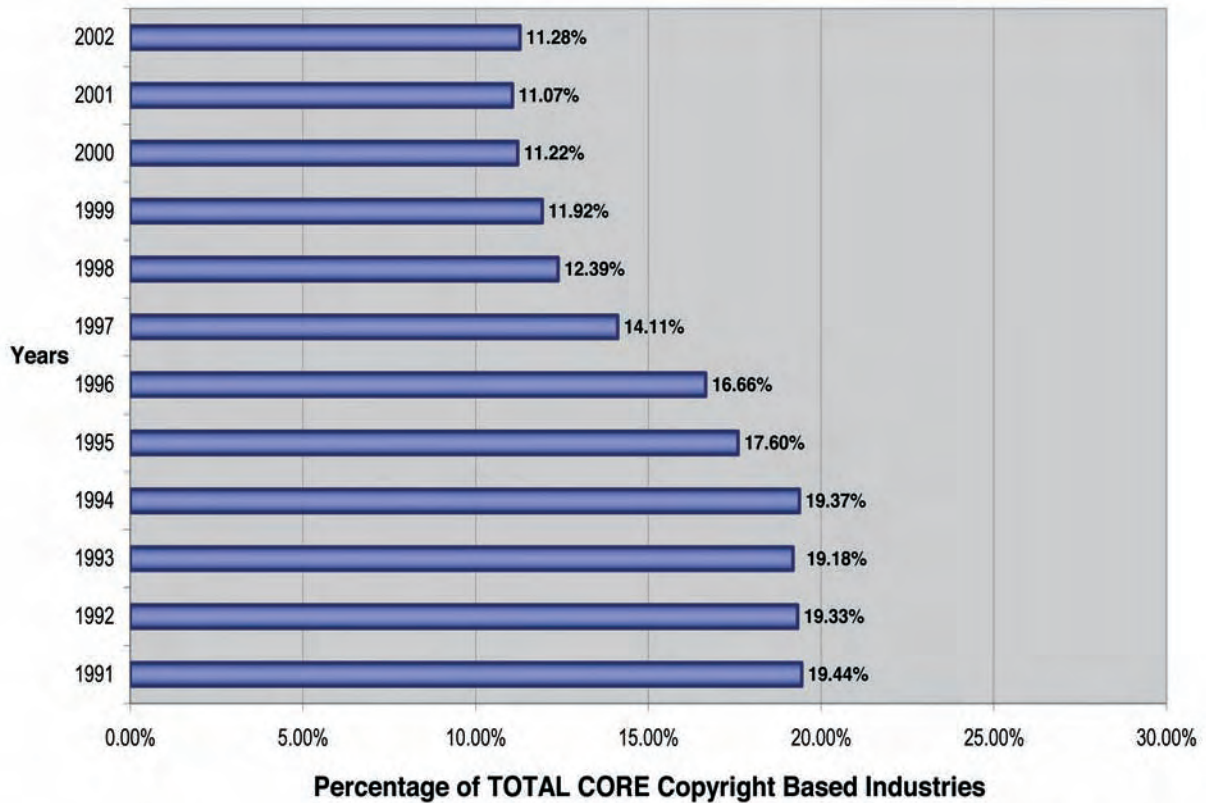


Source: Wall Communications Inc. 2004

Nonetheless, the GDP share of radio and television has fallen considerably over the period, dropping from over 19% in 1991 to just over 11% in 2002.

**Chart 39**

**GDP: CORE Copyright-Based Industries Radio and Television**

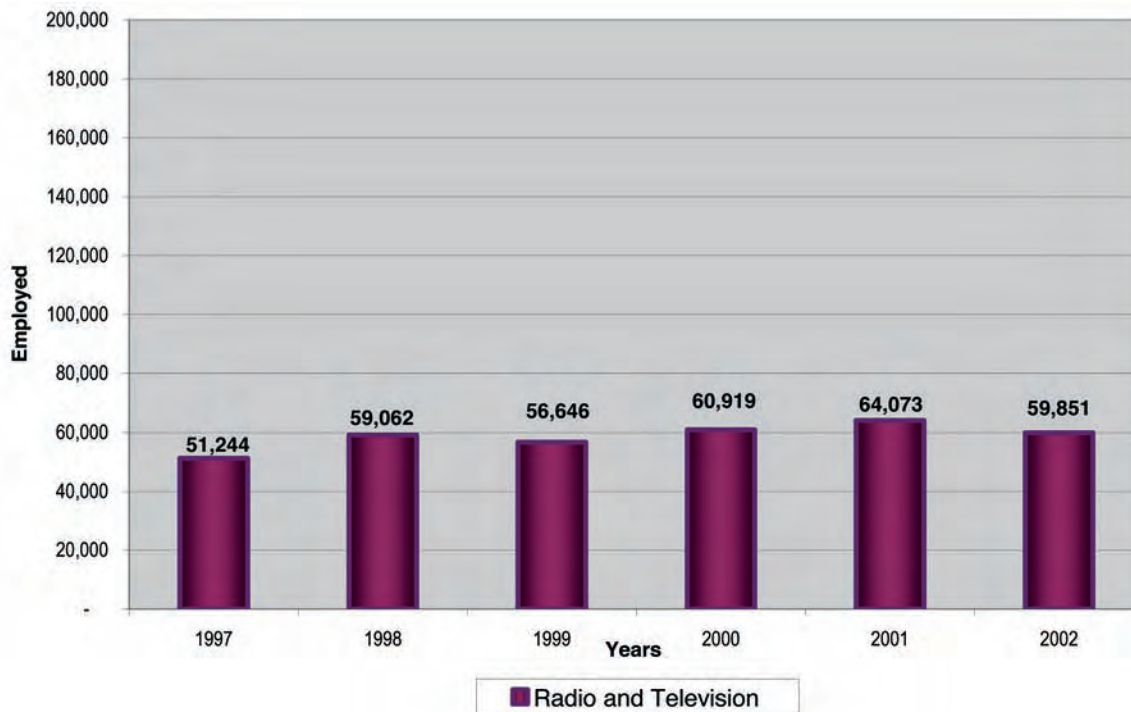


*Source: Wall Communications Inc. 2004*

Employment has been relatively stable over the period 1991 to 2002. Consequently the employment share of radio and television has fallen.

**Chart 40**

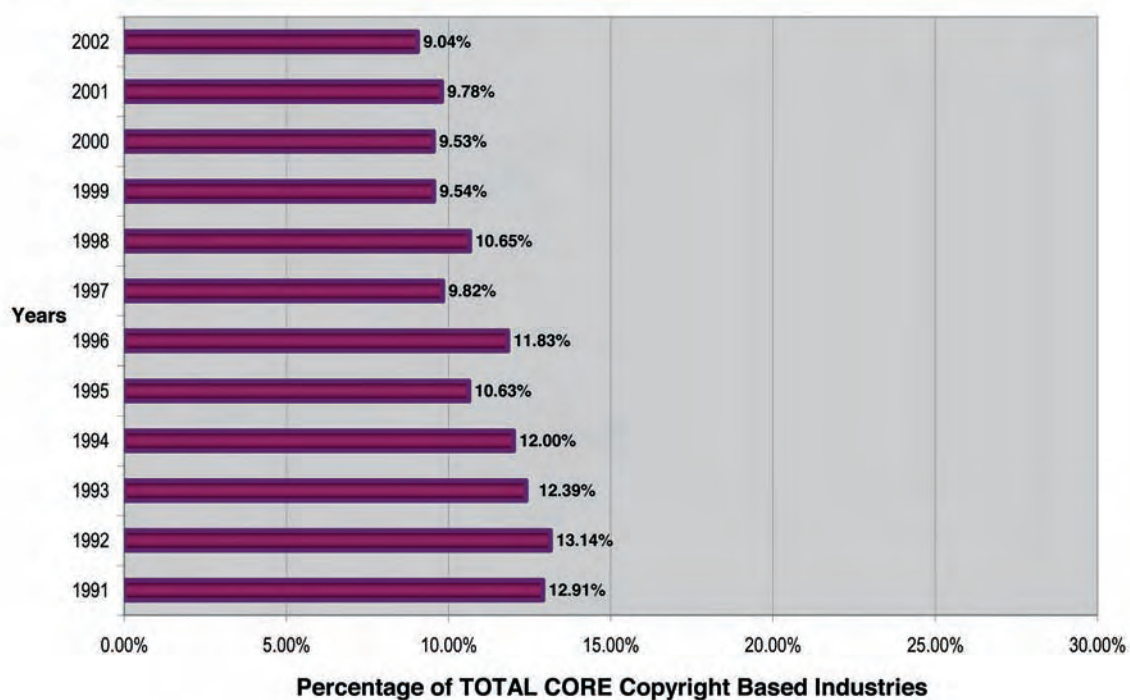
**Employment:** CORE Copyright-Based Industries Radio and Television



Source: Wall Communications Inc. 2004

**Chart 41**

**Employment:** CORE Copyright-Based Industries Radio and Television



Source: Wall Communications Inc. 2004



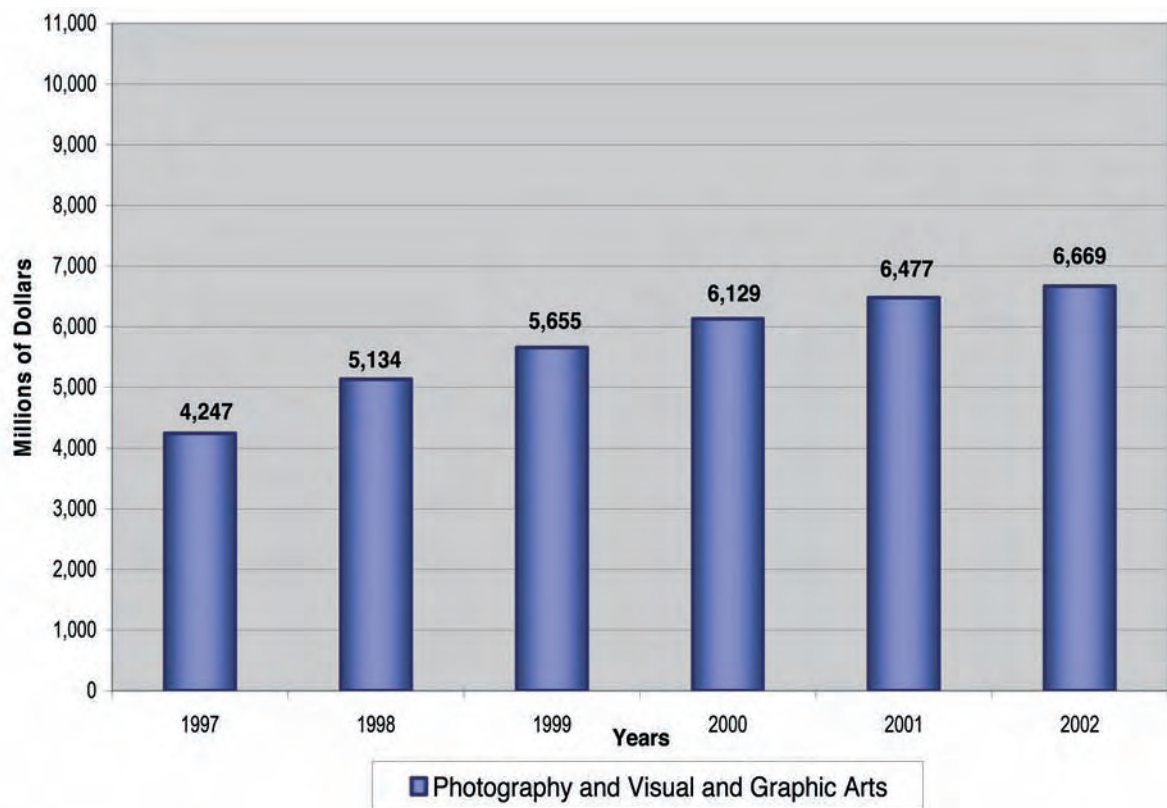
## 7.5 Photography and Visual and Graphic Arts (including Professional, Scientific and Technical Services)

This mixed category is a significant contributor with the CORE industries, particularly due to the growth in graphic and professional, scientific and technical services.<sup>27</sup>

**Chart 42**

**GDP: CORE Copyright-Based Industries Photography and Visual Graphic Arts**

Millions of Dollars

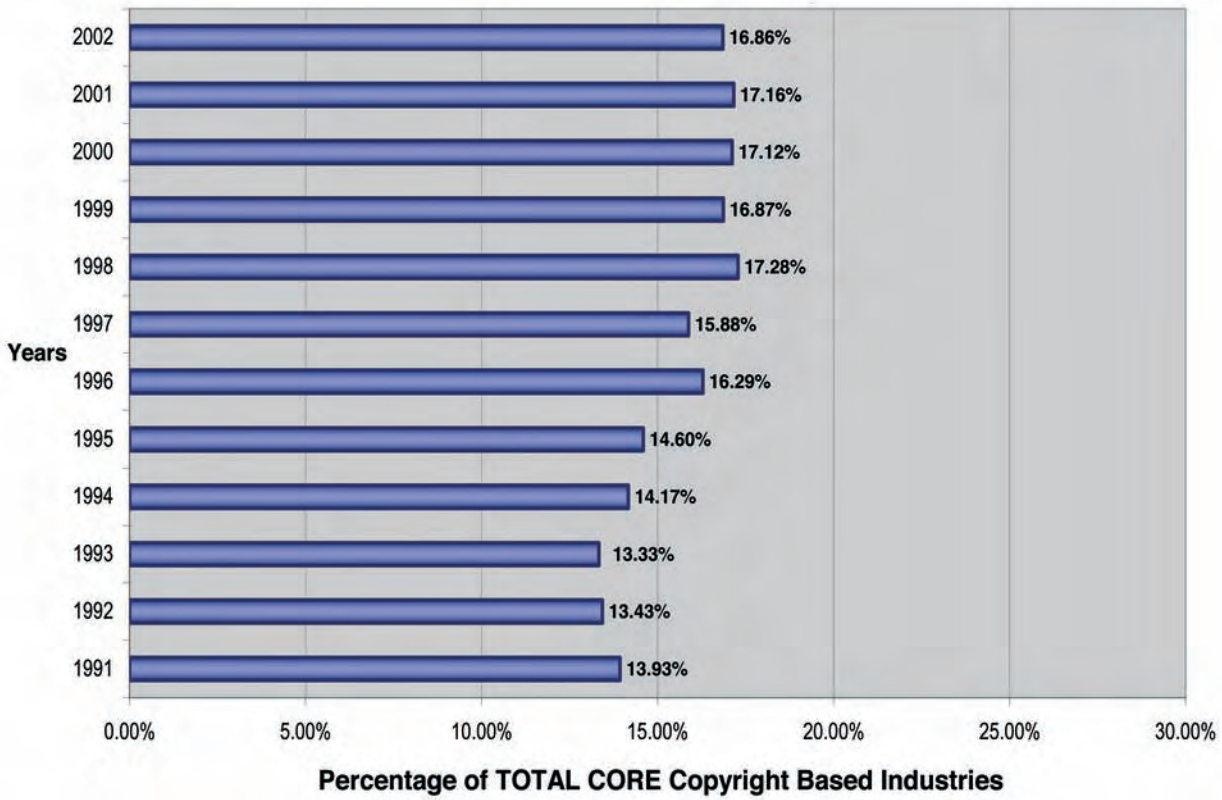


Source: Wall Communications Inc. 2004

<sup>27</sup> This includes NAICS 5414 (Specialized Design Services – including graphic), NAICS 5416 (Management, Scientific and Technical Consulting Services), NAICS 5417 (Scientific Research and Design Services) and NAICS 5419 (Other Professional, Scientific and Technical - including market research, photographic services and translation services). We have used 70% of these four NAICS categories.

**Chart 43**

**GDP: CORE Copyright-Based Industries Photography and Visual Graphic Arts**

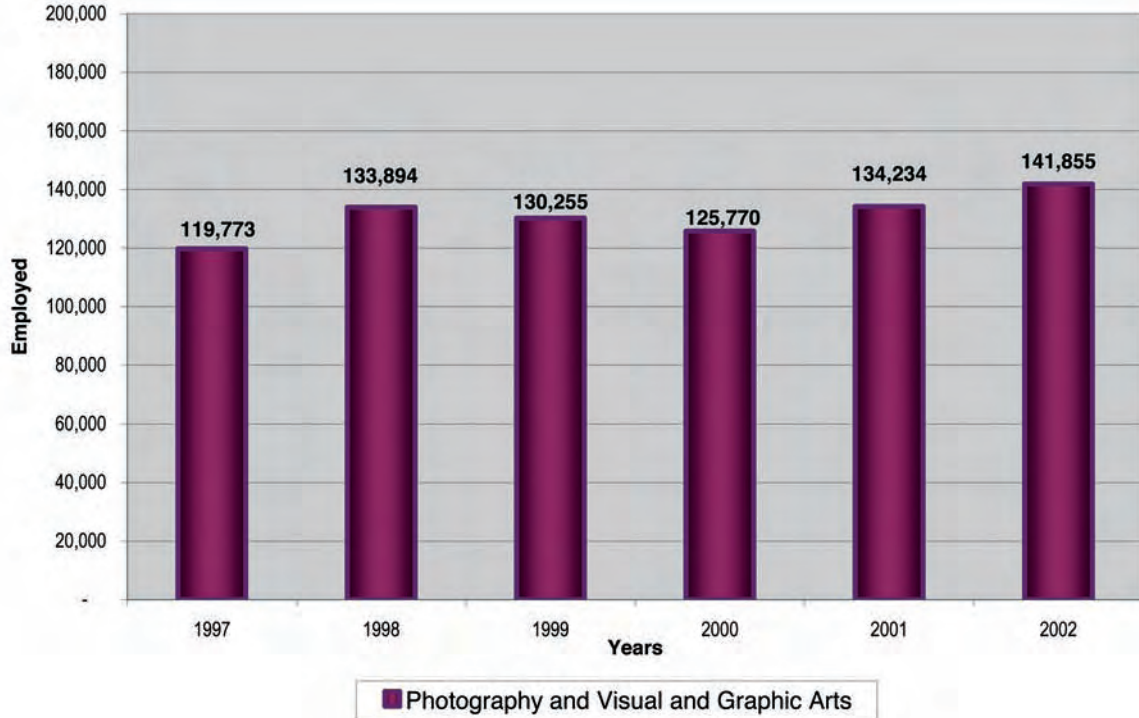


Source: Wall Communications Inc. 2004

Employment levels have been variable over the period, although this sub-sector has maintained a consistently high share of all core industries (e.g. typically 20% or more).

**Chart 44**

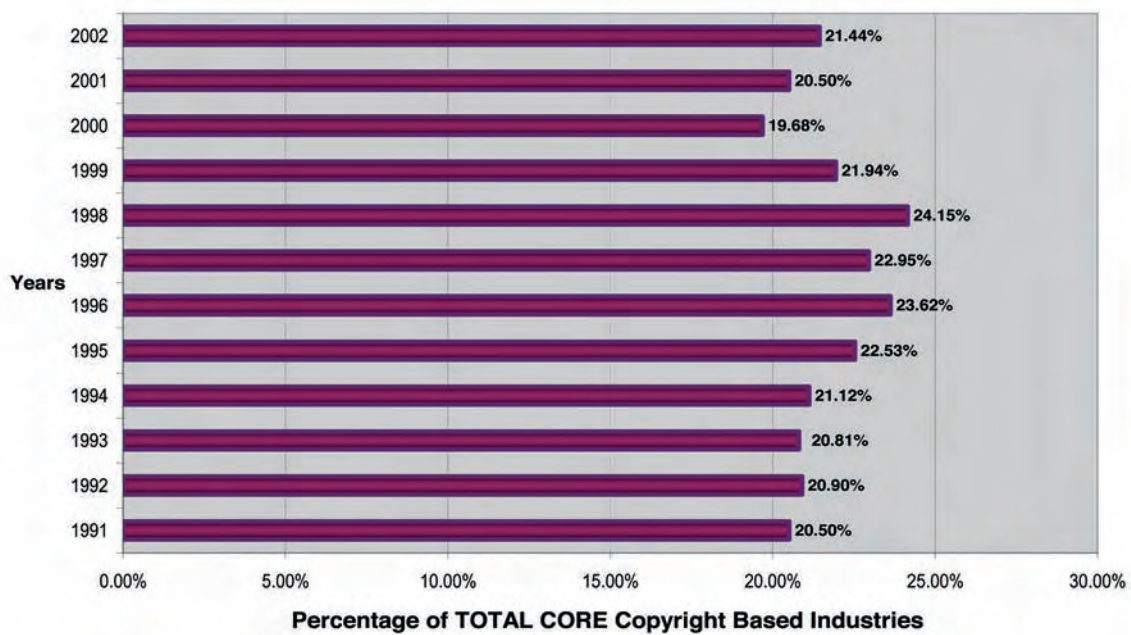
**Employment:** CORE Copyright-Based Industries Photography and Visual Graphic Arts



Source: Wall Communications Inc. 2004

**Chart 45**

**Employment:** CORE Copyright-Based Industries Photography and Visual Graphic Arts



Source: Wall Communications Inc. 2004

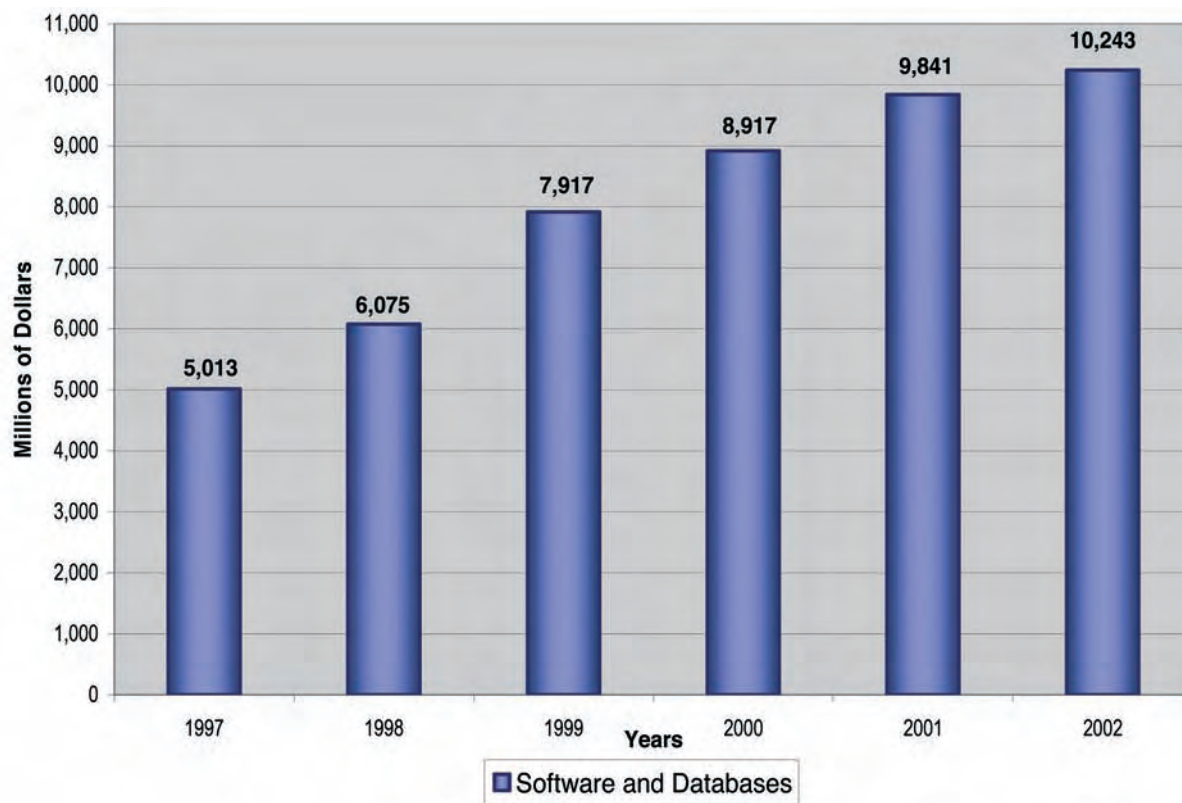
## 7.6 Software and Databases (and related information services)

The largest contributor to GDP (in 2002), the software and databases sub-sector surpassed Press and Literature (publishing) in 1999 to lead all others. Further, it has experienced the fastest growth rate since 1997.

### Chart 46

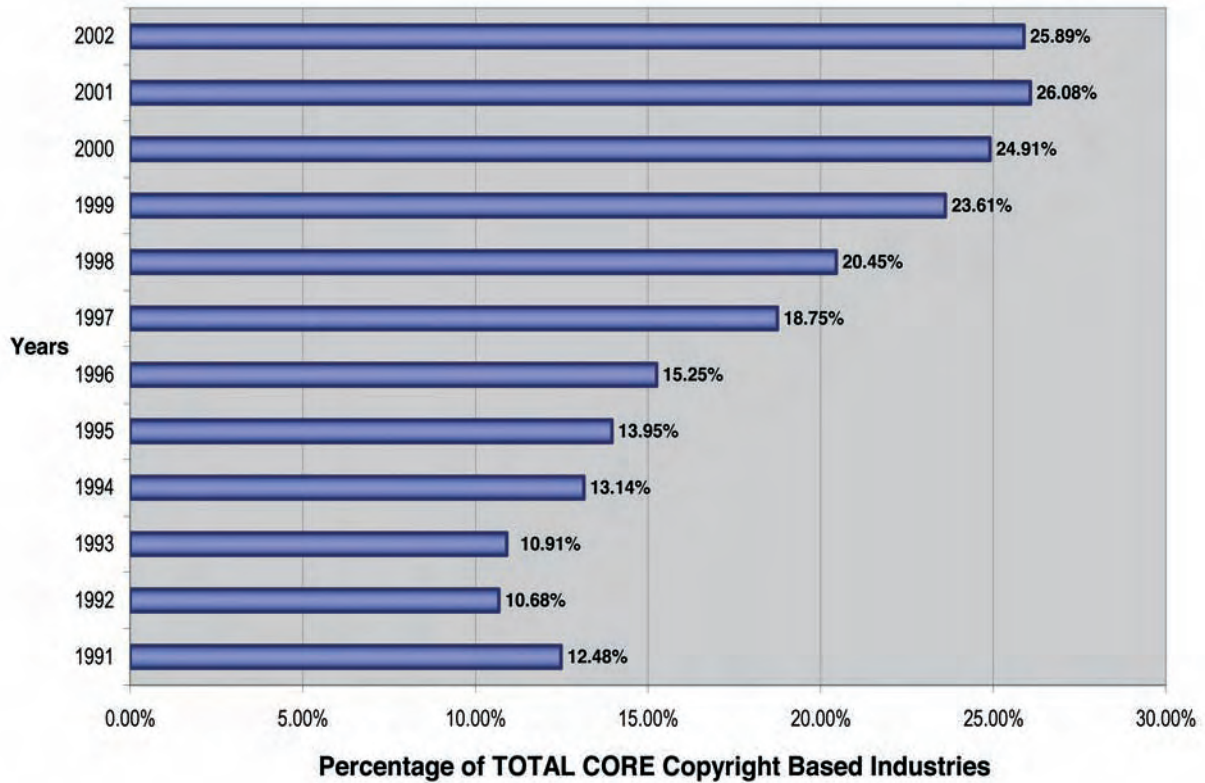
#### GDP: CORE Copyright-Based Industries Software and Databases

Millions of Dollars



Source: Wall Communications Inc. 2004



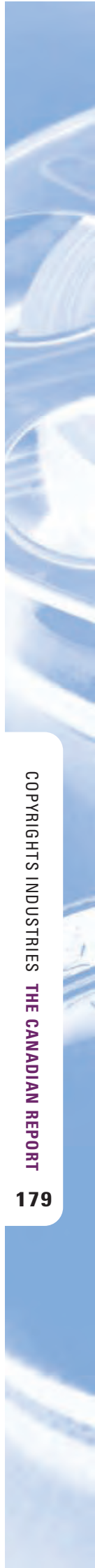
**Chart 47****GDP: CORE Copyright-Based Industries Software and Databases**

Source: Wall Communications Inc. 2004

Employment has also climbed over the period, reaching a high of 194,000 in 1999, before falling back to 189,000 by 2002 (see Chart 48).

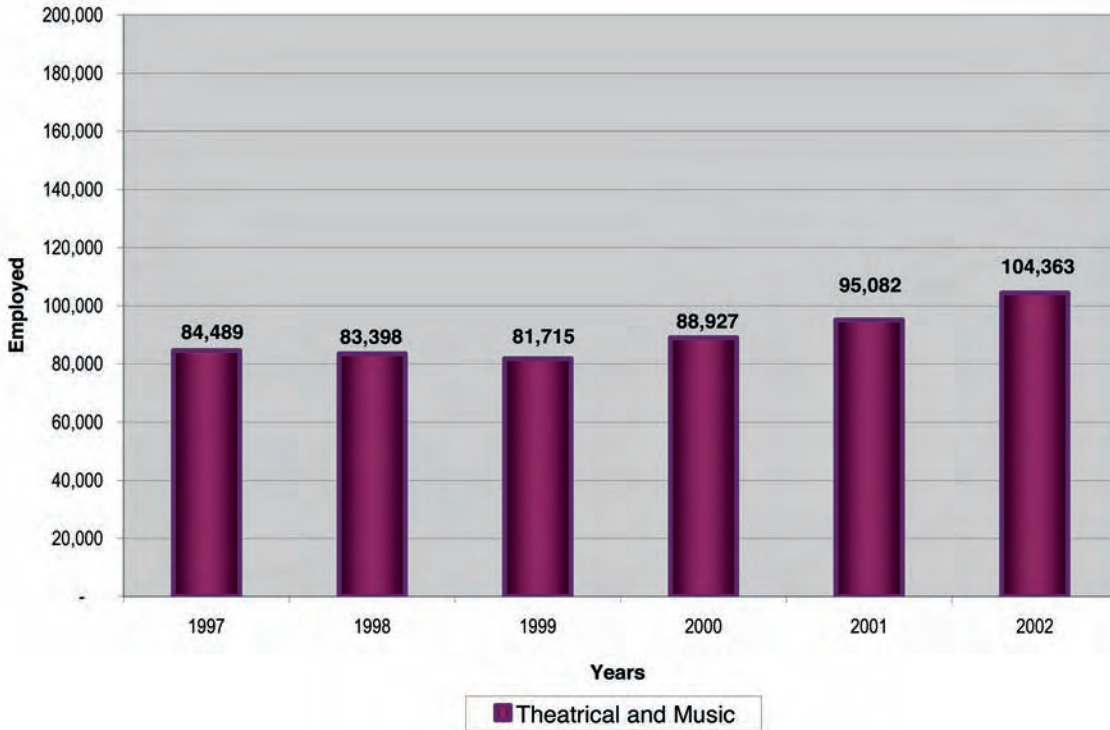
This sub-sector is comprised of NAICS categories 514 (Information Services and Data Processing Services) and 5415 (Computer Design Services). It should be noted that software and database publishing are contained in the Press and Literature (publishing) sub-sector so that this measure underestimates the contribution of software and databases (although they are all captured in total CORE industries).

<sup>28</sup>This includes services such as software analysis and design and writing, modifying, testing and supporting software to meet the needs of a particular customer, including the creation of Internet home pages.



### Chart 48

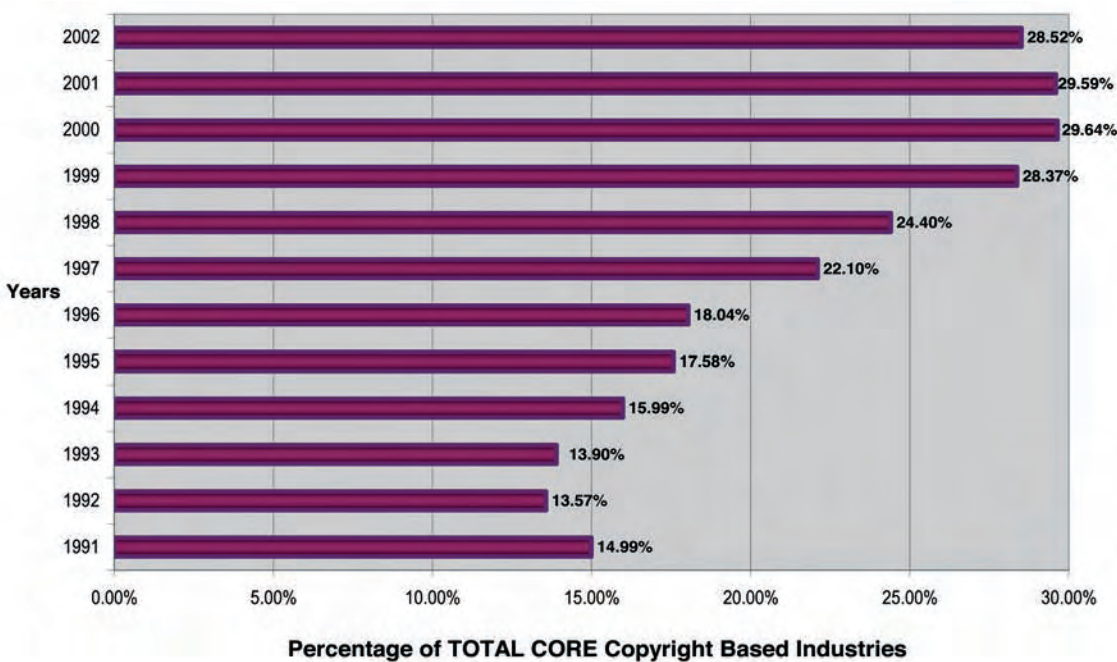
**Employment:** CORE Copyright-Based Industries Software and Databases



Source: Wall Communications Inc. 2004

### Chart 49

**Employment:** CORE Copyright-Based Industries Software and Databases



Source: Wall Communications Inc. 2004

## 7.7 Advertising Services

In 2001, the advertising and related services industry earned revenues of \$5.1 billion, up 5.9% from 2000<sup>29</sup>. The profit margin for the industry was 8.9% in 2001, compared with 9.5% in 2000.

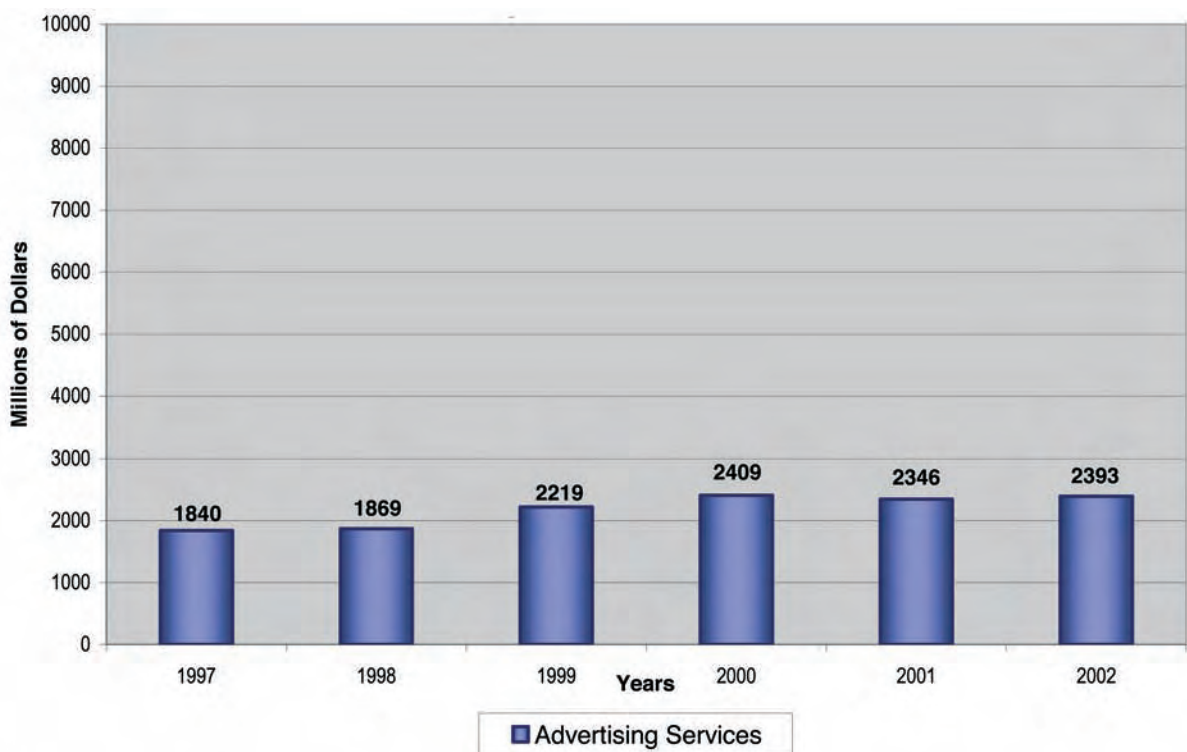
A downturn in traditional advertising spending in 2001 resulted in a 1.4% decrease in revenues for traditional advertising agencies. In contrast, the other more specialized advertising industries, such as public relations and billboard renters, enjoyed a 13.0% increase in revenues.

The majority of clients for the advertising and related services industry are private sector firms, with nearly one third (28% in 2001) in retail trade. Advertising agencies saw their foreign client base increase 4.9% in 2001, reaching 9%.

### Chart 50

#### GDP: CORE Copyright-Based Industries Advertising Services

Millions of Dollars

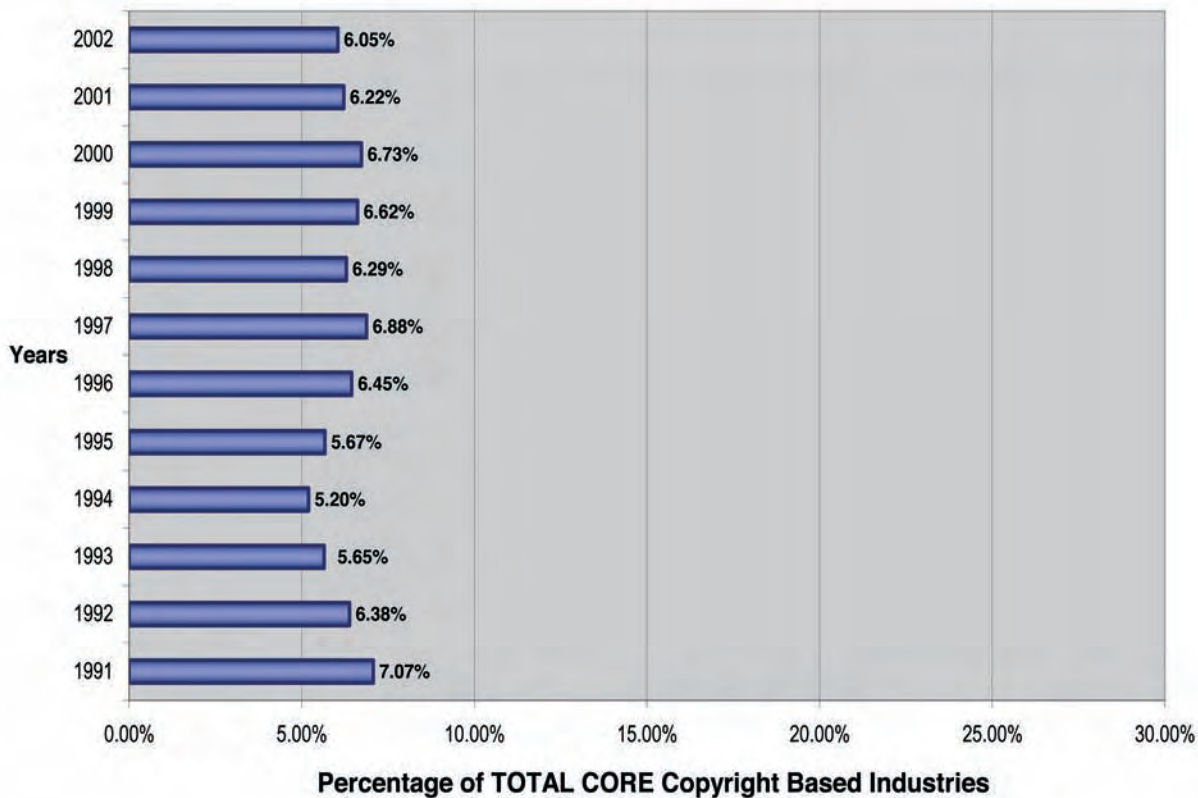


Source: Wall Communications Inc. 2004

<sup>29</sup> The Daily, April 23, 2003, Annual Survey of Advertising and Related Services, Statistics Canada.

### Chart 51

**GDP:** CORE Copyright-Based Industries Advertising Services



Source: Wall Communications Inc. 2004

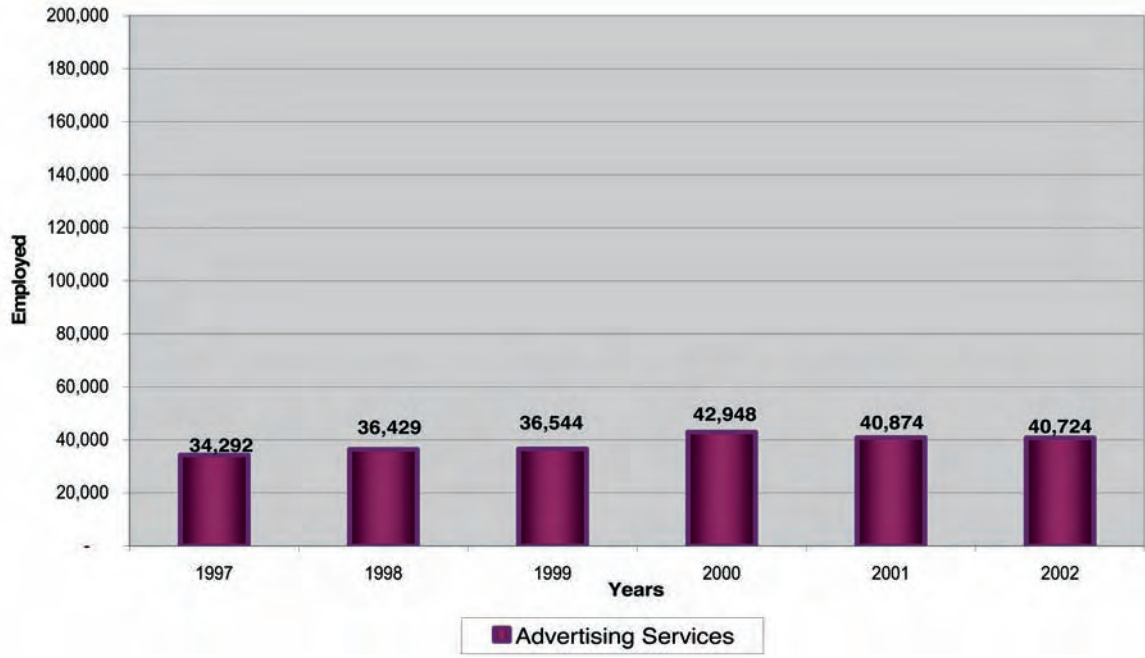
Advertising services are one of the smallest contributors to core GDP, roughly equal to motion picture and sound recording. However, they have enjoyed a relatively strong rate of growth since 1997 and have roughly maintained their share of CORE contribution over the 1990's. They are found in NAICS 5418.

As can be seen from Chart 51, Advertising has cycled over the period, diminishing in the first part of the 1990's before peaking in 1997. Employment made some major gains from 1997 to 2000 (where it peaked at almost 43,000 – see Chart 52).



**Chart 52**

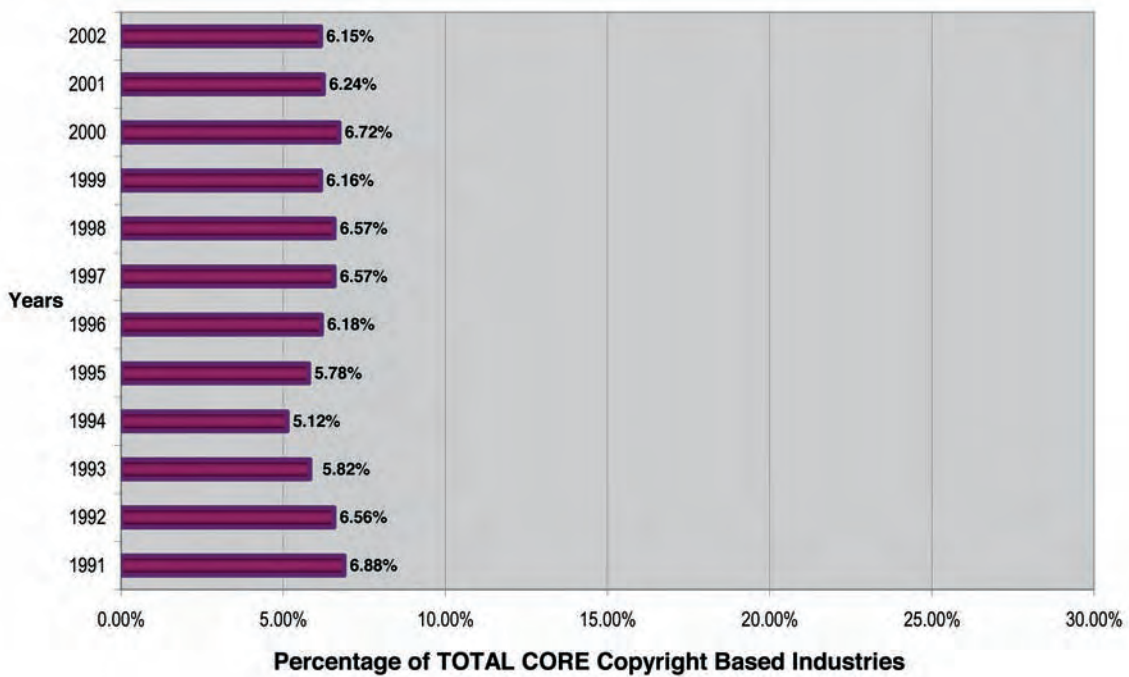
**Employment:** CORE Copyright-Based Industries Advertising Services



Source: Wall Communications Inc. 2004

**Chart 53**

**Employment:** CORE Copyright-Based Industries Advertising Services



Source: Wall Communications Inc. 2004

## 7.8 Copyright Collective Management Societies

There are close to 35 copyright collective societies in Canada today<sup>30</sup>. These societies administer rights on behalf of their respective members (e.g., authors, composers, performers and producers). Their primary functions involve the collection of royalty fees from users of their members' works, as in the case of performance rights, reprography rights, mechanical reproduction rights and retransmission rights, together with the subsequent distribution of royalties to their members (both Canadian and, where applicable, affiliated foreign collective societies).

A number of amendments were made to the Canadian Copyright Act in 1997, including the introduction of remuneration rights for performers and producers (neighbouring rights) and a compensation system for private copying, among other changes. This led to the establishment of several new copyright collectives over the last several years.<sup>31</sup>

Since the copyright collective societies are private, non-profit organizations, annual financial information for the societies is generally not publicly available, other than in a few instances. Moreover, Statistics Canada does not collect or report data for these organizations. Nevertheless, based on the limited information that is available, we estimate that the total revenues of Canadian copyright collectives in 2002 were at least in the order of \$365 million.<sup>32</sup> Collective society revenues have generally been growing rapidly over the last ten years. Based on the limited historical revenue data available for the certain collective societies, the annual average growth rate in revenues over the period 1991 to 2002 has varied from 8% to 15% per year, well above the corresponding average annual rate of inflation.

Collective society administration expenses often range between 10% and 20% of total revenues. Value added generated by these societies, given they are non-profit organizations, consists of payments to employees. In approximate terms, salaries and other employee-related expenses account for between 50% and 70% of total administrative expenses. Based on the broad estimates, value added attributable to copyright collective societies was likely no more than \$50 million in 2002 and, consequently, represents only a very small component of core copyright industry GDP.

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<sup>30</sup> A list and description of Canadian collective societies is available on the Copyright Board of Canada's website: <http://www.cb-cda.gc.ca/societies/index-e.html>.

<sup>31</sup> For instance, the Neighbouring Rights Collective of Canada and Canadian Private Copying Collective were established in 1997 and 1999 respectively.

<sup>32</sup> This approximation is based on available revenues and revenue estimates for some of the largest copyright collective societies in Canada. Therefore, while estimate is understated, we expect that it accounts for the majority of the revenues of all Canadian societies combined.

## 7.9 Sub-sector Environmental Analysis

### **Background and General Commentary**

In order to provide further depth regarding the economic situations of the sub-sectors, we undertook a series of personal interviews with industry representatives as well as surveying several regional and national associations<sup>33</sup>. The selective information gathered from these processes provides context for recent economic performance, current challenges and what the future might hold.

In terms of what factor has been most important in shaping the financial health of each industry over the last decade, government regulation and policy ranked first among respondents followed by technological change (2), access to financing (3), global competition (4) and access to skilled labour (5).

The factor that has caused the most significant change in the way business is conducted (over the last decade) was overwhelmingly identified as new (often digital) technology. The most significant change facing CB industries today brought a mixed response with respondents noting difficulty in getting financing, becoming more client-oriented, ability to influence government policy, variations in Canada's versus other countries copyright protection (and related competitive implications), falling demand, and dealing with fundamental technological change. Many of the sub-sectors noted the exceptional creative abilities of Canadians as a source of on-going strength.

Views on the future were varied, as some sub-sectors such as visual and graphic arts, photography and broadcast distribution felt growth of 3% per annum was likely while others were less optimistic. The sound recording industry in particular did not see growth in their immediate future. Consolidation (both domestic and international) is expected to continue for the most part, except in CB areas where individual creators are involved (e.g. independent authors, performers and artists). The greatest challenges in the next 3 to 5 years centre around the harnessing of new technology and gaining more favourable government policy/regulation.

Further individual sub-sector commentary is provided below<sup>34</sup>.

### **Press and Literature (Publishing)**

The newspaper business, more so than other publishing areas, seems to be tied to the overall state of the economy. When the national economy is strong, the newspaper business is strong and vice versa. It is no surprise that the newspaper industry is perceived as better off today than ten years ago (when the recession of the early 1990's was just ending). But there is also a perception that the industry is structurally better off today, having adopted and adapted to new technologies (such as the Internet) and leveraged their brand (into areas such as web pages).

<sup>33</sup> The information gathered from these processes is not necessarily statistically significant. In fact the sample sizes are too small to draw statistically valid conclusions. However, respondents typically represent creators in a CB industry and their views are very relevant in understanding the issues and challenges that are being faced.

<sup>34</sup> Based on personal interviews, questionnaire responses and literature review.

Industry revenue streams are split between circulation and advertising (roughly 20%/80%). Advertising revenue, as implied above, reflects the state of the economy. While there have been some changes in the relative shares of categories of advertising (e.g. career advertising has been shifting to the Internet), overall the revenue has reflected national economic growth. In addition, circulation revenues appear to be gradually diminishing but have been more than offset by increases in ad revenues.

On the cost side, newsprint is a key basic input that can significantly impact profitability. This “cost-input/profitability” relationship is not expected to change materially in the near-term.

The Canadian book publishing industry is facing many of the factors common to all CB industries: dealing with new technologies, asserting protection over copyright works and competing with larger, better-financed firms from outside of Canada (particularly the U.S.).

Unique issues facing book publishing include structural change in the supply chain (with Chapters now controlling the majority of the retail market) and shifts in consumer preferences (i.e. the types of books consumers want). In addition, there is a view that average price levels are set by non-Canadian “best-seller” titles and are therefore somewhat out of the control of Canadian publishers. Combined with lower economies of scale, this may imply lower average profit margins for Canadian versus U.S. publishers.

The industry is now looking at how to introduce new technologies to better track sales (potentially improving inventory control and purchasing planning). In any event, book publishing remains a relatively “low entry cost” business.

Exports are a very important part of the Canadian book publishing industry with strong recent growth. There is a view that the prominence of Canadian authors on the world literary prize stage has brought welcome attention to Canadian authors. However it may have also led to the “best” Canadian authors being picked up by large non-Canadian firms. This is similar to the “farm-team league” analogy cited in sound recording.

Periodical publishing is similar to newspaper publishing in that they both earn two main revenue sources: advertising and copy sales. The revenue split is roughly 60% advertising, 30% copy sales and 10% other.

The primary expense for periodical publishing is production and printing (about 35% of total expenses). Freelance writers are relatively small component of overall expenses (only about 20% of total labour costs or 5% of total costs) and appear to be decreasing over time. There is a view that increasing consolidation in the industry has depressed compensation for freelance writers and that growth will be hard to attain over the next few years. More than half of Canadian periodicals were in a loss position in the late 1990's and prospects have not significantly improved.

### ***Theatrical Productions and Music***

Music performances in Canada in most venues and areas (such as large venues and local clubs) have not fared especially well in the recent past. Causes that have been mentioned include public attitudes towards drinking and driving and smoking bylaws in many municipalities.

The musical performance side is intimately tied into sound recording and many performers also attempt to supplement performance income with recording income. The system of rights accounting and collection has offered a number of income opportunities in the last decade.



Technology has affected the performance arts, but not necessarily in terms of significantly lowering costs. For theatrical productions, more complex special effects (particularly in the lighting area) have been made possible, but have not lowered costs significantly. In live music performances, technology has improved the array of sounds and amplification quality, but again has not lowered costs (except where sampled sounds replace live musicians).

### ***Motion Picture and Sound Recording***

After a period of sustained growth, the film and TV industry appears to have stalled. Much of the growth in Canadian production activity during the 1990's was fueled by non-Canadian service productions. With the advent of a higher Canadian dollar and pressure by U.S. film-makers to keep shooting in the U.S. and by other countries' policies to attract service work, Canadian production has suffered recently. Regionally, British Columbia appears to have been hardest hit.

In addition, international demand (including financing and co-productions) appears to be diminishing. Observers noted in particular the loss of Movies of the Week (MOW's) once a staple of U.S. networks but now often produced in-house.

Changes to funding programs and broadcasting regulations are also identified as negative factors influencing production.

At the box office, the share of Canadian films has been growing, but it has not yet reached the objective of 5% share. The share of French-language films in Quebec remains much higher than in English-language Canada. Overall, feature film exhibition appears to have reached a plateau even though the number of theatres has increased since the year 2000.

Distribution appears to be an area of some growth, primarily driven by distribution of non-Canadian films. There also appears to be a structural shift occurring with resource moving out of production and into distribution.

Many of the key personnel in TV and film production (e.g. writers, actors, directors, and technical staff) are quite mobile. Some costs of production have been falling in part due to the introduction of digital technology. However, the financing climate has grown tighter in recent years.

Nonetheless, it appears that opportunities in production and distribution are better today than ten years ago.

Sound recording is facing perhaps the most significant challenges of any CB sub-sector. The advent of on-line music file sharing has made serious erosions into industry revenues, although the exact extent of causality is not clear. File-sharing has created havoc with industry business models, leaving many recording labels scrambling to find a practical means of putting an end to the practice. On a more positive note, various label-led efforts to introduce on-line music distribution may lead at some point to revenue repatriation and growth.

While lack of government action and leadership is frequently voiced by industry representatives, others in the industry point out that the roots of this problem have been apparent for some time and the industry has been slow to assess and address it.

At the independent musician, producer and performer levels, there is some belief that there are many new business and artistic opportunities available as a result of technological change. These include more ways to exploit rights both domestically and internationally.

There is widespread agreement that CRTC Cancon rules and the FACTOR program have been significant forces in boosting Canadian music at all levels.

In terms of industry structure, many Canadian independent labels (of all sizes) operate to a degree as a “farm team league” finding and providing initial marketing and promotional support to new artists, who may eventually get picked up by a major label. At that point they may receive major promotional effort and possibly international exposure. Some industry participants view this as a lost opportunity for the Canadian music industry while others see it as a “fact of life” that works synergistically and benefits all parties.

### ***Radio and Television (Broadcasting)***

Broadcasting encompasses a variety of activities including conventional television and radio, cable TV, DTH and specialty/pay programming services. Each area has its own unique challenges and relevant environmental factors.

In conventional broadcasting, fragmentation in advertising revenues caused by new broadcasting services has tended to lead to diminished revenues on average. At the same time, costs of doing business (e.g. program acquisition) have continued to increase.

Conventional broadcasters rely almost exclusively on advertising revenue, unlike distribution undertakings which receive subscription revenue and specialty and pay programming services which obtain both advertising and subscription revenue. Competition continues to grow for their key revenue stream as a result of the licensing of new programming services and due to web-based alternatives.

As a regulated industry, many of the most pressing concerns voiced by the industry relate to regulation and policy matters. These include concerns with conditions of licence (relative to other licensees) and funding programs for production.

Broadcast distribution undertakings (BDU's) are facing revenue loss due to signal piracy. Having achieved relatively high market penetration in terms of homes passed, growth in the industry will be largely dependent on providing new services. For Cable, high-speed Internet has been the fastest growing business segment in its portfolio for the past few years and is seen as the likely leader for the foreseeable future.

BDU's also faces greater competition from outside the traditional industry from new entrants such as telephone companies. Alternative entertainment services (such as Internet-based services) are also developing.

Digitization has been a major factor shaping the industry and offering new opportunities. Although initial capital costs are significant for network upgrades, they can lead to ongoing cost savings.

Specialty program providers are also facing increasing competitive pressure from new entrants in the form of newly licensed channels.

### ***Photography, Visual and Graphic Arts and Professional Services***

Digitization in photography, as elsewhere, has had a major impact on the industry, changing the cost structure as well as widening business opportunities. Protection of copyright works domestically and internationally is an ongoing concern. Demand for photographic, graphic and related services is expected to continue to grow in years to come.

### ***Software and Databases***

Software and databases (including new media) has surged while some other CB sub-sectors have not. Growing reliance on computers and the Internet are seen as key reasons behind the continued growth in these areas.

The sub-sector is not without its challenges however. Software piracy is seen as a massive and omnipresent problem. The problem exists not only in business and personal applications, but is reportedly a major problem in educational facilities as well. Effective solutions are not readily apparent.

Access to funding remains a priority issue for new media companies. Both private and public funding sources are viewed as inadequate to bring new media to a critical and self-sustaining level. While there has been some firming up of workable business models, the industry remains in search of identifiable and accepted models for financing, creating and selling its services. In short, it still remains an industry of enormous potential, but minimal actualization in the broader marketplace.

The growth of IT professionals as a mainstay in the corporate world is a testament to the growing corporate reliance on software and related services. Many corporations routinely hire Chief Technology and/or Information Officers. Management of databases and related functions require skilled labour and there is some concern that not enough skilled workers are being produced in Canada.

The software industry is seen as a global industry where needs can be sourced from many different countries. Accordingly, the degree of international competition is perceived as fierce.

Challenges include the need to better manage growing volumes of internally and externally generated information and managing increased processing capability. This also relates to the need for skilled labour and may be a possible roadblock to future expansion.

## 8. Conclusions and Suggestions for Further Research

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This study has found that copyright related industries are adding an ever-increasing contribution to the Canadian economy. The current estimated contribution (as of 2002) is 5.4% of Canadian GDP – a contribution that is as great as or larger than many other industries including 'Agriculture, Forestry, Fishing and Hunting', 'Mining and Oil and Gas Extraction', Utilities and Accommodation and Food Services. It is almost as large as all of Retail Trade.

But it is the pace of growth in copyright based industries that is particularly noteworthy. While the Canadian economy grew by about 3.3% per annum over the 1991–2002 period, copyright based industries grew by 6.5% - almost twice the economy-wide growth rate.

The importance of copyright based industries is also reflected in its employment characteristics. An estimated 780,000 people were employed in copyright based industries as of 2002.

While the CB industries do not contribute on net to the trade balance, there has been a gradual improvement in the size of the trade deficit. The annual growth of exports (which peaked at 23% in 1998) has been gradually diminishing over the last five years. However, it is still growing, reaching almost 4% in 2002.

Compared to other countries, Canada's CB industries have grown faster in terms of GDP than Australia but not as quickly as in the U.S. Further contribution to national GDP is also higher in Canada than Australia but not as high as in the U.S. However, Canada has the highest rate of growth in employment in CB industries.

Looking at the core sub-sectors, software and databases (and information services) has grown to become the largest contributor to GDP. Press and Literature (publishing) held the lead until 1999. This is consistent with comments that were received from the industry as to where growth has been occurring and where it will likely continue to come from.

The main issues and challenges facing sub-sectors have a degree of commonality but also individuality. Technological change and regulation/policy matters seem to be key issues for virtually all sub-sectors. On the other hand, no two sub-sectors have exactly the same priorities or concerns. A growing attention to copyright protection (both domestically and internationally) and future implications appears to characterize all sub-sectors.



## 8.1 Is the Contribution of Copyright-Based Industries Underestimated?

We believe that the estimates in this study are conservative. While there are undoubtedly some sub-sector core industry data that include activities that are not particularly related to copyright, they are not likely to be too significant since the NAICS categories which have been used are quite well-defined. On the other hand, we can point to several instances where the data used in this study exclude relevant activities.

Perhaps the most important of these exclusions is in wholesale and retail trade. Because more narrow activities (e.g. CD sales) are not identified separately, there is no practical means of estimating the contribution from these activities to core value-added. The impact on core CP industry value-added could be significant, possibly in the range of a further 5% to 10% of estimated core GDP<sup>35</sup>. However, without more granular data, an accurate estimate cannot be provided at this time.

In addition, the WIPO guidelines identify several types of core activity that only appear within larger NAICS aggregates and could therefore not be reasonably estimated for this study. Potential activities that might fit fully or partly within core CB industries include:

- Computer and peripheral equipment manufacturing (3341);
- Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing (33422);
- Audio and Video Equipment Manufacturing (3343);
- Manufacturing and Reproducing Magnetic and Optical Media (3346);
- Packaging and Labeling Services (56191);
- Drinking Places (Alcoholic Beverages)(7224);
- Electronic and Precision Equipment Repair and Maintenance (81121);
- Photo Finishing Services (81292);
- Consumer Electronics and Appliance Rental (53221);
- Video Tape and Disc Rental (53223);
- Culture and arts support programs, federal (911910); and
- Office Machinery and Equipment Rental and Leasing (53242).

It should also be noted that the “establishment” approach to collecting NAICS data (i.e. does a particular establishment have an activity as its primary business?) means that there will be core CB activity that is not recorded because it is secondary to an establishment’s primary activities. Although this is true of both CB and non-CB activities that are secondary, a case could be made that the measurement of CB industries suffers disproportionately. This would be the case, for example, if faster growing industries (such as ICT) use and/or produce CB works more than other slower growing industries. While further research is required, it is arguable that copyright works or activities supporting them are more integral to the “Information” economy.

It is also possible that the above-noted phenomena and other factors lead to an underestimation of the contribution of non-core CB activities. As noted earlier, much of the relevant data on non-core activities is subsumed within various NAICS categories. To our knowledge, there has been no comprehensive or detailed examination of the extent to which non-core industries rely on or utilize CB works. In WIPO guideline terms, the partial copyright and non-dedicated support industries (e.g. telecommunications) might be particularly susceptible to an underestimation.

<sup>35</sup> As an example, we ask the question: is it possible that the wholesale and retail GDP activities of books, magazines and newspapers could be in the neighbourhood of 5% to 10% of overall publishing activities? The range seems plausible and is somewhat validated by (albeit) limited interview responses.

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## APPENDIX 1: Mapping of WIPO Categories to NAICS

---

### WIPO Categories with NAICS counterparts

#### 1. *Press and Literature*

- Authors, writers and translators
- Newspapers
- News and feature agencies
- Magazines/periodicals
- Book publishing
- Cards and maps
- Directories and other publishing materials
- Pre-press, printing and post-press of books, magazines, newspapers, advertising materials
- Wholesale and retail of press and literature (book stores and newsstands)
- Libraries

#### NAICS

These WIPO-identified services are most closely associated with the 511 NAICS category (publishing Industries). This sub-sector (511) comprises establishments primarily engaged in publishing newspapers, periodicals, books, databases, software and other works. These works are characterized by the intellectual creativity required in their development and are usually protected by copyright. Publishers distribute, or arrange for the distribution of copies of these works.

Publishing establishments may create the works in-house, or contract for, purchase, or compile works that were originally created by others. These works may be published in one or more formats including traditional print form, electronic and on-line. Publishers of "multimedia" products, such as interactive children's books, multimedia CD-ROM and digital video disk (DVD) reference books, and musical greeting cards are also included. Establishments in this sub-sector may print, reproduce or offer direct on-line access to the works themselves or they may arrange with others to carry out such functions.

#### 2. *Music, Theatrical Productions, Operas*

- Composers, lyricists, arrangers, choreographers, directors, performers and other personnel
- Printing and publishing of music
- Production/manufacturing of recorded music
- Wholesale and retail of recorded music
- Artistic and literary creation and interpretation
- Performances and allied agencies (booking, tickets)

#### NAICS

The primary NAICS category used for this WIPO grouping is 71 "Arts, Entertainment and Recreation". This sector (71) comprises establishments primarily engaged in operating facilities or providing services to meet the cultural, entertainment and recreational interests of their patrons. These establishments produce, promote or participate in live performances, events or exhibits intended for public viewing; provide the

artistic, creative and technical skills necessary for the production of artistic products and live performances; preserve and exhibit objects and sites of historical, cultural or educational interest; and operate facilities or provide services that enable patrons to participate in sports or recreational activities or pursue amusement, hobbies and leisure-time interests.

Sub-sectors in NAICS 71 that have been included and measured for this study are:

711 (Performing Arts, Spectator Sports and Related Industries) - This sub-sector comprises establishments primarily engaged in producing, or organizing and promoting, live presentations that involve the performances of actors and actresses, singers, dancers, musical groups and artists, athletes and other entertainers. This sub-sector also includes independent (free lance) entertainers and artists and the establishments that manage their careers. The classification recognizes four basic processes: producing events; organizing and promoting events; managing and representing entertainers; and providing the artistic, creative and technical skills necessary for the production of artistic products and live performances.

This sub-sector makes a clear distinction between performing arts companies and performing artists (independents). Although not unique to arts and entertainment, free-lancing is a particularly important phenomenon in this sub-sector; however, it is difficult to implement in the case of musical groups (companies) and artists, especially pop groups. These establishments tend to be more loosely organized and it can be difficult to distinguish companies from free lances. Therefore, this sub-sector includes one industry that covers both musical groups and musical artists.

Sub-aggregates at the four digit NAICS level include 7111 (Performing Arts Companies), 7113 (Promoters (Presenters) of Performing Arts, Sports and Similar Events), 7114 (Agents and Managers for Artists, Athletes, Entertainers and Other Public Figures), and 7115 (Independent Artists, Writers and Performers).

712 (Heritage Institutions) - This sub-sector comprises establishments primarily engaged in preserving and exhibiting objects, sites and natural wonders of historical, cultural and educational value.

### **3. Motion Picture and Video**

- Writers, directors, actors, etc.
- Motion picture and video production and distribution
- Motion picture exhibition
- Video rentals and sales including video-on-demand
- Allied services

#### **NAICS**

The primary NAICS used for this WIPO grouping is 512 Motion Picture and Sound Recording Industries. The most important difference between WIPO and our approach is the inclusion of sound recording that is necessary due to the manner in which data is reported.

This sub-sector (512) comprises establishments primarily engaged in producing and distributing video and audio recordings or providing related services, such as post-production services, exhibition services, and motion picture processing and developing services. Sound recording studios are also included and it should be noted that music publishers are measured within this sub-sector (and not within 511).



#### **4. Radio and Television**

- National radio and television broadcasting companies
- Other radio and television broadcasters
- Independent producers
- Cable television
- Satellite television
- Allied services

#### **NAICS**

The primary NAICS classification used for this WIPO category is 513 (Broadcasting and Telecommunications) from which the telecommunications portion has been excluded. It should be noted that NAICS 2002 has updated and this category provides a more detailed breakout, including 3-digit classifications for 513 Broadcasting (not including broadcast distributors), 516 Internet Publishers and broadcasters, 514 ISPs, Web Search Portals and Data Processing Services, and 519 Other Information Services (including news syndicates and libraries). These new groupings will be useful in future analysis.

#### **5. Photography, Visual and Graphic Arts and Professional and Technical Services (which combines 2 WIPO categories)**

- Studios and commercial photography
- Photo agencies and libraries (photo-finishing labs not included)
- Artists
- Art galleries and other wholesale and retail
- Picture framing and other allied services
- Graphic design

#### **NAICS**

The primary NAICS categories used for this WIPO grouping are drawn from 54 Professional, Scientific and Technical services. NAICS 5419 (Other Professional, Scientific and Technical Services) contains 54192 (Photographic services) as well as other copyright-related activities. 5415 contains graphic design services. Do to data aggregation, NAICS 7115 (Independent artists, writers and performers) is included in Theatrical and Music.

#### **6. Software and Databases**

- Programming, development and design
- Manufacturing, wholesale and retail prepackaged software (business programs, video games, educational programs)
- Data base processing and publishing

#### **NAICS**

NAICS 514 is information services and data processing (5141 data processing services) and NAICS 5415 is computer systems design and related. Video games and related is found in NAICS 5112 (software publishers) and can not be separated out from other services covered in the WIPO Press and Literature category.

## **7. Advertising Services**

- Agencies, buying services

### **NAICS**

Advertising is part of 5418 and is estimated as a portion of the Professional, Scientific and Technical Services (54).

## **8. Copyright Collective Management Societies**

- Only includes salaries of those administering the collection of fees

### **NAICS**

There does appear to be a separate NAICS category related to collective societies. However, NAICS 813910 contains business associations (although collectives are not listed as examples). For this study, Statistics Canada data was not available.

## APPENDIX 2: Listing of NAICS Categories Used in Study

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### COPYRIGHT INDUSTRIES LIST BY NAICS 1997 CODE

#### **51 Information and Cultural Industries**

- 511 Publishing
  - 5111 Newspaper, Periodical and Book Publishing
  - 5112 Software Publishers
- 512 Motion Picture and Sound Recoding Industries
  - 5121 Motion Picture and Video
  - 5122 Sound Recording Industries
- 513 Broadcasting and Telecommunications
  - 5131 Radio and Television Broadcasting
  - 5132 Pay, Specialty Television and Program Distribution
- 514 Information Services and Data Processing
  - 5141 Information Services
  - 5142 Data Processing Services

## **54 Professional, Scientific and Technical Services**

- 5413 Architectural, Engineering and Related Services
- 5414 Specialized Design Services
- 54143 Graphic Design Services
- 5415 Computer Systems Design and Related Services
- 5416 Management, Scientific and Technical Consulting Services
- 5418 Advertising and Related Services
- 5419 Other Professional, Scientific and Technical Services (including Photography and translation)

## **71 Arts, Entertainment and Recreation**

- 711 Performing Arts, Spectator Sports and Related Industries
- 7111 Performing Arts Companies
- 7113 Promoters
- 7114 Agents and Managers
- 7115 Independent artists, Writers and Performers
- 712 Heritage Institutions



## APPENDIX 3: Data Definitions

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### ***Gross Domestic Product (GDP)***

**Canadian GDP:** At basic prices (1997), by North American Industry Classification System (NAICS), all industries. Data from 1991 to 2002 in millions of Constant 1997 dollars and from 1997 to 2002 in millions of Chained 1997 dollars.

**Copyright-Based Industries GDP:** At basic prices (1997), by North American Industry Classification System (NAICS). Data from 1991 to 2002 in millions of Constant 1997 dollars and data from 1997 to 2002 in millions of Chained 1997 dollars.

### ***Employment***

**Canadian Employment:** Seasonally adjusted, for all employees for selected industries classified using the North American Industry Classification System (NAICS). Industrial aggregate excluding unclassified. Data from 1991 to 2002 in thousands of persons.

**Copyright-Based Industries Employment:** Labour Force Survey, sum of frequency count of employed at work and employed absent from work. Data from 1991 to 2002 in thousands of persons.

### ***Exports***

**Canadian Exports:** Canadian Trade Balance, total for all industries. Data from 1996 to 2002 in millions of dollars.

**Domestic Exports (Copyright-Based Industries Exports):** Value of international trade in culture goods. Domestic exports are exports of goods that are mass-produced or original works that originate in Canada. They are equal to total exports less re-exports. Data from 1996 to 2002 in thousands of Canadian dollars.

### ***Imports***

**Canadian Imports:** Canadian Trade Balance, total for all industries. Data from 1996 to 2002 in millions of dollars.

**Retained Imports (Copyright-Based Industries Imports):** Value of international trade in culture goods. Retained imports are imports of goods that are mass-produced or original works that originate outside of Canada. They are equal to total imports less re-exports. Data from 1996 to 2002 in thousands of Canadian dollars.

## APPENDIX 4: List of Surveyed Agencies

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Access Copyright

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Alliance de la vidéo et du cinéma indépendants

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### **Alliance Numerique**

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Alliance of Canadian Cinema, Television & Radio Artists

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Association des producteurs de films et de télévision du Québec

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Association for Media and Technology in Education in Canada

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Association for the Export of Canadian Books

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Association littéraire et artistique internationale, section Canada

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### **Association of Canadian Advertisers**

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Association of Canadian Publishers

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### **Association pour l'avancement des sciences et des techniques de la documentation**

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Association québécoise de l'industrie du disque, du spectacle et de la vidéo

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Book Promoters Association of Canada

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Book Publishers' Professional Association

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Bureau of Canadian Archivists

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### **Canadian Artists' Representation**

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Canadian Arts Presenting Association

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Canadian Association of Broadcasters

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Canadian Association of Music Libraries, Archives & Documentation Centres Inc.

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Canadian Association of Research Libraries

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### **Canadian Associations of Photographers and Illustrators in Communications**

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Canadian Bookbinders & Book Artists Guild

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Canadian Booksellers Association

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Canadian Broadcasting Corporation

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### **Canadian Cable Television Association**

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Canadian Copyright Institute

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Canadian Film & Television Production Association

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Canadian Independent Record Production Association

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Canadian Interactive Digital Software Association

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**Canadian Library Association**

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Canadian Magazine Publishers Association

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Canadian Motion Picture Distributors Association

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**Canadian Museums Association**

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Canadian Music Publishers Association

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Canadian Musical Reproduction Rights Agency

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Canadian Newspaper Association

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Canadian Photographers Coalition

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Canadian Private Copying Collective

---

Canadian Publishers' Council

---

**Canadian Recording Industry Association**

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**Canadian Retransmission Collective**

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Canadian Society of Cinematographers

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Copyright Board of Canada

---

Creators' Right Alliance

---

Directors Guild of Canada and Directors Rights Collective of Canada

---

Droit d'auteur multimédia Internet copyright

---

Federation of Canadian Artists

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**Gulliver's Quality Books**

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Intellectual Property Institute of Canada

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Interactive Multimedia Arts & Technologies Association

---

Music Industries Association of Canada

---

National Broadcast Reading Service Inc.

---

Ontario Association of Architects

---

Ontario Library Association

---

**Periodical Writers Association of Canada**

---

**Professional Photographers of Canada**

---

Promotional Products Association of Canada Inc.

---

Radio-Television News Directors Association

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**Regroupement des artistes en arts visuels**

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Société du droit de reproduction des auteurs, compositeurs et éditeurs au Canada

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Société professionnelle des auteurs et des compositeurs du Québec

---

Société québécoise de gestion collective des droits de reproduction

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Society of Composers, Authors & Music Publishers of Canada

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**Writers Guild of Canada**

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## APPENDIX 5: Electronic Questionnaire

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### **Introductory Notes**

The purpose of this questionnaire is to gather contextual information from copyright-dependent industries. The target group is various federal (or provincial) Associations. By using a standard questionnaire, the responses can be compared and summarized more readily. The responses should be brief enough to only require 15-20 minutes of the respondent's time. It should be addressed to the Association's President or a Senior Official.

The content will concern key impact factors in the recent past (i.e. previous decade), in the current environment and looking 3 to 5 years out.

### OUTLINE

#### **1. Last Decade**

1.1 Please rank the following factors in order of importance in shaping the financial health of your industry over the last decade (where "1" is most important):

Technological change	
Global competition	
Access to Financing	
Government regulation and policy	
Access to skilled labour	
Other(s) (please identify)	

1.2 What has been the most significant change in the way your industry conducts its business over the last decade?

## **2. Current Environment**

2.1 What is the most significant change(s) facing your industry today?

2.2 What is your industry's greatest strength (compared to similar products or services provided in other countries)?

## **3. Looking Ahead**

3.1 Do you believe your industry will grow by at least 3% per annum over the next 3 to 5 years (in real terms)?

3.2 Over the next 3 to 5 years, what is the greatest challenge facing your industry?

3.3 Is significant consolidation likely to occur in the next 5 years? If so, will it be domestic or international in nature?

## APPENDIX 6: List of Interview Subjects

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### List of persons interviewed or consulted for the study

- Ron Bourgeois (Recording and Performing Musician, Halifax)
- Brookes Diamond (Brookes Diamond Productions, Halifax)
- Ann McKenzie (Nova Scotia Film Development Corporation, Halifax))
- Gilles Bertrand (Alliance NumériQC, Montréal)
- Melanie Alder (APFTQ, Montreal)
- John Pelletier (Association of Canadian Publishers, Toronto)
- Ross Reynolds (Canadian Association of Recording Artists, Toronto)
- Anne Kothawala (Canadian Newspaper Association, Toronto)
- Brian Chater (Canadian Independent Record and Producers Association, Toronto)
- Brian Robertson (Canadian Recording Industry Association, Toronto)
- Jim Everson (Canadian Magazine Publishers Association, Toronto)
- Sam Punnett (FAD Research, Toronto)
- Wayne Charman (Canadian Association of Broadcasters, Ottawa)
- Gilles McDougall (Copyright Board of Canada)
- Rob Eglan (BC Film, Vancouver)
- Scott McIntyre (Douglas & McIntyre, Vancouver)
- Ted Roberts (Arts Club Theater, Vancouver)
- Marc Lafrance (FACTOR, Vancouver)
- Neil Haggquist (BCCFTPA, Vancouver)
- Tom Rowe (Tide Pool Pictures, Vancouver)

## APPENDIX 7: Trade in Film and Broadcasting

As noted by Statistics Canada, the trade figures do not include services. This appears to significantly underestimate trade activity for the film and television sub-sector.

The CFTPA puts out an annual profile of the Canadian film and television production industry. The most recent profile estimates that in 2002/03 the industry produced \$2.37 billion in export value<sup>36</sup>. The largest portion of film and television production export value is derived from Canadian location shooting by foreign producers (i.e. \$1.9 billion in 2002/03).

The following Table provides film and television production export value for the period 94/95 to 02/03:

### Export Value of Canadian Film and Television Production (Nominal \$ billions)

	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03
Value	.68	.82	1.4	1.4	2.0	2.4	2.6	2.4	2.4
Annual Growth		21%	71%	0%	43%	20%	8%	- 8%	0%

Source: Profile 2004, CFTPA, APTFTQ, NGL

A second area of interest is in the broadcast area. Trade figures for the cultural industries do not include any estimates of program expenditures for foreign programs. The CRTC reports that in 2002 Canadian conventional television broadcasters spent \$499 million on non-Canadian programs. Pay and Specialty providers spent an estimated additional \$275 million.

### Non-Canadian Program Expenditures by Conventional, Pay and Specialty (Nominal \$, millions)

	Conventional TV	Pay and Specialty
2002	\$499	\$275
2001	\$466	\$229
2000	\$434	\$161

Source: CRTC Statistical and Financial Summaries, various years

<sup>36</sup> The term "Export Value" has been developed by NGL as opposed to "export" to better reflects the nature of film and television production in Canada. It acknowledges that film and television productions are intangible products and portions of the copyright can be exported to foreign countries (e.g. broadcast rights for other countries). Second, this indicator accounts for the budgets of productions shot in Canada, even when the copyright is held by a foreign entity (e.g. when a U.S. studio shoots a feature film in Canada).



## APPENDIX 8: The Valuation of Rights and Royalties

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(Sourced from Arts, culture and recreation – Research papers “Culture goods trade estimates: Methodology, technical notes and user guide 2003” prepared by Jamie Carson, Statistics Canada)

Culture services (as opposed to products), which are intangible products such as performances and broadcasts, are not included in these estimates.

There are frequently difficulties surrounding the valuation of software in measuring trade -- such as the delineation between the "goods" and the "services/rights" portion of a software diskette.<sup>i</sup> Similar issues exist for culture goods.

The Customs Act defines "information-based" products as information in one form or another (including sound and image recordings) together with the physical medium on which that information is carried.<sup>ii</sup> For trades of these products, the assessed value of the product consists of:

- (a) An amount for the physical medium and the cost of transcribing the information onto the physical medium (i.e. the medium processed or containing information); and
- (b) An amount for the information contained on the physical medium or rights for use thereof (usually referred to as a royalty, copyright, licence fee, etc.).

For example, a television commercial is made in a foreign country for broadcasting in Canada. The foreign supplier sells it to a party in Canada who acquires ownership of and exclusive rights to the commercial. The value for duty of the commercial is equal to the price paid or payable by the party for the physical product and the rights associated with that product.

This principle of valuation is also applicable where a party in Canada makes a television commercial in a foreign country for broadcast in Canada. Value for duty must take into account the total production costs incurred by the agency to produce the commercial in the foreign country. Production costs would include elements such as talent fees, travel, production facilities, etc.

Information-based products may be acquired free of charge or by a consideration being paid for the right to use the information on the physical medium. In these circumstances, value for duty is determined under the residual basis of appraisal method (section 53 of the Customs Act) on the basis of the value of the processed physical medium (containing the information).

As an example of this method of valuation, if a pre-recorded tape is acquired free of charge for reference or broadcasting purposes, then value for duty is the value of the medium plus the cost of transcribing the information onto the medium. Similarly, where a radio commercial is imported and payment is made only for the right to broadcast the commercial, value for duty is equal to the value of the processed physical medium (containing the information).

Similarly, royalties or licence fees paid for the right to reproduce a master in Canada are not included in Customs valuations. The right to reproduce refers not only to the physical reproduction of imported goods but also to the right to reproduce a creation, thought, or idea incorporated in, or reflected by, the imported goods. An example would be the importation of a master recording, containing various musical selections, for the purpose of producing compact discs in Canada. The royalties or licence fees payable in respect of the compact discs subsequently produced and sold in Canada would not be added to the price paid or payable for the master recording.

For mass-produced goods, such as compact discs or books, where a royalty is payable to the copyright holder when a final sale is made (typically as a percentage of the selling price as a contractual condition of sale), the value of the royalty is to be added to the valuation of the good if it is not already included.<sup>iii</sup> In cases where the royalty or licence fee is not tied to the sale of the specific shipment of goods, as in the payment of a franchise or similar fee for the right to distribute or resell goods within a geographical boundary, then the payment is not added to the value of the goods themselves.<sup>iv</sup>

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<sup>i</sup>For a discussion, see page 46 of "Canada's Balance of International Payments and International Investment Position: Concepts, Sources, Methods and Products".

<sup>ii</sup>Customs memorandum D13-11-2 - Value for duty of certain information-based products (Customs Act, Sections 48 to 53), Ottawa, April 12, 2001.

<sup>iii</sup>CCRA allows for these royalty amounts to be estimated and reported separately from the shipping documents for some importers. This reporting procedure could negatively affect data quality of these estimates.

<sup>iv</sup>Customs memorandum D13-4-9 - Royalties and licence fees (Customs Act, Section 48), Ottawa, March 28, 2001.



# The Economic Contribution of Copyright-Based Industries in USA

THE 2004 REPORT

Copyright Industries in the U.S. Economy: The 2004 Report updates and supplements nine previous reports produced by Economists Incorporated for the International Intellectual Property Alliance:

Siwek and Furchgott-Roth, *Copyright Industries in the U.S. Economy* (released in November 1990)

Siwek and Furchgott-Roth, *Copyright Industries in the U.S. Economy: 1977–1990* (released in September 1992)

Siwek and Furchgott-Roth, *Copyright Industries in the U.S. Economy: 1993 Perspective* (released in October 1993)

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Siwek, *Copyright Industries in the U.S. Economy: The 2002 Report* (released in April 2002)

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EI's research associates, Jessica Langsam and Lily Chou, performed much of the underlying research and computer work that was used throughout this 2004 report.

## Foreword

### **From Eric H. Smith, President International Intellectual Property Alliance**

The U.S. copyright based industries continue to be one of America's largest and fastest-growing economic assets. The International Intellectual Property Alliance (IIPA) is a private sector coalition of six trade associations with over 1,300 U.S. company members producing and distributing materials protected by copyright laws throughout the world—all types of computer software including business applications software and entertainment software (such as videogame CDs and cartridges, personal computer CD-ROMs and multimedia products); theatrical films, television programs, home videos and digital representations of audiovisual works; music, records, CDs, and audiocassettes; and textbooks, tradebooks, reference and professional publications and journals (in both electronic and print media). For the past 20 years (1984-2004), IIPA and its members have been working to improve the copyright law and enforcement systems in countries around the world in order to deter piracy, strengthen legal foundations, foster technological and cultural development, and encourage local investment and employment.

In 1990, IIPA commissioned Economists Incorporated to conduct a report measuring the economic impact and trade role of these copyright industries in the U.S. economy. That report turned out to be the first in the world to undertake such an economic analysis, and we are proud to see that more than a dozen studies in other nations have been published since then.

This 2004 report, the tenth produced since 1990 by the IIPA in collaboration with Economists Incorporated, represents another milestone—the first report done worldwide which follows the new definitions and guidelines in the 2003 research study published by the World Intellectual Property Organization (WIPO), *Guide on Surveying the Economic Contribution of the Copyright-Based Industries*. As a result, this new IIPA report reflects the WIPO methodology, much of which

incorporates the prior work done by Economists Incorporated in the IIPA studies. For example, the “core” industries are those copyright-related industries whose primary purpose is to produce and/or distribute copyright materials; the “total” copyright industries contain four sub-sectors now called the core, partial, non-dedicated support, and interdependent sectors. Because of the more expansive WIPO methodology, the data in our 2004 report is not easily compared to data found in prior IIPA's reports. Nevertheless, our 2004 report continues to show the strength and importance of the U.S. copyright industries to U.S. job and revenue growth and international trade:

- ① In 2002, the U.S. “core” copyright industries accounted for an estimated 6% of the U.S. gross domestic product (\$626.6 billion).
- ② In 2002, the U.S. “total” copyright industries accounted for an estimated 12% of the U.S. gross domestic product (\$1.25 trillion).
- ③ The “core” copyright industries employed 4% of U.S. workers in 2002 (5.48 million workers).
- ④ The “total” copyright industries employed 8.41% of U.S. workers in 2002 (11.47 million workers). This level approaches the total employment levels of the entire health care and social assistance sector (15.3 million) and the entire U.S. manufacturing sector (14.5 million in 21 manufacturing industries).
- ⑤ Between 1997-2001, the core copyright industries grew at an annual growth rate of 3.19% per year, a rate more than double the annual employment rate (1.39%) achieved by the economy as a whole. Factoring out the difficult economic year of 2002, between 1997-2001 the core copyright industries' employment grew at an annual growth rate of 3.19% per year, a rate more than double the annual employment rate achieved by the U.S. economy as a whole (1.39%).
- ⑥ In 2002, the U.S. copyright industries achieved foreign sales and exports estimated at \$89.26 billion, leading other major industry sectors such as: chemicals and related products, food and live animals, motor vehicles, parts, and accessories, and aircraft and associated equipment sectors.

Over the years, these studies have continually demonstrated that the creation of knowledge-intensive intellectual property-based goods and services is critical to the continued economic growth of this country. As e-commerce develops, we believe that this relative importance will grow as well. This will equally be true for our trading partners, both developed and developing.

As the digital revolution and the Internet have become more important, the challenge of piracy has grown commensurately. To safeguard—indeed nurture—this valuable economic resource, governments must be unrelenting in battling pirates on a global basis. Through good laws and effective and deterrent enforcement, this can be done and our industries will continue to grow.

## Executive Summary

This report, *Copyright Industries in the U.S. Economy: The 2004 Report*, completed by Economists Incorporated, updates and supplements nine earlier reports prepared for the International Intellectual Property Alliance ("IIPA"). This tenth report presents estimates of the copyright industries' contribution to the U.S. economy through 2002, and demonstrates the continuing positive impact these industries have on the U.S. economy.

In comparison with previous IIPA reports, this 2004 study implements two new methodologies/measures. First, this report reflects data of the new industry classification system in North America (known as NAICS, the North American Industrial Classification Systems) generated and used by U.S. government agencies. Second, this IIPA report also implements the international standards and recommendations published in late 2003 by the World Intellectual Property Organization (WIPO) which develops recommended economic and statistical standards (using ISIC, the International Standard Industrial Classification code) to measure the impact of domestic copyright industries on local economies. To our knowledge, this report is the first economic study in the world to reflect fully the new WIPO standards.<sup>1</sup> Using these WIPO standards will facilitate more reliable and comprehensive in-country and cross-country data comparisons regarding the strength of copyright industries in local economies.

The 2002 data in this study quantify the size and critical importance of the copyright industries to the

U.S. economy, using the most current data available. As in prior studies, the U.S. copyright industries' contribution to the U.S. economy is measured by three economic indicators: (1) value-added to the U.S. gross domestic product (GDP); (2) share of national employment; and (3) revenues generated from foreign sales and exports. Using new methodological changes generally acted to *increase* the number of industries that were analyzed but to *reduce* the growth rates achieved by the copyright industries in the aggregate. These offsetting trends tended to affect the "total"<sup>2</sup> copyright industries more than the "core"<sup>3</sup> copyright industries.

### Contribution to the U.S. Economy/ Value-Added to GDP, 2002

As shown in Table 1, the "value-added" to the U.S. economy by the core copyright industries reached \$626.2 billion or 6% of the U.S. economy in 2002. In the same year, the value added by the total copyright industries was \$1,254 billion or 12% of the U.S. economy.

**TABLE 1: 2002 Value Added (billions of U.S. 2002 dollars)**

Core Copyright Industries	Total U.S. GDP	Core Share of U.S. GDP
\$626.2	\$10,480.8	5.98%

Total Copyright Industries	Total U.S. GDP	Total Share of U.S. GDP
\$1,254.0	\$10,480.8	11.97%

<sup>1</sup>The author of this report, Stephen E. Siwek, participated as an expert at the meeting of the "Working Group of Experts of the Preparation of a WIPO Handbook on Survey Guidelines for Assessing the Economic Impact of Copyright and Related Rights," which was co-sponsored by WIPO and held in Helsinki, Finland, in July 2002. That meeting launched the process that resulted in WIPO's 2003 publication of its Guide on Surveying the Economic Contribution of the Copyright-Based Industries which includes the recommendations and standards used in this 2004 report on the U.S. copyright industries.

<sup>2</sup>The definition of the "total" industries has been expanded to reflect the WIPO definition which is broader than the definition used by Economists Incorporated in the prior nine reports for IIPA. Four subsectors still comprise the "total" categorization, and these are called core, partial, non-dedicated support, and interdependent sectors.

<sup>3</sup>Similarly, the definition of the "core" industries also has been expanded to reflect the WIPO definition. For this 2004 report, the "core" industries are those industries whose primary purpose is to produce or distribute copyright materials. These industries include newspapers, book publishing, recording, music, and periodicals, motion pictures, radio and television broadcasting, and computer software (including business application and entertainment software). Industries that are now included in the new "core" definition which were not present in prior studies include, for example, book stores, news dealers and newsstands, and commercial photography operations.



**TABLE 2: Real Annual Growth Rates Value Added to U.S. GDP**

	1997-01	1997-02
Core Copyright Industries	3.48%	3.51%
Total Copyright Industries NAICS + ISIC	0.68%	1.00%
Total Copyright Industries NAICS Only	2.07%	2.22%
U.S. GDP (economy as a whole)	2.47%	2.40%

**TABLE 3: 2002 Comparison to Other Sectors**

	Value Added (billions)	Employment (thousands)
Core Copyright	\$626.2	5,484
Total Copyright	\$1,254.0	11,476
<b>Other Sectors</b>		
Federal Government	\$648.0	
Total State and Local	\$1,189.1	
Construction		6,943
Health Care and Social Assistance		15,347
Manufacturing		14,543
Retail Trade		15,025
Leisure and Hospitality		11,986

The 2002 share of U.S. GDP achieved by the core copyright industries (6%) exceeds the 2001 core copyright share of 5.24% that was presented in our last study for the IIPA—an annual increase of almost 13%. However, the 2002 share of U.S. GDP achieved by the total copyright industries (12%) represents an increase of more than 54% in comparison to the total copyright industry share of 7.75% that we previously reported for 2001. This significant increase in the total copyright industries' share of GDP is due to both an increase in the core industries as well as the larger group of industries identified in the total copyright sector under the new methodology.

While the methodological changes that have been adopted in this report serve to increase the size of both the core and particularly the total copyright industries, these changes also tend to reduce the annual growth rates for the copyright industries over time. In Table 2, we report real annual growth rates for the copyright industries and for the U.S. economy as a whole since 1997.<sup>4</sup> The real growth rate of the core copyright industries' value added over the period 1997 through 2002 was 3.51% annually. Nevertheless, this growth rate in the core copyright industries exceeded the real annual growth rate for U.S. GDP for the same period (2.40%) by 46.3%.

However, the real growth rate for the total copyright industries for the period 1997 through 2002 was only 1.00% (using the NAICS+ISIC formulation, as seen in the right column of Table 2). This relatively low growth rate reflects, among other things, the consequences of including, within the total copyright industries, new sectors that generally experienced slower growth rates. The inclusion of these new industries in the revised definition of the total copyright industries was one important cause of the relative decline in total copyright industry growth rate in the 1997-2002 period.<sup>5</sup>

We report the real growth rates in value added also achieved by the copyright industries and the U.S. economy for the period 1997-2001 (see the left column of Table 2). The core copyright industries' growth in value added for that period (3.48%) continued to exceed the real growth in the economy as a whole (2.47%) while the total copyright industries (2.07%) lagged behind.

To put these figures in perspective, the total expenditures and investments of the entire federal government (defense and non-defense combined) in 2002 was \$648 billion, a figure approximately equal to the value added to the U.S. economy by

<sup>4</sup>Prior Economists Incorporated studies for the IIPA included data comparisons as far back as 1977. Because of the methodological changes used in this report, such comparisons to old data would not be accurate, and as a result, data comparisons have been shortened to 1997-2002.

<sup>5</sup>In order to assess the importance of these changes, we also estimate growth rates for the total copyright industries that reflect the new industry classifications of the system, but do not incorporate the copyright industry definitions recommended by WIPO. These alternative growth rates are shown in Table 2 under the heading, "NAICS Only." As shown in Table 2, the annual growth rate in the value added achieved by the total copyright industries, as previously defined, was 2.22% for the period 1997 through 2002. This rate of growth is more than 100% higher than the total copyright industry growth rate, as now defined under the WIPO methodology.

the core copyright industries (see Table 3). That same year, the total expenditures and investments of all state and local governments in the United States was \$ 1.189 trillion, an amount that is approximately 5% less than the value added by the total copyright industries. Additional comparisons of the copyright industry's value added to other sectors of the U.S. economy are also provided in Table 3. These comparisons clearly document the size and importance of the copyright industries today. Since the comparisons reflect data for 2002—a generally slow year for the copyright industries in aggregate—they actually understate the true importance of the copyright industries in 2004 and beyond.

### Copyright Industry Employment, 2002

In our *Copyright Industries in the U.S. Economy: The 2002 Report*, we estimated the core copyright employment in 2001 at 4,711,200 people or 3.49% of the U.S. workforce. Using the new methodology, we now report that the core copyright industries employ 5,484,000 people or 4.02% of U.S. workers for 2002<sup>6</sup> (see Table 4). This latter total is roughly comparable to the total of 6.9 million paid workers who were employed in the U.S. construction industry in 2002.

With respect to the total copyright industries, we estimated 2001 employment of 7,972,000 workers or 5.9% of the U.S. workforce, in our prior report. In 2002, the total copyright industries employed 11,476,000 workers or 8.41% of total employment in the U.S., using the new methodology. The size of the total copyright industry workforce (almost 11.5 million workers in 2002) is now beginning to approach the total employment levels of the entire U.S. health care and social assistance sector (15.3 million employees) and even the entire U.S. manufacturing sector (14.5 million workers in 21 manufacturing industries). Additional comparisons of the copyright industry's employment levels with other industries are shown in Table 3.

As shown in Table 5, we also estimated real annual growth rates in copyright employment since 1997. For the period 1997 to 2002, the core copyright

**TABLE 4: 2002 Employment (in thousands)**

Core Copyright Industries	Total U.S. Employment	Core Share of U.S.
5,484	136,485	4.02%

Total Copyright Industries	Total U.S. Employment	Total Share of U.S.
11,476	136,485	8.41%

**TABLE 5: Real Annual Growth Rates: Employment**

	1997-01	1997-02
Core Copyright Industries	3.19%	1.33%
Total Copyright Industries NAICS + ISIC	1.97%	0.34%
Total Copyright Industries NAICS Only	2.25%	0.66%
U.S. Economy	1.39%	1.05%

industries added workers at an annual rate of 1.33%. This rate of growth exceeded the annual employment growth rate achieved by the economy as a whole (1.05%) by 27%.

In contrast, the employment growth rate for the total copyright industries for the period 1997 through 2002 was only 0.34% (using the conversion to NAICS plus ISIC formulation). In Table 5, we provide alternative calculations of the employment growth rates achieved by the total copyright industries if one were to ignore the revised total copyright industry definitions recommended by WIPO. Using the NAICS only method, the growth rate in the total copyright industries nearly doubles from 0.34% to 0.66% per year.

Poor economic conditions in the overall U.S. economy, particularly in 2002, also appear to have hurt the growth of the total copyright industries. We sought to quantify the extent to which these conditions may have affected the growth rates achieved by the U.S. copyright industries in this time frame. For both value added and employment, we sought to isolate the effects of 2002 by considering real annual growth rates for the period 1997 to 2001. In the left column of Table 5, we

<sup>6</sup>Note that the total number of U.S. workers in 2000, 2001 and 2002 used in our previous studies have all been revised upward by the Bureau of Labor Statistics to reflect changes in population controls made as a result of information gathered in the 2000 census. The revised data generally show 1 to 2 million more U.S. civilian workers overall than reported previously. See Table A4 in Appendix A.

**TABLE 6:** Annual Growth Rate of Foreign Sales & Exports

Year	1991	1996	1997	1998	1999	2000	2001	2002
Growth Rate	6.4%	13.3%	11.1%	2.9%	14.5%	8.3%	3.4%	1.1%

report annual growth rates in employment that exclude 2002, a year of painfully slow growth for all industries. Under this measure, we observe that over the period 1997 to 2001, the annual growth rate for the core copyright industries was 3.19% per year, a growth rate more than 130% higher than the annual employment growth rate of 1.39% that was achieved by the economy as a whole. In the same period (1997-2001), we also observe that the total copyright industries achieved an annual employment growth rate (1.97%) that exceeded the growth rate for the U.S. economy by 42%. Under our previous definitions (NAICS Only), the annual growth rate in total copyright employment for the period 1997-2001 was 2.25% per year, well above the growth rate achieved by the U.S. economy in the same period.

### Foreign Sales and Exports, 2002

Our revised and updated estimates for foreign sales and exports of the core copyright industries also reflect the impact of poor economic conditions in 2001 and 2002. The recording, music, music publishing, periodicals, books, and newspapers segments and the software industry experienced declines in their foreign sales revenue in 2002. Only the motion picture sector saw an increase in 2002, reaching \$17 billion in foreign sales revenue.

Overall, total revenue generated from foreign sales of the core copyright industries is estimated to be at least \$89.26 billion in 2002, which is still a 1.1%

**TABLE 7:** Foreign Sales/Exports for Selected Industries 2001 and 2002 (*in billions of dollars*)

INDUSTRY	FOREIGN SALES/EXPORTS	
	2001	2002
<b>Selected Core Copyright Industries</b>	<b>\$88.28</b>	<b>\$89.26</b>
Chemicals and Related Products	\$82.32	\$83.59
Food and Live Animals	\$41.17	\$40.30
Motor Vehicles, Parts, and Accessories	\$47.53	\$50.36
Aircraft and Associated Equipment	\$44.69	\$43.88

growth from the \$88.28 billion in 2001 (see Table 6). Furthermore, the core copyright industries' foreign sales and exports are still larger than the U.S. Commerce Department's International Trade Administration's export estimates of several other major industry sectors (see Table 7). For 2002, these core copyright industries exceeded the chemicals and related products, food and live animals, motor vehicles, parts, and accessories, and aircraft and associated equipment sectors.

Despite the slow growth in 2002, recent reports project positive revenue growth for the copyright industries in 2004 and forward. Nielson SoundScan and PricewaterhouseCoopers both predict growth for the recording and music industry as legitimate digital music sales increase. The International Data Corp also recognizes that 2004 will see increased growth for the software industry. These reports all suggest that the decline in 2002 was a temporary downturn (following at least 25 years of steady growth for the copyright industries, exceeding that of the rest of the U.S. economy) and a positive outlook for foreign sales revenues for the core copyright industries in 2004 will occur.

## I. Introduction

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This report, *Copyright Industries in the U.S. Economy: The 2004 Report*, is the tenth in a series issued over the last fourteen years by Economists Incorporated on behalf of the International Intellectual Property Alliance (IIPA). This latest report confirms, once again, that the U.S. copyright industries have outpaced the rest of the economy in growth of contribution to gross domestic product and in growth of jobs.

The U.S. copyright industries, and in particular, the “core” copyright industries, continued to outperform the U.S. economy. Between 1997-2002, they generated higher growth rates in both value added and employment.

As in previous reports, this study is presented in five sections:

- ① The scope and definitions of the copyright industries
- ② Value added by the copyright industries to the U.S. economy
- ③ Employment in the copyright industries in the U.S. economy
- ④ U.S. copyrighted materials in the world market
- ⑤ Conclusion

Appendix A presents data tables detailing the results of the conversion between the two classification systems—from the North American Industrial Classification System (NAICS) to the International Standard Industrial Classification (ISIC), the formulation used by the World Intellectual Property Organization (WIPO).

Appendix B summarizes the new methodological recommendations created by WIPO for economic studies on copyright industries’ contributions to local economies. Appendix C provides lists of the ISIC codes used in this report as well as their corresponding NAICS codes. It also shows the industries used in the NAICS-only conversions. Appendix D is the list of references used in this report.





## II. The Copyright Industries: New Industry Classifications

When our previous study, *Copyright Industries in the U.S. Economy: The 2002 Report*, was released, the United States government was still in the process of converting its industrial reporting statistics from the Standard Industrial Classification (SIC) system to the North American Industrial Classification System (NAICS). At that time, the U.S. Bureau of Labor Statistics had not released data under the new system, and as a result, our 2002 report relied on SIC categories to define the copyright industries. Since our 2002 report was published, the U.S. government has completed their conversion process and therefore, this 2004 report uses 2002 NAICS data to define the copyright industries.

### NAICS

The North American Industrial Classification System is the product of a joint effort by the United States, Canada, and Mexico to create a common classification system by which direct comparisons could be made across North America. Unlike past revisions of the SIC system which merely incorporated new industries, NAICS reorganizes the entire process of defining industry categories. Whereas previously the SIC system was organized with a mix of production-based and market-based categories, under NAICS the industries are defined according to the type of production activities performed. NAICS, therefore, is a much more consistent system. The NAICS industries are more disaggregated and as a result, many industries that were previously incorporated into a more general SIC industry are separately recognized under NAICS. In our 2002 report, we could not include many large industries with copyright activities because it was not possible to accurately separate the copyright data from the aggregate industry. Using data organized according to NAICS in this report, we were able to identify many of these industries and include them in our analysis resulting in a more accurate measure of the copyright industries. One of the most important additions to NAICS is the introduction of the new information sector.

Information industries include newspaper, book and periodical publishers, software publishers, motion picture, and sound recording industries. There are 20 new industries included in the information sector, including paging, cellular and satellite telecommunication.<sup>7</sup>

In order to convert the SIC categories previously used to NAICS categories, we relied on concordances provided by the United States Census Bureau. After formulating a list of all the NAICS codes corresponding to SIC codes from the 2002 studies, we added NAICS codes for copyright industries that were not previously defined by the SIC system (for example, 5 1600— Internet Publishing & Broadcasting). A list of the NAICS industries included in this study can be found in Appendix C.

### ISIC and the WIPO Formulation

In addition to presenting the copyright industries in accordance with the NAICS categories, we show the copyright industries as defined by the World Intellectual Property Organization (WIPO). In its 2003 *Guide on Surveying the Economic Contribution of the Copyright-Based Industries*, WIPO defines the copyright industries according to the International Standard Industrial Classification (ISIC) code. WIPO's use of this classification provides an opportunity to have an international standard to compare the economic effect of copyright industries and copyright laws across countries. The creation of this international standard is an important step for the development of national copyright studies. Although we used the ISIC definitions to determine which industries to include in our report, we relied on the NAICS data supplied by the U.S. Bureau of Labor Statistics and the U.S. Census Bureau. To determine which NAICS codes corresponded with the ISIC codes, we consulted the U.S. Census concordance between 2002 NAICS and ISIC Rev 3.1. In some cases a NAICS code corresponded to more than one ISIC code and, in these cases, the employment and value added numbers were split among the multiple ISICs. A list of the ISIC codes included in this report and their corresponding NAICS codes can be found in Appendix C.

<sup>7</sup>See U.S. Census Bureau data at <http://www.census.gov/epcd/www/naicsect.htm>.

### The Four Copyright Industry Categories: WIPO Groupings Using ISIC

In all nine of our prior economic reports on the copyright industries, we divided the copyright industries into four groups: core, partial, distribution, and copyright-related; these are the sectors we developed and defined in our first report issued in 1990. In this 2004 report, we still use four categories, but in order to conform to the international standard, we relied upon the four copyright categories defined by WIPO: core, partial, non-dedicated support, and interdependent.

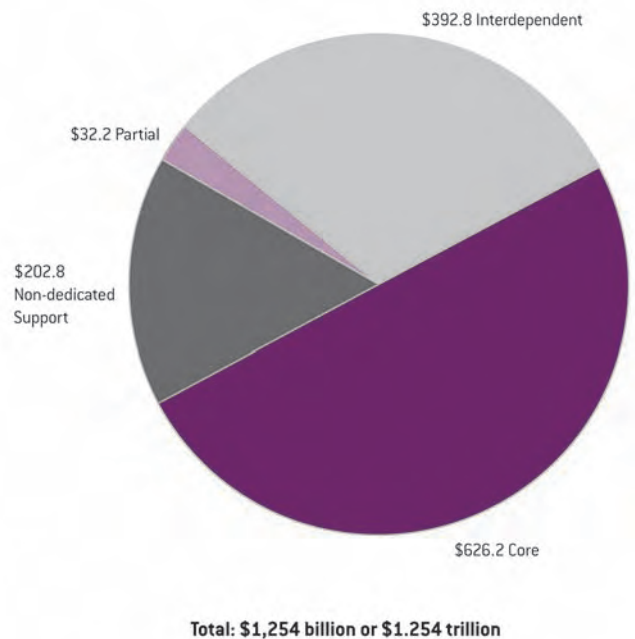
The core industries are those industries whose primary purpose is to produce or distribute copyright materials. These industries include book publishing, recording, music, newspapers and periodicals, motion pictures, radio and television broadcasting, and computer software (including business applications and entertainment software). Industries that are included in the core under the ISIC system that we did not include in the NAICS core include book stores, news dealers and newsstands, and commercial photography.

Partial copyright industries are industries that have some products that are copyrighted materials. These industries range from fabric to furniture to architecture. Some industries added into the ISIC system and not in the NAICS partial category are knitted and crocheted fabrics, carpets and rugs, and footwear. The third group, non-dedicated support industries, includes industries that distribute copyrighted materials to businesses and consumers. Examples here include transportation services, and wholesale and retail trade involved in the distribution of copyrighted products. WIPO also includes telecommunications in this category, an industry previously excluded from our report. The fourth group involves the interdependent industries, those that produce, manufacture, and sell

equipment whose function is primarily to facilitate the creation, production, or use of works of copyrighted matter. One difference in the ISIC system compared to the NAICS system is that ISIC includes manufacture of optical instruments and photographic equipment while NAICS does not.

We refer to the four groups together—core, partial, non-dedicated support, and interdependent— as the “total” copyright industries.

**Copyright Industries in the U.S. Economy, 2002**  
(value added in billions of dollars)



### III. Value added by the Copyright Industries

The most appropriate way to measure an industry's contribution to the national economy is to measure the industry's value added. Value added reflects the economic contribution of labor and capital of a particular industry. The sum of the value added of all industries in the United States is equal to gross domestic product (GDP), a standard measure of the size of the U.S. economy. For this reason, value added calculations can be used to draw comparisons of the relative size and growth rates of different industries in a way that is consistent with the federal government's national income and product accounting data. Unfortunately, for the majority of the industries considered in this study, updated value added figures are not available from the government sources. To estimate value added for this report, we applied input-output factors to the industry revenue figures provided by U.S. government sources.

We describe below the resulting data using both the NAICS data as well as ISIC data which tracks the WIPO recommendations.

#### NAICS-Only Results

As shown in Chart 1, estimated value added for the NAICS core copyright industries was \$402.1 billion in 1997, 4.84% of the United States Gross Domestic Product. In 2001 the estimated value added for core copyright industries was \$514.9 billion and 5.10% of the U.S. GDP. The real annual growth rate for the period from 1997-2001 is 3.79%, higher than the real annual growth rate for the U.S. GDP of 2.47%. In 2002, the estimated value added for the core industries was \$514.4 billion and 4.91% of the U.S. GDP. Although value for the core industries decreases slightly from 2001 to 2002, the real annual growth rate for 1997 to 2002 of 2.68% remains higher than the U.S. GDP growth rate of 2.40%.

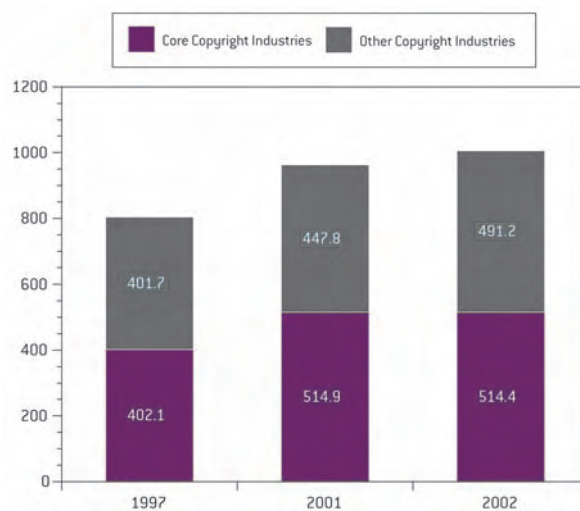
Total copyright industries increased both from 1997 to 2001 and from 2001 to 2002. Estimated value added for the NAICS copyright industries in 1997, 2001, and 2002 was \$803.8 million, \$962.7 million, and \$1,005.6 billion respectively.

#### ISIC Results (WIPO Formulation)

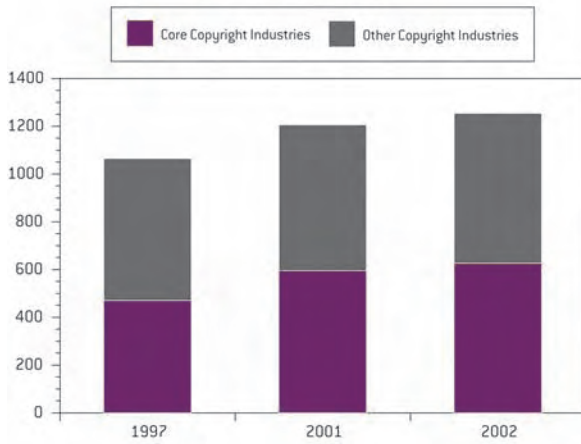
In Chart 2, the estimated value added for the ISIC core copyright industries was \$470.3 billion in 1997. In 2001 and 2002, value added increased to \$595 billion and \$626.2 billion, respectively. In addition to the increase in absolute terms, the core copyright industries have expanded their economic importance relative to the national economy. The share of the core copyright industries increased from 5.66% in 1997 to 5.89% in 2001 and 5.98% in 2002 (see Chart 3).

The real annual growth rate of the core copyright industries also outperformed the U.S. economy growth rate. From 1997-2001, the real annual growth rate of the core copyright industries was

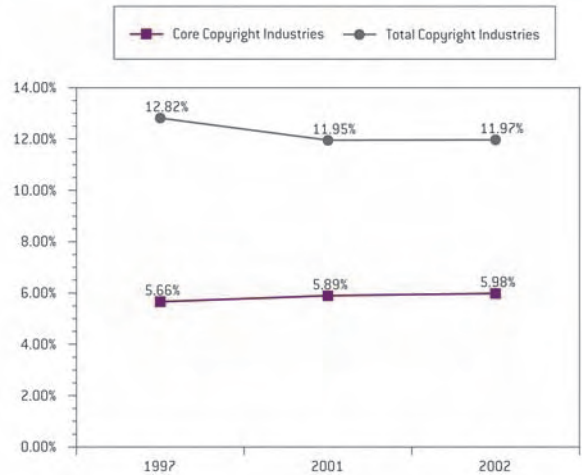
**Chart 1: Copyright Industries (NAICS Only)**  
Value Added Contribution to GDP  
(in billions of dollars)



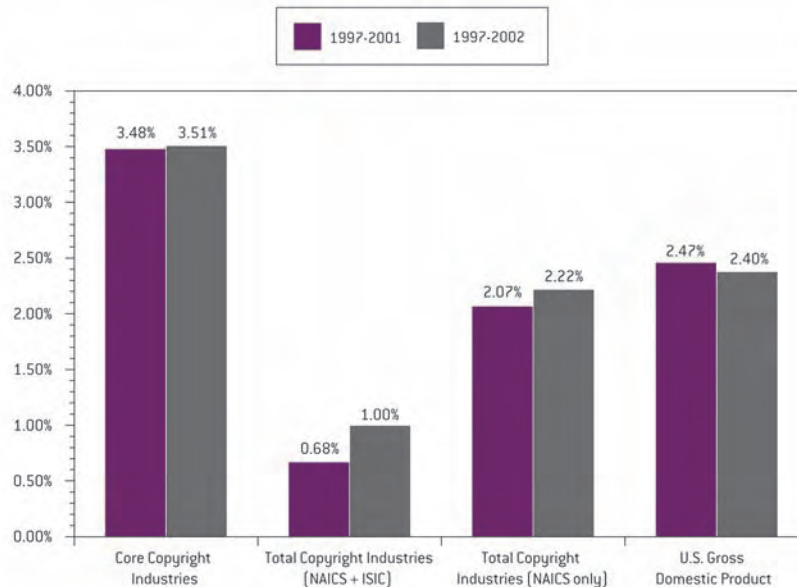
**Chart 4: Copyright Industries (ISIC) Value Added Contribution to GDP**  
(in billions of dollars)



**Chart 4: Copyright Industries: Value Added Contribution to GDP**  
(share of GDP)



**Chart 4: Copyright Industries Value Added Contribution to GDP**  
(real annual growth rate)



3.48% compared to the 2.47% growth rate for the overall economy. In the 1997-2002 period, the annual growth rate of the core copyright industries was 3.51% compared to the U.S. economy's 2.40% growth rate (see Chart 4).

The combined value added for all four copyright industry groups also increased from 1997 to 2002. In 1997, the copyright value added was \$1.064

trillion. Value added increased to \$1.206 trillion in 2001 and \$1.254 trillion in 2002 (see Chart 2). Although the annual growth rate of these industries was less than the U.S. economy as a whole, the value added of these industries represents a significant portion of the U.S. GDP. Value added was 11.95% of GDP in 2001 and 11.97% of GDP in 2002 (see Chart 3).



## IV. Employment in the Copyright Industries

The growing economic importance of the copyright industries to the U.S. economy can be measured in ways other than value added. Trends in employment provide additional evidence of the positive impact of the copyright industries on the economy. In this section, we provide estimates of copyright industry employment based primarily on data from the U.S. Bureau of Labor Statistics.

We describe below the resulting data using both the NAICS data as well as ISIC data which tracks the WIPO recommendations.

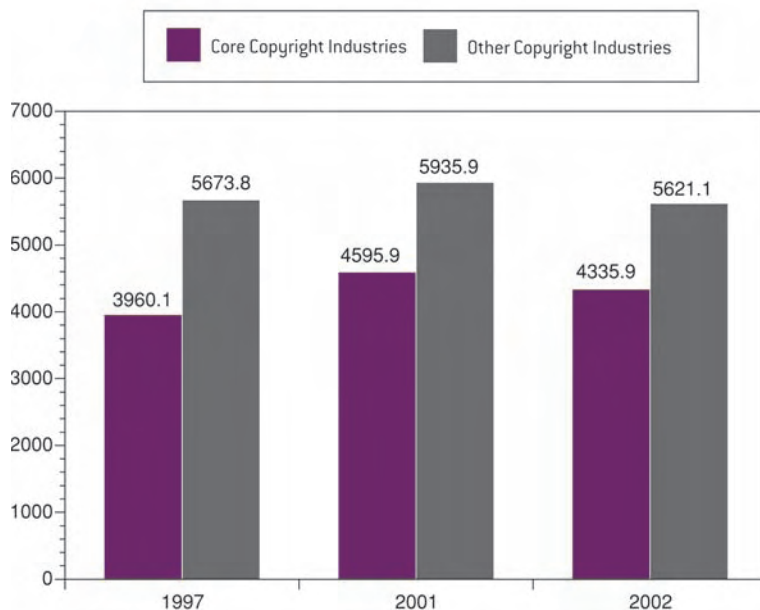
### NAICS-Only Results

Chart 5 shows employment for the NAICS core copyright industries in 1997 was 3.96 million workers. This increased in 2001 to 4.60 million

workers. In addition, the percentage of the core copyright employment to overall U.S. employment increased from 3.06% in 1997 to 3.36% in 2001. The annual growth rate of the core copyright industries for the 1997-2001 period was 3.79% which is 2.7 times the U.S. annual growth rate of 1.39%. In 2002, both the core copyright employment and the U.S. employment decreased, but the annual growth rate of the core copyright industries for the 1997-2002 period still outperformed the U.S. employment growth rate.

Employment for all four copyright industry groups also increased from 9.6 million workers in 1997 to 10.5 million workers in 2001. The copyright industries' share of U.S. employment increased from 7.44% in 1997 to 7.69% in 2001. From 1997-2001, the annual growth rate of the copyright industries was 2.25% as compared to the U.S. employment growth rate of 1.39%.

**Chart 5: Copyright Industries Employment (NAICS only)**  
(in thousands)



### ISIC Results (WIPO Formulation)

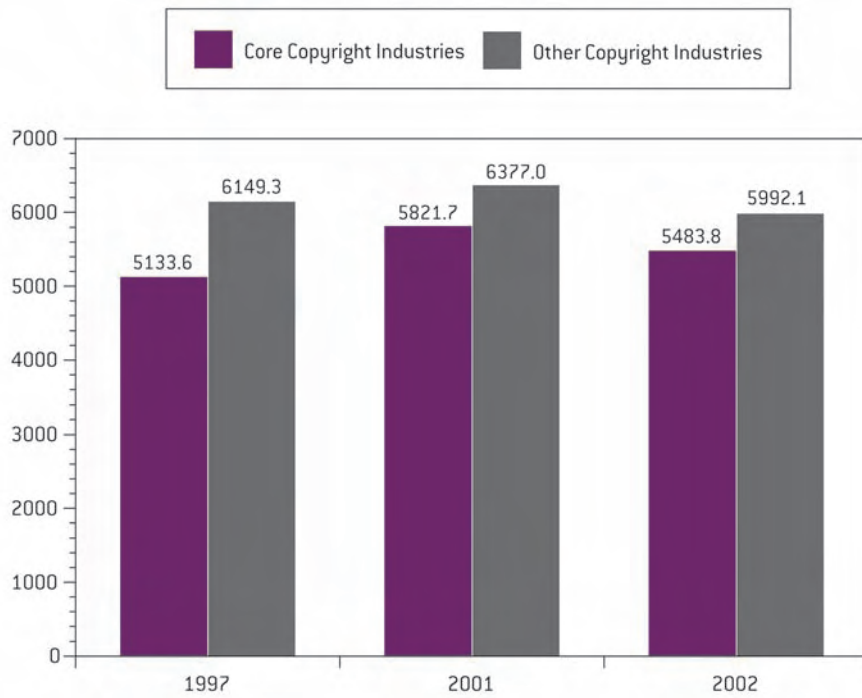
In Chart 6, employment for the ISIC core copyright industries in 1997 was 5.1 million. This increased in 2001 to 5.8 million workers. In addition, the percentage of the core copyright employment to overall U.S. employment increased from 3.96% in 1997 to 4.25% in 2001. The annual growth



rate of the core copyright industries for the 1997-2001 period was 3.19% which is 2.3 times the U.S. annual growth rate of 1.39%. In 2002, both the core copyright employment and the U.S. employment decreased, but the annual growth rate of the core copyright industries for the 1997-2002 period still outperformed the U.S. employment growth rate.

Employment for all four copyright industry groups also increased from 11.3 million in 1997 to 12.2 million in 2001. The copyright industries' share of U.S. employment increased from 8.71% in 1997 to 8.91% in 2001. From 1997-2001, the annual growth rate of the copyright industries was 1.97% as compared to the U.S. employment growth rate of 1.39%.

**Chart 6: Copyright Industries: Employment**  
(NAICS plus ISIC) (in thousands)



## V. U.S. Copyrighted Materials in world Markets

Growing numbers of products that embody American creativity are sold throughout the world every year. Whether copyrighted products sold abroad are manufactured in the U.S. or overseas, the creative components emanate from the U.S., where it was nurtured by the protection afforded under the U.S. laws.

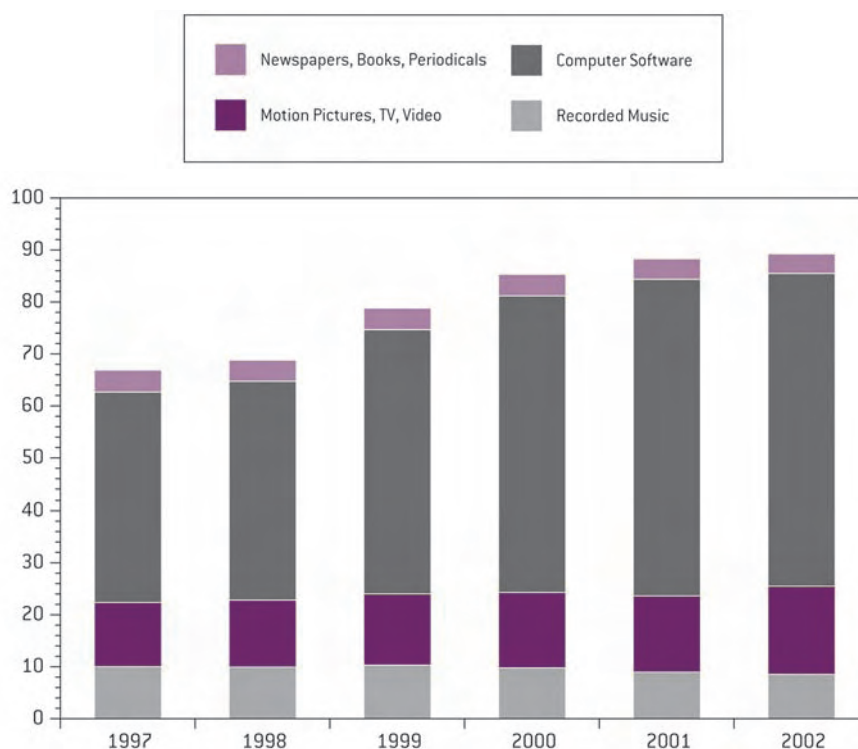
We have stated in our prior reports that the U.S. government's export statistics generally fail to accurately measure the value of American copyrighted works sold in foreign markets. For example, a single master version of a copyrighted work, such as a filmprint valued at a few hundred dollars in U.S. export statistics, may be shipped from the United States to another country. From that master version, however, copies or exhibition rights and/or reproduction license fees may generate millions of dollars in sales. Consequently, the number in the export statistics may grossly underestimate the true value

attributable to that particular product. And yet these sales and the royalties they generate are a significant source of revenue for U.S. companies. We again provide estimates of foreign sales and exports for the following groups of four selected core copyright industries for 2002

- pre-recorded records, tapes and compact discs;
- motion picture films, television programming and home videos (including DVDs);
- computer software (including both business applications software and entertainment software); and
- books, newspapers and periodicals.

Chart 7 and Table A5 display estimated foreign revenue for these four selected industry groups. Revised estimates for 1998 to 2001 as well as the new 2002 numbers reveal that in 2002 many of these industries' foreign sales have actually been decreasing. For example, the 2001 revenues for the recording industry were \$8.91 billion, lower than previously estimated; its revenue dropped even more in 2002 to \$8.47 billion. Computer software foreign revenue also saw a slight decline in 2002,

**Chart 7:** Estimated Revenues Generated by Foreign Sales/Exports of Selected U.S. Core Copyright Industries (in billions of dollars)



diminishing from \$60.74 billion in 2001 to \$59.97 billion in 2002. Following this same trend, newspapers, books, and periodicals generated only an estimated \$3.82 billion in revenue from foreign sales in 2002. The motion pictures, TV, and video segment was the only industry group that saw an increase in revenues in 2002, rising from \$14.69 billion to \$17 billion. Total foreign sales revenue for these industries grew by only 1.1% from 2001 to 2002—a dramatic decline from 1999 where growth was at 14.5% from 1998. Piracy and bad economic conditions drastically affected the foreign sales revenue for these selected core copyright industries in 2002.

The outlook for 2004 and forward, however, appears to be positive. Several reports indicate revenue increases for these industries. The Motion Picture Association of America (MPAA) estimates 2003 foreign sales revenue for all media to be \$19 billion. Furthermore, with the increase in legitimate digital music sales, 2004 and onward have been cited to be positive for the recorded music industry. Nielson SoundScan estimates that U.S. album sales

for the first half of 2004 grew 6.9%.

PricewaterhouseCoopers in its *Global Entertainment and Media Outlook: 2004-2008* also predicts for 2004-2008 a 2% compound annual growth rate for the recorded music segment. This is a vastly different picture from the continuing decline beginning in 1999 that has been adversely impacting the recorded music industry. In software, the International Data Corporation foresees the software industry will grow 3-4% in 2004 after a decline in 2003.

Overall, these industries' foreign sales revenue decreased in 2002, but as these losses are only transitory, these industries are expected to rebound in 2004 and in the future. Legal enforcement against piracy and the growth of digital delivery of legitimate copyrighted materials will be two of the main drivers of this turnaround.

In summary, it is striking to see that all four industry groups combined have grown from \$36.19 billion in 1991 to \$89.26 billion in 2002, an average annual increase of 9.45% from 1991 to 2002.

## VI. Conclusion

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The U.S. copyright industries have consistently outperformed the rest of the U.S. economy, in terms of contribution to gross domestic product and employment levels, and have played an increasingly prominent role in the growth of U.S. exports. Our 2004 report reflects two changes from prior reports: (a) data from the new industry classification system in North America, which is generated and used by U.S. government agencies, and (b) new standards and recommendations propounded by the World Intellectual Property Organization for developing economic and statistical standards to measure the impact of domestic copyright industries on their domestic economies.

Value added in these industries continues to represent a large portion of the U.S. economy. In 2002, the core copyright industries reached \$626.2 billion, or 6% of the entire U.S. economy. The total copyright industries extended its reach as well, amounting to 12% of the U.S. economy, or \$ 1.254 trillion in GDP.

The same positive picture applies with regard to employment, with the core copyright industries accounting for 5.48 million workers or 4.02% of the U.S. workforce in 2002. That same year, the total copyright industries employed 11.47 million workers, or 8.41% of the total employment in the

U.S. The core copyright industries continue to grow far faster than the economy as a whole, adding workers at an annual rate of 1.33%, exceeding the annual employment rated by the economy as a whole (1.05%) by 27%. This positive news remains strong despite the fact that 2002 was a tough year for the entire U.S. economy, including now more broadly defined total copyright industries.

Finally, while the U.S. continues to experience large and growing trade deficits, the copyright industries continue to thrive in overseas sales and exports. The four sectors within the core copyright industries alone accounted for nearly \$89.26 billion in foreign sales and exports in 2002. Even with piracy and bad economic conditions, total estimated foreign sales revenues still grew in 2002, increasing by 1.1% from 2001

These consistent positive trends in value added, employment levels, and foreign sales and exports solidify the status of the copyright industries as a key industry leading U.S. economic growth. As new technologies support the development of new distribution methods for legitimate copyrighted products, the U.S. copyright based industries represented in the International Intellectual Property Alliance are optimistic that economic growth, combined with strong laws and effective enforcement, will continue to pave the way for economic growth in both the U.S. and global markets.





## APPENDIX A: Tables of statistics

**Table A1:** Value Added Growth—Conversion to NAICS Only (billions of dollars)

	1997	2001	2002
Core Copyright Value Added	402.1	514.9	514.4
U.S. Gross Domestic Product	8,304.3	10,100.8	10,480.8
Core Copyright Share of U.S.	4.84%	5.10%	4.91%
Real Annual Growth Rate		1997-2001	1997-2002
Core Copyright Value Added		3.79%	2.68%
U.S. Gross Domestic Product		2.47%	2.40%
	1997	2001	2002
Total Copyright Value Added	803.8	962.7	1,005.6
U.S. Gross Domestic Product	8,304.3	10,100.8	10,480.8
Total Copyright Share of U.S.	9.68%	9.53%	9.59%
Real Annual Growth Rate		1997-2001	1997-2002
Total Copyright Value Added		2.07%	2.22%
U.S. Gross Domestic Product		2.47%	2.40%

**Table A2:** Value Added Growth—Conversion to NAICS Plus ISIC (billions of dollars)

	1997	2001	2002
Core Copyright Value Added	470.3	595.0	626.2
U.S. Gross Domestic Product	8,304.3	10,100.8	10,480.8
Core Copyright Share of U.S.	5.66%	5.89%	5.98%
Real Annual Growth Rate		1997-2001	1997-2002
Core Copyright Value Added		3.48%	3.51%
U.S. Gross Domestic Product		2.47%	2.40%
	1997	2001	2002
Total Copyright Value Added	1,064.6	1,206.9	1,254.0
U.S. Gross Domestic Product	8,304.3	10,100.8	10,480.8
Total Copyright Share of U.S.	12.82%	11.95%	11.97%
Real Annual Growth Rate		1997-2001	1997-2002
Total Copyright Value Added		0.68%	1.00%
U.S. Gross Domestic Product		2.47%	2.40%

**Table A3: Employment Growth – Conversion to NAICS Only (thousands)**

	1997	2001	2002
Core Copyright Employment	3,960.1	4,595.9	4,335.9
Total U.S. Employment	129,558.0	136,933.0	136,485.0
Core Copyright Share of U.S.	3.06%	3.36%	3.18%
Real Annual Growth Rate		1997-2001	1997-2002
Core Copyright Employment		3.79%	1.83%
Total U.S. Employment		1.39%	1.05%
	1997	2001	2002
Total Copyright Employment	9,633.9	10,531.8	9,957.0
Total U.S. Employment	129,558.0	136,933.0	136,485.0
Total Copyright Share of U.S.	7.44%	7.69%	7.30%
Real Annual Growth Rate		1997-2001	1997-2002
Total Copyright Employment		2.25%	0.66%
Total U.S. Employment		1.39%	1.05%

**Table A4: Employment Growth— Conversion To NAICS Plus ISIC (thousands)**

	1997	2001	2002
Core Copyright Employment	5,133.6	5,821.7	5,483.8
Total U.S. Employment	129,558.0	136,933.0	136,485.0
Core Copyright Share of U.S.	3.96%	4.25%	4.02%
Real Annual Growth Rate		1997-2001	1997-2002
Core Copyright Employment		3.19%	1.33%
Total U.S. Employment		1.39%	1.05%
	1997	2001	2002
Total Copyright Employment	11,282.9	12,198.7	11,475.9
Total U.S. Employment	129,558.0	136,933.0	136,485.0
Total Copyright Share of U.S.	8.71%	8.91%	8.41%
Real Annual Growth Rate		1997-2001	1997-2002
Total Copyright Employment		1.97%	0.34%
Total U.S. Employment		1.39%	1.05%



**Table A5: 1991 - 2002 Estimated Revenues Generated by Foreign Sales/Export of Selected U.S. Core Copyright Industries (billion of dollars)**

Industry	1991 estimate	1992 estimate	1993 estimate	1994 estimate	1995 estimate	1996 estimate	REVISED				2000 estimate	2001 estimate	2002 estimate	Average Annual % Change (1991-2001)	Average Annual % Change (1991-2002)
							1997 estimate	1998 estimate	1999 estimate	2000 estimate					
Pre-Recorded Records, Tapes, Etc.	\$6.15	\$6.58	\$7.44	\$8.74	\$9.76	\$9.83	\$10.01	\$9.90	\$10.27	\$9.76	\$8.91	\$8.47	3.78%	3.24%	
Motion Pictures, TV, Video	\$7.02	\$7.05	\$8.36	\$9.34	\$10.24	\$11.58	\$12.34	\$12.93	\$13.70	\$14.50	\$14.69	\$17.00	7.67%	9.25%	
Computer Software (including business applications and entertainment software)	\$19.65	\$21.94	\$24.32	\$26.44	\$29.14	\$34.81	\$40.28	\$41.87	\$50.65	\$56.88	\$60.74	\$59.97	11.94%	11.80%	
Newspapers, Books, Periodicals	\$3.36	\$3.62	\$3.67	\$3.79	\$3.97	\$3.96	\$4.22	\$4.12	\$4.15	\$4.21	\$3.93	\$3.82	1.56%	1.28%	
Total for Selected Industries	\$36.19	\$39.19	\$43.78	\$48.33	\$53.11	\$60.18	\$66.85	\$68.82	\$78.77	\$85.34	\$88.28	\$89.26	9.33%	9.45%	

Sources:  
 U.S. Department of Commerce, *U.S. Industry & Trade Outlook '99*  
 U.S. Department of Commerce, the U.S. Treasury and the U.S. International Trade Commission  
 International Federation for the Phonographic Industry (IFPI)  
 Motion Picture Association of America (MPAA)  
 Computer Software: IDC

**Table A6:** Comparison of the Employment of the Copyright Industries and Manufacturing Industries in the U.S. Economy in 2001 and 2002 (in thousands, NAICS conversion only)

	2001	2002
<b>COPYRIGHT INDUSTRY*</b>		
Core	4,596	4,336
Total	10,532	9,957
<b>NON-COPYRIGHT MANUFACTURING INDUSTRIES**</b>		
Transportation equipment	1,928	1,819
Fabricated metal products	1,674	1,546
Food manufacturing	1,538	1,512
Machinery	1,299	1,168
Plastics and rubber products	895	846
Chemicals	726	703
Furniture and related products	639	601
Wood Products	573	554
Primary metals	571	509
Electrical equipment and appliances	552	493
Nonmetallic mineral products	540	511
Apparel	424	358
Paper and paper products	410	389
Beverage and tobacco products	209	207
Textile product mills	204	193
Petroleum and coal products	121	118
Leather and allied products	58	50

\* For consistency, NAICS standards were used for copyright employment instead of ISIC.

\*\* Employment for these sectors excludes portions of those industries counted as part of copyright industries.

Source: Employment data is the Annual Average of Non-seasonally Adjusted National Employment for the industries determined by the NAICS system, as reported by the Bureau of Labor Statistics.

## APPENDIX B: WIPO & the ISIC Code

One of the two new measures used in this *Copyright Industries in the U.S. Economy: The 2004 Report* is the standards put forth by the World Intellectual Property Organization. WIPO is an agency of the United Nations created to promote and protect intellectual property rights. WIPO grew out of the United International Bureaux for the Protection of Intellectual Property (BIRPI). After many structural and administrative changes, in 1974 it became part of the United Nations umbrella of organizations. Now with 180 member states, WIPO constantly seeks new methods to ensure that intellectual property rights are protected. In 2003, WIPO published its *Guide on Surveying the Economic Contribution of the Copyright-Based Industries*. This guide is meant to provide an international standard of how to measure the contribution of “copyrights” in economic terms. The international standard not only helps countries calculate the economic impact of their copyright industries, but also allows for the determination of the economic effect of copyrights across countries. The *Guide* has three purposes:

- to summarize the existing experience in surveying the copyright and related rights-based industries;
- to develop a practical instrument in the form of guidelines, recommendations and survey methods to be considered and applied when undertaking future surveys with regard to the size and economic contribution of a nation’s creative and information sector; and
- to establish a basis for comparison of future surveys built on reliable data and common methodologies.<sup>8</sup>

The *Guide* also classifies copyright industries by the International Standard Industrial Classification (ISIC) code. In comparison to the North American Industry Classification System (NAICS) used by the United States government, the ISIC creates broader categories, labeling more industries as part of the copyright sector.

WIPO has created new groupings that are different from the classification system put forth in previous IIPA reports and in the NAICS calculations. Instead of categorizing the copyright industries into core, partial, distribution, and copyright related, WIPO renamed these groups as core, partial, interdependent, and non-dedicated support. The table in this Appendix gives a broad overview of WIPO’s classification method.

In the core copyright section, WIPO includes book stores, news dealers and newsstands, and commercial photography, which are not listed in the NAICS core category. Furthermore, for the non-dedicated support industries, WIPO adds in telecommunications, which were also excluded in our previous studies. The partial and interdependent categories contain changes as well. Expanding from the NAICS conversions in the partial category, some changes are that WIPO adds knitted and crocheted fabrics, carpets and rugs, and footwear. Moreover, the manufacture of optical and photographic equipment exists in WIPO’s interdependent category but not in the NAICS conversions. These are just a few of the differences that can be found in converting from NAICS to the WIPO (ISIC) system.

<sup>8</sup>See WIPO, *Guide on Surveying the Economic Contribution of the Copyright-Based Industries*, 2003, at page 7. This guide (WIPO publication number 893) can be purchased at WIPO’s online bookstore, see [http://www.wipo.int/ebookshop?lang=eng&cmd=display\\_pub&cat\\_id=1198&cart\\_id=362965-3906250](http://www.wipo.int/ebookshop?lang=eng&cmd=display_pub&cat_id=1198&cart_id=362965-3906250).



## Appendix B: WIPO List of the Copyright-Based Industries

(See Annex 1 in the WIPO Guide on Surveying the Economic Contribution of the Copyright-Based Industries)

COPYRIGHT INDUSTRY	DEFINITION	MAIN GROUPS OF INDUSTRIES	SUBGROUPS
<b>Core Copyright</b>	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.	Press and Literature	Authors, writers, translators; Newspapers; News and feature agencies; Magazines/periodicals; Book publishing; Cards and maps, directories and other published material; Pre-press, printing, and post-press of books, magazines, newspapers; Advertising materials; Wholesale and retail of press and literature (book stores, newsstands, etc.); Libraries
		Music, Theatrical Productions, Operas	Composers, lyricists, arrangers, choreographers, directors, performers and other personnel; Printing and publishing of music; Production/manufacturing of recorded music; Wholesale and retail of recorded music (sale and rental); Artistic and literary creation and interpretation; Performances and allied agencies (bookings, ticket agencies, etc.)
		Motion Picture and Video	Writers, directors, actors etc.; Motion picture and video production and distribution; Motion picture exhibition; Video rentals and sales, video on demand; Allied services
		Radio and Television	National radio and television broadcasting companies; Other radio and television broadcasters; Independent producers; Cable television (systems and channels); Satellite television; Allied services
		Photography	Studios and commercial photography; Photo agencies and libraries
		Software and Databases	Programming, development and design, manufacturing; Wholesale and retail prepackaged software (business programs, video games, educational programs etc.); Database processing and publishing
		Visual and Graphic Arts	Artists; Art galleries, other wholesale and retail; Picture framing and other allied services; Graphic design
		Advertising services	Agencies, buying services
		Copyright Collecting Societies	
		<b>Interdependent Industries</b>	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.
Computers and Equipment	Manufacture; Wholesale and retail (sales and rental)		
Musical Instruments	Manufacture; Wholesale and retail (sales and rental)		
Photographic and Cinematographic Instruments	Manufacture; Wholesale and retail (sales and rental)		
Photocopiers	Manufacture; Wholesale and retail (sales and rental)		
Blank Recording Material	Manufacture; Wholesale and retail		
Paper	Manufacture; Wholesale and retail		
<b>Partial Copyright Industries</b>	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.	Apparel, textiles and footwear; Jewelry and coins; Other crafts; Furniture; Household goods, china and glass; Wallcoverings and carpets; Toys and games; Architecture, engineering, surveying; Interior design; Museums	
<b>Non-dedicated Support Industries</b>	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.	General wholesale and retailing; General transportation; Telephony and Internet	

## APPENDIX C:

### Detailed List of NAICS and ISIC Industries by ISIC Summary Categories

In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description	In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description
CORE COPYRIGHT INDUSTRIES									
x	2211	Publishing of books, brochures and other publications	511130	Book Publishers	x	9213	Radio and television activities	512290	Other Sound Recording Industries
x	2211	Publishing of books, brochures and other publications	511140	Directory and Mailing List Publishers	x	9213	Radio and television activities	515111	Radio Networks
x	2211	Publishing of books, brochures and other publications	511199	All Other Publishers	x	9213	Radio and television activities	515112	Radio Stations
x	2212	Publishing of newspapers, journals, and periodicals	511110	Newspaper Publishers	x	9213	Radio and television activities	515120	Television Broadcasting
x	2212	Publishing of newspapers, journals, and periodicals	511120	Periodical Publishers	x	9213	Radio and television activities	515210	Cable and Other Subscription Programming
x	2213	Publishing of music	512210	Record Production	x	9214	Dramatic arts, music and other arts activities	561599	All Other Travel Arrangement and Reservation Services
x	2213	Publishing of music	512230	Music Publishers	x	9214	Dramatic arts, music and other arts activities	711110	Theater Companies and Dinner Theaters
x	2219	Other publishing	511120	Periodical Publishers	x	9214	Dramatic arts, music and other arts activities	711120	Dance Companies
x	2219	Other publishing	511191	Greeting Card Publishers	x	9214	Activities by authors, music composers, and other independent artists n.e.c.	711130	Musical Groups and Artists
x	2219	Other publishing	511199	All Other Publishers	x	9214	Dramatic arts, music and other arts activities	711190	Other Performing Arts Companies
x	2221	Printing	323110	Commercial Lithographic Printing	x	9214	Dramatic arts, music and other arts activities	711310	Promoters of Performing Arts, Sports, and Similar Events with Facilities
x	2221	Printing	323111	Commercial Gravure Printing	x	9214	Dramatic arts, music and other arts activities	711320	Promoters of Performing Arts, Sports, and Similar Events without Facilities
x	2221	Printing	323112	Commercial Flexographic Printing	x	9214	Dramatic arts, music and other arts activities	711510	Independent Artists, Writers, and Performers
x	2221	Printing	323113	Commercial Screen Printing	x	9219	Other entertainment activities n.e.c.	561599	All Other Travel Arrangement and Reservation Services
x	2221	Printing	323117	Books Printing	x	9219	Other entertainment activities n.e.c.	711110	Theater Companies and Dinner Theaters
x	2221	Printing	323118	Blankbook, Looseleaf Binders, and Devices Manufacturing	x	9219	Other entertainment activities n.e.c.	711190	Other Performing Arts Companies
x	2221	Printing	323119	Other Commercial Printing	x	9219	Other entertainment activities n.e.c.	711310	Promoters of Performing Arts, Sports, and Similar Events with Facilities
x	2222	Services Activities related to printing	323118	Blankbook, Looseleaf Binders, and Devices Manufacturing	x	9219	Other entertainment activities n.e.c.	711320	Promoters of Performing Arts, Sports, and Similar Events without Facilities
x	2222	Services Activities related to printing	323121	Tradebinding and Related Work	x	9220	News agency activities	519110	News Syndicates
x	2222	Services Activities related to printing	323122	Prepress Services	x	9220	News agency activities	711510	Independent Artists, Writers, and Performers
x	2230	Reproduction of recorded media	334611	Software Reproducing	x	9231	Library and archives activities	512199	Other Motion Picture and Video Industries
x	2230	Reproduction of recorded media	334612	Prerecorded Compact Disc (except Software), Tape, and Record Reproducing	x	9231	Library and archives activities	519190	All Other Information Services



In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description	In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description
x	5139	Wholesale of other household goods	423990	Other Miscellaneous Durable Goods Merchant Wholesalers	x	9249	Other recreational activities	561310	Employment Placement Agencies
x	6420	Telecommunications	515111	Radio Networks	x	9249	Other recreational activities	711320	Promoters of Performing Arts, Sports, and Similar Events without Facilities
x	6420	Telecommunications	515112	Radio Stations	x	2211	Publishing of books, brochures and other publications	339999	All Other Miscellaneous Manufacturing
x	6420	Telecommunications	515120	Television Broadcasting		2213	Publishing of music	512220	Integrated Record Production/Distribution
x	6420	Telecommunications	515210	Cable and Other Subscription Programming	x	2221	Printing	323114	Quick Printing
x	6420	Telecommunications	517510	Cable and Other Program Distribution	x	2221	Printing	323115	Digital Printing
x	7130	Renting of personal and household goods n.e.c.	532230	Video Tape and Disc Rental	x	2221	Printing	323116	Manifold Business Forms Printing
x	7221	Software publishing	511210	Software Publishers		2221	Printing	339950	Sign Manufacturing
x	7229	Other software consultancy and supply	541511	Custom Computer Programming Services	x	5139	Wholesale of other household goods	424920	Book, Periodical, and Newspaper Merchant Wholesalers
x	7229	Other software consultancy and supply	541512	Computer Systems Design Services	x	5151	Wholesale of computers, computer peripheral equipment and software	423430	Computer and Computer Peripheral Equipment and Software Merchant Wholesalers
x	7230	Data processing	518210	Data Processing, Hosting, and Related Services	x	5233	Retail sale of household appliances, articles and equipment	451220	Prerecorded Tape, Compact Disc, and Record Stores
x	7230	Data processing	541513	Computer Facilities Management Services	x	5239	Other retail sale in specialized stores	451211	Book Stores
x	7240	Database activities and on-line distribution of electronic content	511140	Directory and Mailing List Publishers	x	5239	Other retail sale in specialized stores	451212	News Dealers and Newsstands
x	7430	Advertising	541810	Advertising Agencies	x	7494	Photographic activities	541921	Photography Studios, Portrait
x	7430	Advertising	541830	Media Buying Agencies	x	7494	Photographic activities	541922	Commercial Photography
x	7430	Advertising	541840	Media Representatives	x	7494	Photographic activities	812921	Photofinishing Laboratories (except One-Hour)
x	7430	Advertising	541850	Display Advertising	x	7494	Photographic activities	812922	One-Hour Photofinishing
x	7430	Advertising	541860	Direct Mail Advertising	x	7499	Other business activities, n.e.c. [for translation and interpretation]	323114	Quick Printing
x	7430	Advertising	541870	Advertising Material Distribution Services	x	7499	Other business activities, n.e.c. [for translation and interpretation]	541430	Graphic Design Services
x	7430	Advertising	541890	Other Services Related to Advertising	x	7499	Other business activities, n.e.c. [for translation and interpretation]	541490	Other Specialized Design Services
x	7494	Photographic activities	518210	Data Processing, Hosting, and Related Services	x	7499	Other business activities, n.e.c. [for translation and interpretation]	541930	Translation and Interpretation Services
x	7499	Other business activities, n.e.c. [for translation and interpretation]	512230	Music Publishers	x	7499	Other business activities, n.e.c. [for translation and interpretation]	561410	Document Preparation Services
x	7499	Other business activities, n.e.c. [for translation and interpretation]	519190	All Other Information Services	x	7499	Other business activities, n.e.c. [for translation and interpretation]	561431	Private Mail Centers
x	7499	Other business activities, n.e.c. [for translation and interpretation]	711510	Independent Artists, Writers, and Performers	x	7499	Other business activities, n.e.c. [for translation and interpretation]	561439	Other Business Service Centers (including Copy Shops)

In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description	In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description
x	9211	Motion picture and video production and distribution	512110	Motion Picture and Video Production	x	7499	Other business activities, n.e.c. (for translation and interpretation)	561499	All Other Business Support Services
x	9211	Motion picture and video production and distribution	512120	Motion Picture and Video Distribution	x	7499	Other business activities, n.e.c. (for translation and interpretation)	561920	Convention and Trade Show Organizers
x	9211	Motion picture and video production and distribution	512191	Teleproduction and Other Postproduction Services		7499	Other business activities, n.e.c. (for translation and interpretation)	711410	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures
x	9211	Motion picture and video production and distribution	512199	Other Motion Picture and Video Industries		9112	Activities of professional organizations	813920	Professional Organizations
x	9211	Motion picture and video production and distribution	512240	Sound Recording Studios	x	9219	Other entertainment activities n.e.c.	611610	Fine Arts Schools
x	9211	Motion picture and video production and distribution	512290	Other Sound Recording Industries	x	9219	Other entertainment activities n.e.c.	713110	Amusement and Theme Parks
x	9212	Motion picture projection	512131	Motion Picture Theaters (except Drive-Ins)	x	9219	Other entertainment activities n.e.c.	713990	All Other Amusement and Recreation Industries
x	9212	Motion picture projection	512132	Drive-In Motion Picture Theaters	x	9231	Library and archives activities	519120	Libraries and Archives
x	9213	Radio and television activities	512110	Motion Picture and Video Production	x	9249	Other recreational activities	713120	Amusement Arcades
					x	9249	Other recreational activities	713990	All Other Amusement and Recreation Industries
<b>INTERDEPENDENT COPYRIGHT INDUSTRIES</b>									
	2101	Manufacture of pulp, paper, and paperboard	322110	Pulp Mills		3320	Manufacture of optical instruments and photographic equipment	335921	Fiber Optic Cable Manufacturing
	2101	Manufacture of pulp, paper, and paperboard	322121	Paper (except Newsprint) Mills		3320	Manufacture of optical instruments and photographic equipment	339115	Ophthalmic Goods Manufacturing
	2101	Manufacture of pulp, paper, and paperboard	322122	Newsprint Mills	x	3320	Manufacture of optical instruments and photographic equipment	811219	Other Electronic and Precision Equipment Repair and Maintenance
	2101	Manufacture of pulp, paper, and paperboard	322130	Paperboard Mills	x	3692	Manufacturer of musical instruments	339992	Musical Instrument Manufacturing
	2101	Manufacture of pulp, paper, and paperboard	322221	Coated and Laminated Packaging Paper and Plastics Film Manufacturing	x	5139	Wholesale of other household goods	423410	Photographic Equipment and Supplies Merchant Wholesalers
	2101	Manufacture of pulp, paper, and paperboard	322222	Coated and Laminated Paper Manufacturing	x	5139	Wholesale of other household goods	423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers
	2101	Manufacture of pulp, paper, and paperboard	322226	Surface-Coated Paperboard Manufacturing	x	5139	Wholesale of other household goods	423620	Electrical and Electronic Appliance, Television, and Radio Set Merchant Wholesalers
	2101	Manufacture of pulp, paper, and paperboard	322299	All Other Converted Paper Product Manufacturing	x	5149	Wholesale of other intermediate products, waste, and scrap	423930	Recyclable Material Merchant Wholesalers
	2101	Manufacture of pulp, paper, and paperboard	339944	Carbon Paper and Inked Ribbon Manufacturing	x	5149	Wholesale of other intermediate products, waste, and scrap	424110	Printing and Writing Paper Wholesalers
	2429	Manufacture of other chemical products n.e.c.	311942	Spice and Extract Manufacturing	x	5149	Wholesale of other intermediate products, waste, and scrap	424490	Other Grocery and Related Products Merchant Wholesalers
	2429	Manufacture of other chemical products n.e.c.	325199	All Other Basic Organic Chemical Manufacturing	x	5151	Wholesale of computers, computer peripheral equipment and software	423430	Computer and Computer Peripheral Equipment and Software Merchant Wholesalers



In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description	In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description
	2429	Manufacture of other chemical products n.e.c.	325413	In-Vitro Diagnostic Substance Manufacturing	x	5152	Wholesale of electronic and telecommunication s parts and equipment	423690	Other Electronic Parts and Equipment Merchant Wholesalers
	2429	Manufacture of other chemical products n.e.c.	325520	Adhesive Manufacturing	x	5159	Wholesale of other machinery, equipment, and supplies	423120	Motor Vehicle Supplies and New Parts Merchant Wholesalers
	2429	Manufacture of other chemical products n.e.c.	325612	Polish and Other Sanitation Good Manufacturing	x	5159	Wholesale of other machinery, equipment, and supplies	423210	Furniture Merchant Wholesalers
	2429	Manufacture of other chemical products n.e.c.	325613	Surface Active Agent Manufacturing	x	5159	Wholesale of other machinery, equipment, and supplies	423410	Photographic Equipment and Supplies Merchant Wholesalers
	2429	Manufacture of other chemical products n.e.c.	325920	Explosives Manufacturing	x	5159	Wholesale of other machinery, equipment, and supplies	423420	Office Equipment Merchant Wholesalers
	2429	Manufacture of other chemical products n.e.c.	325992	Photographic Film, Paper, Plate, and Chemical Manufacturing	x	5159	Wholesale of other machinery, equipment, and supplies	423440	Other Commercial Equipment Merchant Wholesalers
	2429	Manufacture of other chemical products n.e.c.	325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	x	5159	Wholesale of other machinery, equipment, and supplies	423450	Medical, Dental, and Hospital Equipment and Supplies Merchant Wholesalers
	2429	Manufacture of other chemical products n.e.c.	332992	Small Arms Ammunition Manufacturing	x	5159	Wholesale of other machinery, equipment, and supplies	423490	Other Professional Equipment and Supplies Merchant Wholesalers
	2429	Manufacture of other chemical products n.e.c.	332993	Ammunition [except Small Arms] Manufacturing	x	5159	Wholesale of other machinery, equipment, and supplies	423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers
	2429	Manufacture of other chemical products n.e.c.	334413	Semiconductor and Related Device Manufacturing	x	5159	Wholesale of other machinery, equipment, and supplies	423690	Other Electronic Parts and Equipment Merchant Wholesalers
x	2429	Manufacture of other chemical products n.e.c.	334613	Magnetic and Optical Recording Media Manufacturing	x	5159	Wholesale of other machinery, equipment, and supplies	423720	Plumbing and Heating Equipment and Supplies [Hydronics] Merchant Wholesalers
	3000	Manufacture of office, accounting, and computing machinery	325992	Photographic Film, Paper, Plate, and Chemical Manufacturing	x	5159	Wholesale of other machinery, equipment, and supplies	423730	Warm Air Heating and Air-Conditioning Equipment and Supplies Merchant Wholesalers
	3000	Manufacture of office, accounting, and computing machinery	333313	Office Machinery Manufacturing	x	5159	Wholesale of other machinery, equipment, and supplies	423740	Refrigeration Equipment and Supplies Merchant Wholesalers
	3000	Manufacture of office, accounting, and computing machinery	333315	Photographic and Photocopying Equipment Manufacturing	x	5159	Wholesale of other machinery, equipment, and supplies	423810	Construction and Mining [except Oil Well] Machinery and Equipment Merchant Wholesalers
x	3000	Manufacture of office, accounting, and computing machinery	334111	Electronic Computer Manufacturing	x	5159	Wholesale of other machinery, equipment, and supplies	423820	Farm and Garden Machinery and Equipment Merchant Wholesalers
x	3000	Manufacture of office, accounting, and computing machinery	334112	Computer Storage Device Manufacturing	x	5159	Wholesale of other machinery, equipment, and supplies	423830	Industrial Machinery and Equipment Merchant Wholesalers
x	3000	Manufacture of office, accounting, and computing machinery	334113	Computer Terminal Manufacturing	x	5159	Wholesale of other machinery, equipment, and supplies	423840	Industrial Supplies Merchant Wholesalers
x	3000	Manufacture of office, accounting, and computing machinery	334119	Other Computer Peripheral Equipment Manufacturing	x	5159	Wholesale of other machinery, equipment, and supplies	423850	Service Establishment Equipment and Supplies Merchant Wholesalers



In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description	In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description
x	3000	Manufacture of office, accounting, and computing machinery	334418	Printed Circuit Assembly (Electronic Assembly) Manufacturing	x	5159	Wholesale of other machinery, equipment, and supplies	423860	Transportation Equipment and Supplies (except Motor Vehicle) Merchant Wholesalers
	3000	Manufacture of office, accounting, and computing machinery	339942	Lead Pencil and Art Good Manufacturing	x	5159	Wholesale of other machinery, equipment, and supplies	423910	Sporting and Recreational Goods and Supplies Merchant Wholesalers
x	3000	Manufacture of office, accounting, and computing machinery	811212	Computer and Office Machine Repair and Maintenance	x	5159	Wholesale of other machinery, equipment, and supplies	423990	Other Miscellaneous Durable Goods Merchant Wholesalers
	3230	Manufacture of television and radio receivers, sound or video recording or reproducing apparatus, and associated goods.	333313	Office Machinery Manufacturing	x	5233	Retail sale of household appliances, articles and equipment	443112	Radio, Television, and Other Electronics Stores
	3230	Manufacture of television and radio receivers, sound or video recording or reproducing apparatus, and associated goods.	334210	Telephone Apparatus Manufacturing	x	5233	Retail sale of household appliances, articles and equipment	451140	Musical Instrument and Supplies Stores
	3230	Manufacture of television and radio receivers, sound or video recording or reproducing apparatus, and associated goods.	334220	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	x	5233	Retail sale of household appliances, articles and equipment	453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)
	3230	Manufacture of television and radio receivers, sound or video recording or reproducing apparatus, and associated goods.	334290	Other Communications Equipment Manufacturing	x	5239	Other retail sales in specialized stores	443130	Camera and Photographic Supplies Stores
x	3230	Manufacture of television and radio receivers, sound or video recording or reproducing apparatus, and associated goods.	334310	Audio and Video Equipment Manufacturing	x	5239	Other retail sales in specialized stores	453210	Office Supplies and Stationery Stores
	3230	Manufacture of television and radio receivers, sound or video recording or reproducing apparatus, and associated goods.	334419	Other Electronic Component Manufacturing	x	7123	Renting of office machinery and equipment (including computers)	532420	Office Machinery and Equipment Rental and Leasing
x	3230	Manufacture of television and radio receivers, sound or video recording or reproducing apparatus, and associated goods.	811213	Communication Equipment Repair and Maintenance	x	7129	Renting of other machinery and equipment, n.e.c.	532310	General Rental Centers
	3230	Manufacture of television and radio receivers, sound or video recording or reproducing apparatus, and associated goods.	811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	x	7129	Renting of other machinery and equipment, n.e.c.	532412	Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing
	3320	Manufacture of optical instruments and photographic equipment	333295	Semiconductor Machinery Manufacturing	x	7129	Renting of other machinery and equipment, n.e.c.	532490	Other Commercial and Industrial Machinery and Equipment Rental and Leasing
	3320	Manufacture of optical instruments and photographic equipment	333314	Optical Instrument and Lens Manufacturing	x	7130	Renting of personal and household goods, n.e.c.	532210	Consumer Electronics and Appliances Rental
	3320	Manufacture of optical instruments and photographic equipment	333315	Photographic and Photocopying Equipment Manufacturing	x	7130	Renting of personal and household goods, n.e.c.	532292	Recreational Goods Rental
<b>PARTIAL COPYRIGHT INDUSTRIES</b>									
	173	Manufacture of knitted and crocheted fabrics and articles	313241	Weft Knit Fabric Mills		2899	Manufacture of other fabricated metal products n.e.c.	332612	Spring (Light Gauge) Manufacturing
	173	Manufacture of knitted and crocheted fabrics and articles	313249	Other Knit Fabric and Lace Mills		2899	Manufacture of other fabricated metal products n.e.c.	332618	Other Fabricated Wire Product Manufacturing
	173	Manufacture of knitted and crocheted fabrics and articles	315119	Other Hosiery and Sock Mills		2899	Manufacture of other fabricated metal products n.e.c.	332722	Bolt, Nut, Screw, Rivet, and Washer Manufacturing



In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description	In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description
	173	Manufacture of knitted and crocheted fabrics and articles	315191	Outerwear Knitting Mills		2899	Manufacture of other fabricated metal products n.e.c.	332911	Industrial Valve Manufacturing
	173	Manufacture of knitted and crocheted fabrics and articles	315192	Underwear and Nightwear Knitting Mills		2899	Manufacture of other fabricated metal products n.e.c.	332998	Enameled Iron and Metal Sanitary Ware Manufacturing
x	1721	Manufacture of made-up textile articles	314121	Curtain and Drapery Mills		2899	Manufacture of other fabricated metal products n.e.c.	332999	All Other Miscellaneous Fabricated Metal Product Manufacturing
x	1721	Manufacture of made-up textile articles	314129	Other Household Textile Product Mills		2899	Manufacture of other fabricated metal products n.e.c.	333992	Welding and Soldering Equipment Manufacturing
x	1721	Manufacture of made-up textile articles	314911	Textile Bag Mills		2899	Manufacture of other fabricated metal products n.e.c.	333999	All Other Miscellaneous General Purpose Machinery Manufacturing
x	1721	Manufacture of made-up textile articles	314912	Canvas and Related Product Mills		2899	Manufacture of other fabricated metal products n.e.c.	337920	Blind and Shade Manufacturing
	1721	Manufacture of made-up textile articles	314999	All Other Miscellaneous Textile Product Mills		2899	Manufacture of other fabricated metal products n.e.c.	339113	Surgical Appliance and Supplies Manufacturing
	1721	Manufacture of made-up textile articles	336360	Motor Vehicle Seating and Interior Trim Manufacturing	x	2899	Manufacture of other fabricated metal products n.e.c.	339914	Costume Jewelry and Novelty Manufacturing
	1721	Manufacture of made-up textile articles	337920	Blind and Shade Manufacturing		2899	Manufacture of other fabricated metal products n.e.c.	339942	Lead Pencil and Art Good Manufacturing
	1721	Manufacture of made-up textile articles	339113	Surgical Appliance and Supplies Manufacturing		2899	Manufacture of other fabricated metal products n.e.c.	339950	Sign Manufacturing
	1721	Manufacture of made-up textile articles	811310	Commercial and Industrial Machinery and Equipment [except Automotive and Electronic] Repair and Maintenance	x	2899	Manufacture of other fabricated metal products n.e.c.	339993	Fastener, Button, Needle, and Pin Manufacturing
	1722	Manufacture of carpets and rugs	314110	Carpet and Rug Mills	x	2899	Manufacture of other fabricated metal products n.e.c.	339999	All Other Miscellaneous Manufacturing
	1721	Manufacture of carpets and rugs	314999	All Other Miscellaneous Textile Product Mills		2899	Manufacture of other fabricated metal products n.e.c.	811310	Commercial and Industrial Machinery and Equipment [except Automotive and Electronic] Repair and Maintenance
	1810	Manufacture of wearing apparel	313320	Fabric Coating Mills		3610	Manufacture of furniture	238390	Other Building Finishing Contractors
	1810	Manufacture of wearing apparel	314999	All Other Miscellaneous Textile Product Mills		3610	Manufacture of furniture	326199	All Other Plastics Product Manufacturing
x	1810	Manufacture of wearing apparel	315211	Men's and Boys' Cut and Sew Apparel Contractors		3610	Manufacture of furniture	336360	Motor Vehicle Seating and Interior Trim Manufacturing
x	1810	Manufacture of wearing apparel	315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	x	3610	Manufacture of furniture	337110	Wood Kitchen Cabinet and Counter Top Manufacturing
x	1810	Manufacture of wearing apparel	315221	Men's and Boys' Cut and Sew Underwear and Nightwear Manufacturing	x	3610	Manufacture of furniture	337121	Upholstered Household Furniture Manufacturing
x	1810	Manufacture of wearing apparel	315222	Men's and Boys' Cut and Sew Suit, Coat, and Overcoat Manufacturing	x	3610	Manufacture of furniture	337122	Nonupholstered Wood Household Furniture Manufacturing
x	1810	Manufacture of wearing apparel	315223	Men's and Boys' Cut and Sew Shirt [except Work Shirt] Manufacturing	x	3610	Manufacture of furniture	337124	Metal Household Furniture Manufacturing
x	1810	Manufacture of wearing apparel	315224	Men's and Boys' Cut and Sew Trouser, Slack, and Jean Manufacturing	x	3610	Manufacture of furniture	337125	Household Furniture [except Wood and Metal] Manufacturing
x	1810	Manufacture of wearing apparel	315228	Men's and Boys' Cut and Sew Other Outerwear Manufacturing	x	3610	Manufacture of furniture	337129	Wood Television, Radio, and Sewing Machine Cabinet Manufacturing
x	1810	Manufacture of wearing apparel	315231	Women's and Girls' Cut and Sew Lingerie, Loungewear, and Nightwear Manufacturing		3610	Manufacture of furniture	337211	Wood Office Furniture Manufacturing



In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description	In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description
x	1810	Manufacture of wearing apparel	315232	Women's and Girls' Cut and Sew Blouse and Shirt Manufacturing		3610	Manufacture of furniture	337212	Custom Architectural Woodwork and Millwork Manufacturing
x	1810	Manufacture of wearing apparel	315233	Women's and Girls' Cut and Sew Dress Manufacturing		3610	Manufacture of furniture	337214	Office Furniture (except Wood) Manufacturing
x	1810	Manufacture of wearing apparel	315234	Women's and Girls' Cut and Sew Suit, Coat, Tailored Jacket, and Skirt Manufacturing		3610	Manufacture of furniture	337215	Showcase, Partition, Shelving, and Locker Manufacturing
x	1810	Manufacture of wearing apparel	315239	Women's and Girls' Cut and Sew Other Outerwear Manufacturing		3610	Manufacture of furniture	337910	Mattress Manufacturing
x	1810	Manufacture of wearing apparel	315291	Infants' Cut and Sew Apparel Manufacturing		3610	Manufacture of furniture	339111	Laboratory Apparatus and Furniture Manufacturing
x	1810	Manufacture of wearing apparel	315292	Fur and Leather Apparel Manufacturing		3610	Manufacture of furniture	339942	Lead Pencil and Art Good Manufacturing
x	1810	Manufacture of wearing apparel	315299	All Other Cut and Sew Apparel Manufacturing		3610	Manufacture of furniture	811420	Reupholstery and Furniture Repair
x	1810	Manufacture of wearing apparel	315991	Hat, Cap, and Millinery Manufacturing		3691	Manufacture of jewelry and related articles	327999	All Other Miscellaneous Nonmetallic Mineral Product Manufacturing
x	1810	Manufacture of wearing apparel	315992	Glove and Mitten Manufacturing	x	3691	Manufacture of jewelry and related articles	339911	Jewelry (except Costume) Manufacturing
x	1810	Manufacture of wearing apparel	315993	Men's and Boys' Neckwear Manufacturing	x	3691	Manufacture of jewelry and related articles	339912	Silverware and Hollowware Manufacturing
x	1810	Manufacture of wearing apparel	315999	Other Apparel Accessories and Other Apparel Manufacturing	x	3691	Manufacture of jewelry and related articles	339913	Jewelers' Material and Lapidary Work Manufacturing
	1810	Manufacture of wearing apparel	316999	All Other Leather Good Manufacturing (Footwear cut stock & findings pt)		3694	Manufacture of games and toys	238290	Other Building Equipment Contractors
	1810	Manufacture of wearing apparel	339113	Surgical Appliance and Supplies Manufacturing	x	3694	Manufacture of games and toys	336991	Motorcycle, Bicycle, and Parts Manufacturing
x	1810	Manufacture of wearing apparel	339999	All Other Miscellaneous Manufacturing		3694	Manufacture of games and toys	339920	Sporting and Athletic Goods Manufacturing
	1920	Manufacture of footwear	316211	Rubber and Plastics Footwear Manufacturing	x	3694	Manufacture of games and toys	339931	Doll and Stuffed Toy Manufacturing
	1920	Manufacture of footwear	316212	House Slipper Manufacturing	x	3694	Manufacture of games and toys	339932	Game, Toy, and Children's Vehicle Manufacturing
	1920	Manufacture of footwear	316213	Men's Footwear (except Athletic) Manufacturing	x	3694	Manufacture of games and toys	339999	All Other Miscellaneous Manufacturing
	1920	Manufacture of footwear	316214	Women's Footwear (except Athletic) Manufacturing		3694	Manufacture of games and toys	811490	Other Personal and Household Goods Repair and Maintenance
	1920	Manufacture of footwear	316219	Other Footwear Manufacturing	x	5131	Wholesale of textiles, clothing and footwear	423220	Home Furnishing Merchant Wholesalers
	1920	Manufacture of footwear	316999	All Other Leather Good Manufacturing (leather goods, n.e.c.)	x	5131	Wholesale of textiles, clothing and footwear	424310	Piece Goods, Notions, and Other Dry Goods Merchant Wholesalers
	1920	Manufacture of footwear	321999	All Other Miscellaneous Wood Product Manufacturing	x	5131	Wholesale of textiles, clothing and footwear	424320	Men's and Boys' Clothing and Furnishings Merchant Wholesalers
	1920	Manufacture of footwear	326199	All Other Plastics Product Manufacturing	x	5131	Wholesale of textiles, clothing and footwear	424330	Women's, Children's, and Infants' Clothing and Accessories Merchant Wholesalers
	1920	Manufacture of footwear	326299	All Other Rubber Product Manufacturing	x	5131	Wholesale of textiles, clothing and footwear	424340	Footwear Merchant Wholesalers
	2029	Manufacture of other products of wood	321920	Wood Container and Pallet Manufacturing	x	5131	Wholesale of textiles, clothing and footwear	424990	Other Miscellaneous Nondurable Goods Merchant Wholesalers
	2029	Manufacture of other products of wood	321999	All Other Miscellaneous Wood Product Manufacturing	x	5139	Wholesale of other household goods	423210	Furniture Merchant Wholesalers



In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description	In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description
	2029	Manufacture of other products of wood	324199	All Other Petroleum and Coal Products Manufacturing	x	5139	Wholesale of other household goods	423220	Home Furnishing Merchant Wholesalers
	2029	Manufacture of other products of wood	337920	Blind and Shade Manufacturing	x	5139	Wholesale of other household goods	423310	Lumber, Plywood, Millwork, and Wood Panel Merchant Wholesalers
	2029	Manufacture of other products of wood	339113	Surgical Appliance and Supplies Manufacturing	x	5139	Wholesale of other household goods	423910	Sporting and Recreational Goods and Supplies Merchant Wholesalers
	2029	Manufacture of other products of wood	339942	Lead Pencil and Art Good Manufacturing	x	5139	Wholesale of other household goods	423920	Toy and Hobby Goods and Supplies Merchant Wholesalers
	2029	Manufacture of other products of wood	339950	Sign Manufacturing	x	5139	Wholesale of other household goods	423940	Jewelry, Watch, Precious Stone, and Precious Metal Merchant Wholesalers
x	2029	Manufacture of other products of wood	339991	Gasket, Packing, and Sealing Device Manufacturing	x	5139	Wholesale of other household goods	424950	Paint, Varnish, and Supplies Merchant Wholesalers
x	2029	Manufacture of other products of wood	339999	All Other Miscellaneous Manufacturing	x	5232	Retail sale of textiles, clothing, footwear and leather goods	448110	Men's Clothing Stores
	2109	Manufacture of other articles of paper and paperboard	322121	Paper (except Newsprint) Mills	x	5232	Retail sale of textiles, clothing, footwear and leather goods	448120	Women's Clothing Stores
	2109	Manufacture of other articles of paper and paperboard	322130	Paperboard Mills	x	5232	Retail sale of textiles, clothing, footwear and leather goods	448130	Children's and Infants' Clothing Stores
	2109	Manufacture of other articles of paper and paperboard	322214	Fiber Can, Tube, Drum, and Similar Products Manufacturing	x	5232	Retail sale of textiles, clothing, footwear and leather goods	448140	Family Clothing Stores
	2109	Manufacture of other articles of paper and paperboard	322215	Nonfolding Sanitary Food Container Manufacturing	x	5232	Retail sale of textiles, clothing, footwear and leather goods	448150	Clothing Accessories Stores
	2109	Manufacture of other articles of paper and paperboard	322222	Coated and Laminated Paper Manufacturing	x	5232	Retail sale of textiles, clothing, footwear and leather goods	448190	Other Clothing Stores
	2109	Manufacture of other articles of paper and paperboard	322226	Surface-Coated Paperboard Manufacturing	x	5232	Retail sale of textiles, clothing, footwear and leather goods	448210	Shoe Stores
x	2109	Manufacture of other articles of paper and paperboard	322231	Die-Cut Paper and Paperboard Office Supplies Manufacturing	x	5232	Retail sale of textiles, clothing, footwear and leather goods	448320	Luggage and Leather Goods Stores
x	2109	Manufacture of other articles of paper and paperboard	322232	Envelope Manufacturing	x	5232	Retail sale of textiles, clothing, footwear and leather goods	451130	Sewing, Needlework, and Piece Goods Stores
x	2109	Manufacture of other articles of paper and paperboard	322233	Stationery, Tablet, and Related Product Manufacturing	x	5233	Retail sale of household appliances, articles and equipment	442299	All Other Home Furnishings Stores
	2109	Manufacture of other articles of paper and paperboard	322291	Sanitary Paper Product Manufacturing	x	5233	Retail sale of household appliances, articles and equipment	443111	Household Appliance Stores
	2109	Manufacture of other articles of paper and paperboard	322299	All Other Converted Paper Product Manufacturing	x	5239	Other retail sale in specialized stores	444120	Paint and Wallpaper Stores
x	2109	Manufacture of other articles of paper and paperboard	323110	Commercial Lithographic Printing	x	5239	Other retail sale in specialized stores	448310	Jewelry Stores
x	2109	Manufacture of other articles of paper and paperboard	323111	Commercial Gravure Printing	x	5239	Other retail sale in specialized stores	451120	Hobby, Toy, and Game Stores
x	2109	Manufacture of other articles of paper and paperboard	323112	Commercial Flexographic Printing	x	5239	Other retail sale in specialized stores	453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)
x	2109	Manufacture of other articles of paper and paperboard	323113	Commercial Screen Printing	x	7130	Renting of personal and household goods n.e.c.	532291	Home Health Equipment Rental
x	2109	Manufacture of other articles of paper and paperboard	323119	Other Commercial Printing	x	7130	Renting of personal and household goods n.e.c.	532299	All Other Consumer Goods Rental



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	2109	Manufacture of other articles of paper and paperboard	339944	Carbon Paper and Inked Ribbon Manufacturing	x	7130	Renting of personal and household goods n.e.c.	532420	Office Machinery and Equipment Rental and Leasing
x	2109	Manufacture of other articles of paper and paperboard	339991	Gasket, Packing, and Sealing Device Manufacturing	x	7130	Renting of personal and household goods n.e.c.	532490	Other Commercial and Industrial Machinery and Equipment Rental and Leasing
	2610	Manufacture of glass and glass products	327211	Flat Glass Manufacturing		7421	Architectural and engineering activities and related technical consultancy	213112	Support Activities for Oil and Gas Operations
	2610	Manufacture of glass and glass products	327212	Other Pressed and Blown Glass and Glassware Manufacturing		7421	Architectural and engineering activities and related technical consultancy	213113	Support Activities for Coal Mining
	2610	Manufacture of glass and glass products	327213	Glass Container Manufacturing		7421	Architectural and engineering activities and related technical consultancy	213114	Support Activities for Metal Mining
	2610	Manufacture of glass and glass products	327215	Glass Product Manufacturing Made of Purchased Glass		7421	Architectural and engineering activities and related technical consultancy	213115	Support Activities for Nonmetallic Minerals (except Fuels) Mining
	2610	Manufacture of glass and glass products	327993	Mineral Wool Manufacturing	x	7421	Architectural and engineering activities and related technical consultancy	541310	Architectural Services
	2899	Manufacture of other fabricated metal products n.e.c.	322223	Plastics, Foil, and Coated Paper Bag Manufacturing		7421	Architectural and engineering activities and related technical consultancy	541320	Landscape Architectural Services
x	2899	Manufacture of other fabricated metal products n.e.c.	323118	Blankbook, Looseleaf Binders, and Devices Manufacturing	x	7421	Architectural and engineering activities and related technical consultancy	541330	Engineering Services
	2899	Manufacture of other fabricated metal products n.e.c.	331222	Steel Wire Drawing	x	7421	Architectural and engineering activities and related technical consultancy	541340	Drafting Services
	2899	Manufacture of other fabricated metal products n.e.c.	331319	Other Aluminum Rolling and Drawing	x	7421	Architectural and engineering activities and related technical consultancy	541350	Building Inspection Services
	2899	Manufacture of other fabricated metal products n.e.c.	331421	Copper Rolling, Drawing, and Extruding	x	7421	Architectural and engineering activities and related technical consultancy	541360	Geophysical Surveying and Mapping Services
	2899	Manufacture of other fabricated metal products n.e.c.	331422	Copper Wire (except Mechanical) Drawing	x	7421	Architectural and engineering activities and related technical consultancy	541370	Surveying and Mapping (except Geophysical) Services
	2899	Manufacture of other fabricated metal products n.e.c.	331491	Nonferrous Metal (except Copper and Aluminum) Rolling, Drawing, and Extruding	x	7421	Architectural and engineering activities and related technical consultancy	541420	Industrial Design Services
	2899	Manufacture of other fabricated metal products n.e.c.	332115	Crown and Closure Manufacturing		7421	Architectural and engineering activities and related technical consultancy	541620	Environmental Consulting Services
	2899	Manufacture of other fabricated metal products n.e.c.	332214	Kitchen Utensil, Pot, and Pan Manufacturing		7421	Architectural and engineering activities and related technical consultancy	541690	Other Scientific and Technical Consulting Services
	2899	Manufacture of other fabricated metal products n.e.c.	332322	Sheet Metal Work Manufacturing	x	7421	Architectural and engineering activities and related technical consultancy	541990	All Other Professional, Scientific, and Technical Services
	2899	Manufacture of other fabricated metal products n.e.c.	332323	Ornamental and Architectural Metal Work Manufacturing	x	7499	Other business activities, n.e.c. (for translation and interpretation)	541410	Interior Design Services

In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description	In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description
	2899	Manufacture of other fabricated metal products n.e.c.	332431	Metal Can Manufacturing		9199	Activities of other membership organizations n.e.c.	813410	Civic and Social Organizations
	2899	Manufacture of other fabricated metal products n.e.c.	332439	Other Metal Container Manufacturing		9199	Activities of other membership organizations n.e.c.	813990	Other Similar Organizations (except Business, Professional, Labor, and Political Organizations)
	2899	Manufacture of other fabricated metal products n.e.c.	332611	Spring (Heavy Gauge) Manufacturing	x	9232	Museums activities and preservation of historical sites and buildings	712110	Museums
					x	9232	Museums activities and preservation of historical sites and buildings	712120	Historical Sites
<b>NON-DEDICATED SUPPORT INDUSTRIES</b>									
x	61	Water transport	483111	Deep Sea Freight Transport	x	523	Other retail trade of new goods in specialized stores	448120	Women's Clothing Stores
x	61	Water transport	483112	Deep Sea Passenger Transportation	x	523	Other retail trade of new goods in specialized stores	448130	Children's and Infants' Clothing Stores
x	61	Water transport	483113	Coastal and Great Lakes Freight Transportation	x	523	Other retail trade of new goods in specialized stores	448140	Family Clothing Stores
x	61	Water transport	483114	Coastal and Great Lakes Passenger Transportation	x	523	Other retail trade of new goods in specialized stores	448150	Clothing Accessories Stores
x	61	Water transport	483211	Inland Water Freight Transportation	x	523	Other retail trade of new goods in specialized stores	448150	Clothing Accessories Stores
x	61	Water transport	483212	Inland Water Passenger Transportation	x	523	Other retail trade of new goods in specialized stores	448190	Other Clothing Stores
x	61	Water transport	487210	Scenic and Sightseeing Transportation, Water	x	523	Other retail trade of new goods in specialized stores	448210	Shoe Stores
x	61	Water transport	487210	Scenic and Sightseeing Transportation, Water	x	523	Other retail trade of new goods in specialized stores	448310	Jewelry Stores
x	62	Air transport	481111	Scheduled Passenger Air Transportation	x	523	Other retail trade of new goods in specialized stores	448320	Luggage and Leather Goods Stores
x	62	Air transport	481112	Scheduled Freight Air Transportation	x	523	Other retail trade of new goods in specialized stores	451110	Sporting Goods Stores
x	62	Air transport	481211	Nonscheduled Chartered Passenger Air Transportation	x	523	Other retail trade of new goods in specialized stores	451120	Hobby, Toy, and Game Stores
x	62	Air transport	481212	Nonscheduled Chartered Freight Air Transportation	x	523	Other retail trade of new goods in specialized stores	451130	Sewing, Needlework, and Piece Goods Stores
x	62	Air transport	481219	Other Nonscheduled Air Transportation	x	523	Other retail trade of new goods in specialized stores	451140	Musical Instrument and Supplies Stores
x	62	Air transport	487990	Scenic and Sightseeing Transportation, Other	x	523	Other retail trade of new goods in specialized stores	451211	Book Stores
x	62	Air transport	488999	All Other Support Activities for Transportation	x	523	Other retail trade of new goods in specialized stores	451212	News Dealers and Newsstands
x	511	Wholesale on a fee or contract basis	425110	Business to Business Electronic Markets	x	523	Other retail trade of new goods in specialized stores	451220	Prerecorded Tape, Compact Disc, and Record Stores
x	511	Wholesale on a fee or contract basis	425120	Wholesale Trade Agents and Brokers	x	523	Other retail trade of new goods in specialized stores	453110	Florists
x	513	Wholesale of household goods	423210	Furniture Merchant Wholesalers	x	523	Other retail trade of new goods in specialized stores	453210	Office Supplies and Stationery Stores



In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description	In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description
x	513	Wholesale of household goods	423220	Home Furnishing Merchant Wholesalers	x	523	Other retail trade of new goods in specialized stores	453220	Gift, Novelty, and Souvenir Stores
x	513	Wholesale of household goods	423220	Home Furnishing Merchant Wholesalers	x	523	Other retail trade of new goods in specialized stores	453910	Pet and Pet Supplies Stores
x	513	Wholesale of household goods	423310	Lumber, Plywood, Millwork, and Wood Panel Merchant Wholesalers	x	523	Other retail trade of new goods in specialized stores	453920	Art Dealers
x	513	Wholesale of household goods	423410	Photographic Equipment and Supplies Merchant Wholesalers	x	523	Other retail trade of new goods in specialized stores	453930	Manufactured (Mobile) Home Dealers
x	513	Wholesale of household goods	423450	Medical, Dental, and Hospital Equipment and Supplies Merchant Wholesalers	x	523	Other retail trade of new goods in specialized stores	453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)
x	513	Wholesale of household goods	423460	Ophthalmic Goods Merchant Wholesalers	x	523	Other retail trade of new goods in specialized stores	453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)
x	513	Wholesale of household goods	423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	x	523	Other retail trade of new goods in specialized stores	453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)
x	513	Wholesale of household goods	423620	Electrical and Electronic Appliance, Television, and Radio Set Merchant Wholesalers	x	523	Other retail trade of new goods in specialized stores	454312	Liquefied Petroleum Gas (Bottled Gas) Dealers
x	513	Wholesale of household goods	423720	Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers	x	523	Other retail trade of new goods in specialized stores	454319	Other Fuel Dealers
x	513	Wholesale of household goods	423850	Service Establishment Equipment and Supplies Merchant Wholesalers	x	525	Retail trade not in stores	445230	Fruit and Vegetable Markets
x	513	Wholesale of household goods	423910	Sporting and Recreational Goods and Supplies Merchant Wholesalers	x	525	Retail trade not in stores	454111	Electronic Shopping
x	513	Wholesale of household goods	423920	Toy and Hobby Goods and Supplies Merchant Wholesalers	x	525	Retail trade not in stores	454112	Electronic Auctions
x	513	Wholesale of household goods	423940	Jewelry, Watch, Precious Stone, and Precious Metal Merchant Wholesalers	x	525	Retail trade not in stores	454113	Mail-Order Houses
x	513	Wholesale of household goods	423990	Other Miscellaneous Durable Goods Merchant Wholesalers	x	525	Retail trade not in stores	454210	Vending Machine Operators
x	513	Wholesale of household goods	424120	Stationery and Office Supplies Merchant Wholesalers	x	525	Retail trade not in stores	454311	Heating Oil Dealers
x	513	Wholesale of household goods	424130	Industrial and Personal Service Paper Merchant Wholesalers	x	525	Retail trade not in stores	454390	Other Direct Selling Establishments
x	513	Wholesale of household goods	424210	Drugs and Druggists' Sundries Merchant Wholesalers	x	525	Retail trade not in stores	454390	Other Direct Selling Establishments
x	513	Wholesale of household goods	424310	Piece Goods, Notions, and Other Dry Goods Merchant Wholesalers	x	601	Transport via railways	482111	Line-Haul Railroads
x	513	Wholesale of household goods	424320	Men's and Boys' Clothing and Furnishings Merchant Wholesalers	x	601	Transport via railways	482112	Short Line Railroads
x	513	Wholesale of household goods	424330	Women's, Children's, and Infants' Clothing and Accessories Merchant Wholesalers	x	601	Transport via railways	487110	Scenic and Sightseeing Transportation, Land
x	513	Wholesale of household goods	424340	Footwear Merchant Wholesalers	x	601	Transport via railways	488210	Support Activities for Rail Transportation
x	513	Wholesale of household goods	424690	Other Chemical and Allied Products Merchant Wholesalers	x	602	Other land transport	484110	General Freight Trucking, Local

In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description	In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description
x	513	Wholesale of household goods	424920	Book, Periodical, and Newspaper Merchant Wholesalers	x	602	Other land transport	484121	General Freight Trucking, Long-Distance, Truckload
x	513	Wholesale of household goods	424950	Paint, Varnish, and Supplies Merchant Wholesalers	x	602	Other land transport	484122	General Freight Trucking, Long-Distance, Less than Truckload
x	513	Wholesale of household goods	424990	Other Miscellaneous Nondurable Goods Merchant Wholesalers	x	602	Other land transport	484210	Used Household and Office Goods Moving
x	513	Wholesale of household goods	424990	Other Miscellaneous Nondurable Goods Merchant Wholesalers	x	602	Other land transport	484220	Specialized Freight (except Used Goods) Trucking, Local
x	515	Wholesale of machinery, equipment and supplies	423120	Motor Vehicle Supplies and New Parts Merchant Wholesalers	x	602	Other land transport	484230	Specialized Freight (except Used Goods) Trucking, Long-Distance
x	515	Wholesale of machinery, equipment and supplies	423210	Furniture Merchant Wholesalers		602	Other land transport	485111	Mixed Mode Transit Systems
x	515	Wholesale of machinery, equipment and supplies	423410	Photographic Equipment and Supplies Merchant Wholesalers		602	Other land transport	485112	Commuter Rail Systems
x	515	Wholesale of machinery, equipment and supplies	423420	Office Equipment Merchant Wholesalers		602	Other land transport	485113	Bus and Other Motor Vehicle Transit Systems
x	515	Wholesale of machinery, equipment and supplies	423430	Computer and Computer Peripheral Equipment and Software Merchant Wholesalers		602	Other land transport	485119	Other Urban Transit Systems
x	515	Wholesale of machinery, equipment and supplies	423440	Other Commercial Equipment Merchant Wholesalers		602	Other land transport	485210	Interurban and Rural Bus Transportation
x	515	Wholesale of machinery, equipment and supplies	423450	Medical, Dental, and Hospital Equipment and Supplies Merchant Wholesalers		602	Other land transport	485310	Taxi Service
x	515	Wholesale of machinery, equipment and supplies	423490	Other Professional Equipment and Supplies Merchant Wholesalers		602	Other land transport	485320	Limousine Service
x	515	Wholesale of machinery, equipment and supplies	423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers		602	Other land transport	485410	School and Employee Bus Transportation
x	515	Wholesale of machinery, equipment and supplies	423690	Other Electronic Parts and Equipment Merchant Wholesalers		602	Other land transport	485510	Charter Bus Industry
x	515	Wholesale of machinery, equipment and supplies	423690	Other Electronic Parts and Equipment Merchant Wholesalers		602	Other land transport	485991	Special Needs Transportation
x	515	Wholesale of machinery, equipment and supplies	423720	Plumbing and Heating Equipment and Supplies [Hydronics] Merchant Wholesalers		602	Other land transport	485991	Special Needs Transportation
x	515	Wholesale of machinery, equipment and supplies	423730	Warm Air Heating and Air-Conditioning Equipment and Supplies Merchant Wholesalers		602	Other land transport	485999	All Other Transit and Ground Passenger Transportation
x	515	Wholesale of machinery, equipment and supplies	423740	Refrigeration Equipment and Supplies Merchant Wholesalers		602	Other land transport	485999	All Other Transit and Ground Passenger Transportation
x	515	Wholesale of machinery, equipment and supplies	423810	Construction and Mining (except Oil Well) Machinery and Equipment Merchant Wholesalers	x	602	Other land transport	487110	Scenic and Sightseeing Transportation, Land
x	515	Wholesale of machinery, equipment and supplies	423820	Farm and Garden Machinery and Equipment Merchant Wholesalers	x	602	Other land transport	487110	Scenic and Sightseeing Transportation, Land
x	515	Wholesale of machinery, equipment and supplies	423830	Industrial Machinery and Equipment Merchant Wholesalers	x	602	Other land transport	487990	Scenic and Sightseeing Transportation, Other
x	515	Wholesale of machinery, equipment and supplies	423840	Industrial Supplies Merchant Wholesalers	x	6301	Cargo handling	488119	Other Airport Operations



In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description	In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description
x	515	Wholesale of machinery, equipment and supplies	423850	Service Establishment Equipment and Supplies Merchant Wholesalers	x	6301	Cargo handling	488210	Support Activities for Rail Transportation
x	515	Wholesale of machinery, equipment and supplies	423860	Transportation Equipment and Supplies (except Motor Vehicle) Merchant Wholesalers	x	6301	Cargo handling	488320	Marine Cargo Handling
x	515	Wholesale of machinery, equipment and supplies	423910	Sporting and Recreational Goods and Supplies Merchant Wholesalers	x	6301	Cargo handling	488490	Other Support Activities for Road Transportation
x	515	Wholesale of machinery, equipment and supplies	423990	Other Miscellaneous Durable Goods Merchant Wholesalers	x	6302	Storage and warehousing	493110	General Warehousing and Storage
x	519	Other wholesale	423990	Other Miscellaneous Durable Goods Merchant Wholesalers	x	6302	Storage and warehousing	493120	Refrigerated Warehousing and Storage
x	519	Other wholesale	424990	Other Miscellaneous Nondurable Goods Merchant Wholesalers	x	6302	Storage and warehousing	493130	Farm Product Warehousing and Storage
x	521	Non-specialized retail trade in stores	445110	Supermarkets and Other Grocery (except Convenience) Stores	x	6302	Storage and warehousing	493190	Other Warehousing and Storage
x	521	Non-specialized retail trade in stores	445120	Convenience Stores	x	6303	Other supporting transport activities	488111	Air Traffic Control
x	521	Non-specialized retail trade in stores	447110	Gasoline Stations with Convenience Stores	x	6303	Other supporting transport activities	488119	Other Airport Operations
x	521	Non-specialized retail trade in stores	452111	Department Stores (except Discount Department Stores)	x	6303	Other supporting transport activities	488190	Other Support Activities for Air Transportation
x	521	Non-specialized retail trade in stores	452112	Discount Department Stores	x	6303	Other supporting transport activities	488210	Support Activities for Rail Transportation
x	521	Non-specialized retail trade in stores	452910	Warehouse Clubs and Supercenters	x	6303	Other supporting transport activities	488310	Port and Harbor Operations
x	521	Non-specialized retail trade in stores	452910	Warehouse Clubs and Supercenters	x	6303	Other supporting transport activities	488330	Navigational Services to Shipping
x	521	Non-specialized retail trade in stores	452990	All Other General Merchandise Stores	x	6303	Other supporting transport activities	488390	Other Support Activities for Water Transportation
x	521	Non-specialized retail trade in stores	453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)	x	6303	Other supporting transport activities	488490	Other Support Activities for Road Transportation
x	523	Other retail trade of new goods in specialized stores	441222	Boat Dealers	x	6303	Other supporting transport activities	488999	All Other Support Activities for Transportation
x	523	Other retail trade of new goods in specialized stores	441229	All Other Motor Vehicle Dealers		6303	Other supporting transport activities	812930	Parking Lots and Garages
x	523	Other retail trade of new goods in specialized stores	441310	Automotive Parts and Accessories Stores	x	6304	Activities of travel agencies and tour operators; tourist assistance activities n.e.c.	488999	All Other Support Activities for Transportation
x	523	Other retail trade of new goods in specialized stores	442110	Furniture Stores		6304	Activities of travel agencies and tour operators; tourist assistance activities n.e.c.	561510	Travel Agencies
x	523	Other retail trade of new goods in specialized stores	442210	Floor Covering Stores		6304	8	561520	Tour Operators
x	523	Other retail trade of new goods in specialized stores	442291	Window Treatment Stores	x	6304	Activities of travel agencies and tour operators; tourist assistance activities n.e.c.	561591	Convention and Visitors Bureaus
x	523	Other retail trade of new goods in specialized stores	442299	All Other Home Furnishings Stores	x	6304	Activities of travel agencies and tour operators; tourist assistance activities n.e.c.	561599	All Other Travel Arrangement and Reservation Services

In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description	In NAICS Calc	ISIC	ISIC Description	2002 NAICS	NAICS Description
x	523	Other retail trade of new goods in specialized stores	442299	All Other Home Furnishings Stores	x	6304	Activities of travel agencies and tour operators; tourist assistance activities n.e.c.	713990	All Other Amusement and Recreation Industries
x	523	Other retail trade of new goods in specialized stores	443111	Household Appliance Stores	x	6309	Activities of other transport agencies	488390	Other Support Activities for Water Transportation
x	523	Other retail trade of new goods in specialized stores	443112	Radio, Television, and Other Electronics Stores	x	6309	Activities of other transport agencies	488490	Other Support Activities for Road Transportation
x	523	Other retail trade of new goods in specialized stores	443112	Radio, Television, and Other Electronics Stores		6309	Activities of other transport agencies	488510	Freight Transportation Arrangement
x	523	Other retail trade of new goods in specialized stores	443120	Computer and Software Stores	x	6309	Activities of other transport agencies	488991	Packing and Crating
x	523	Other retail trade of new goods in specialized stores	443130	Camera and Photographic Supplies Stores		6309	Activities of other transport agencies	541614	Process, Physical Distribution, and Logistics Consulting Services
x	523	Other retail trade of new goods in specialized stores	444110	Home Centers		6411	National post activities	491110	Postal Service
x	523	Other retail trade of new goods in specialized stores	444120	Paint and Wallpaper Stores	x	6412	Courier activities other than national post activities	492110	Couriers
x	523	Other retail trade of new goods in specialized stores	444120	Paint and Wallpaper Stores	x	6412	Courier activities other than national post activities	492210	Local Messengers and Local Delivery
x	523	Other retail trade of new goods in specialized stores	444130	Hardware Stores		6420	Telecommunications	517110	Wired Telecommunications Carriers
x	523	Other retail trade of new goods in specialized stores	444190	Other Building Material Dealers		6420	Telecommunications	517211	Paging
x	523	Other retail trade of new goods in specialized stores	444190	Other Building Material Dealers		6420	Telecommunications	517212	Cellular and Other Wireless Telecommunications
x	523	Other retail trade of new goods in specialized stores	444210	Outdoor Power Equipment Stores		6420	Telecommunications	517310	Telecommunications Resellers
x	523	Other retail trade of new goods in specialized stores	444220	Nursery, and Garden Center, and Farm Supply Stores	x	6420	Telecommunications	517410	Satellite Telecommunications
x	523	Other retail trade of new goods in specialized stores	446110	Pharmacies and Drug Stores		6420	Telecommunications	517910	Other Telecommunications
x	523	Other retail trade of new goods in specialized stores	446120	Cosmetics, Beauty Supplies, and Perfume Stores	x	6420	Telecommunications	518111	Internet Service Providers
x	523	Other retail trade of new goods in specialized stores	446130	Optical Goods Stores	x	6420	Telecommunications	812990	All Other Personal Services
x	523	Other retail trade of new goods in specialized stores	446199	All Other Health and Personal Care Stores	x	7240	Database activities and on-line distribution of electronic content	516110	Internet Publishing and Broadcasting
x	523	Other retail trade of new goods in specialized stores	448110	Men's Clothing Stores	x	7240	Database activities and on-line distribution of electronic content	518112	Web Search Portals

Note: All industries checked with "x" are industries included in the NAICS based copyright industries. The summary categorizations (core, interdependent, partial, and non-dedicated support) are based on ISIC standards, and NAICS based copyright industries do not follow the same breakdown.



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# The Economic Contribution of Copyright-Based Industries in Latvia

THE 2000 REPORT

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## 1. Executive Summary

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Copyright industries are involved in the creation, production, and dissemination of materials covered by copyright laws and play increasingly important economic roles in contemporary societies. This study considers the economic contribution of copyright based industries to the Latvian economy in 2000, a base year now being employed for international comparisons.

This study was undertaken in cooperation with the Ministry of Culture of the Republic of Latvia and the Central Statistical Bureau of Latvia, with support from the World Intellectual Property Organization, the Finnish Ministry of Education and Culture and the Dutch Copyright Federation. The report was produced by Prof. Robert G. Picard of the Media Management and Transformation Centre, Jönköping International Business School, Jönköping University, Sweden, and Timo E. Toivonen of the Media Group, Business Research and Development Centre, Turku School of Economics and Business Administration, Finland.

The research was overseen by a steering committee that provided support, advice, and evaluation of the study. Members of the steering committee were Dimiter Gantchev, World Intellectual Property Organization, Switzerland; Guntis Jekabsons, Ministry of Culture, Latvia; Jukka Liedes, Ministry of Education and Culture, Finland; and Willem Wanrooij, Dutch Copyright Federation, the Netherlands.

The study reveals that core and interdependent copyright industries contributed 4 percent of GDP and 4.4 percent of employment to the Latvian economy in the year 2000. Print media, advertising, and software and databases made the most important economic contributions.

### Copyright industries:

- **produced a turnover of €832 million;**
- **contributed value added of €315 million;**
- **provided employment to 41,225 persons**

Copyright industries in Latvia make a larger contribution to GDP than those in Austria, Belgium, Greece, Ireland, Luxembourg, Portugal, and Spain.

The contribution of the core and interdependent copyright industries exceeds those of many other industries in the Latvian economy:

### Copyright industries contribute:

- **2 and a half times more value to GDP than the manufacture of textiles and textile products;**
- **8 times more than the manufacture of machinery and equipment;**
- **7 times more employment than the manufacture of transport equipment**
- **almost 9 times more employment than the production of meat products\***

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\* These differences are based on comparisons of the total value of the core and interdependent copyright industries contribution to data on the other industries compiled by the Central Statistical Bureau of Latvia and Eurostat.

In addition to the clear contribution of the core and interdependent copyright industries, other industries whose activities involve partial use, transport, and other support of copyrighted products and goods also contribute to the economy. Based on rough estimates in this study, these contribute an additional €93.27 million in value added and 11,218 in employment to the Latvian economy.

Due to the nature of trade statistics, full data regarding copyright industries was not available. However, data for four major copyright industries revealed that Latvian exports related to copyright account for more than €35 million and produce a trade surplus of nearly €17 million. Latvian copyright industries show negative trade balances for books and newspapers and periodicals, but positive trade balances for other printed matter and art.

## 2. Introduction

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The object of copyright is a work. The work is a product of the human mind that exemplifies the original creative input of its designer. The copyrighted part of a copyright good is consumed in the mind of the consumer. Copyright products and goods have important social and cultural functions, but they also make a significant economic contribution by creating economic value.

Copyright and neighbouring rights (sometimes called related rights) are a part of intellectual property rights that are created in the legal system to enhance the creation and to protect the ownership of the original creator. In the legal system, copyright and neighbouring rights constitute only a part of intellectual property rights. The other part consists of industrial property rights, such as patents. What distinguishes copyright from other intellectual property rights is that copyright follows the creation of a work without a separate recognition process of that right.

This study concentrates on copyright and neighbouring rights. Copyright covers creative work such as a writer putting words down on paper, a photographer taking a photograph, or a software designer creating a code. Neighbouring rights include rights of performing artists, rights of television and radio broadcasters, rights of producers of phonograms, and rights of producers of motion pictures. In this study the term 'copyright' is used in most cases to cover both copyright and neighbouring rights.

Works protected by copyright and other subject matter protected by neighbouring rights and industries exploiting material protected by copyright are important factors in the economies of industrialised countries. The economic impact of the copyright industries exceeds that of many more traditional industries. In several countries works and other subject matter are also an important source of export income.

The ability to exploit the economic values related to the work or other subject matter is important for the right holder of protected material. Some protected material, such as literary works, phonograms or computer software, can be copied and reproduced relatively easily. Moreover, the growth of the Internet has made it possible to distribute works rapidly and extensively at little or no cost. Copyright and neighbouring rights protection is needed to ensure that the creator of a work or the right holder of other subject matter is rewarded for the exploitation of the work or other production. By creating legal safeguards for protected material and by enforcing these protective legislative measures, laws, and legal enactments, nations can promote the development of copyright industries into important business sectors.

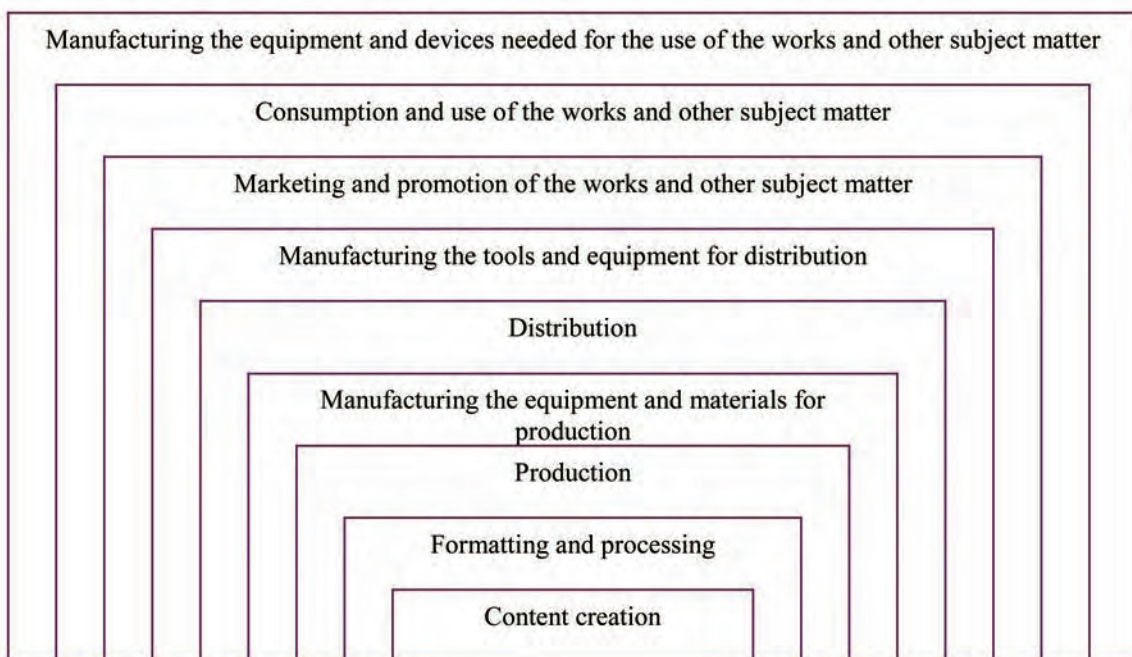
In each country, the concept of copyright and neighbouring rights protection is defined in the legislation. A high degree of international consistency is achieved through international conventions.

As content industries and new information and communication technologies keep increasing the overall importance of copyright-protected products and goods in post-industrial society, copyright has more and more been studied from the economic and business perspective. The subjects of these studies include the economic contribution of copyright to national economies.

The economic contribution of copyright has been studied in a number of nations, including Austria (1986), Australia (1981, 1986, 1993, 2001), Canada (1980, 2002), Finland (1991, 2000), Germany (1986), the Netherlands (1982, 1985, 1989, 1994 and 1998), New Zealand (1988), Norway (2002), Sweden (1978), the UK (1982, 1990, 2001), and the USA (1977, 1982, 1989, 1990, 1991, 1992, and annually since 1994). A Europe-wide study was carried out for the European Commission in 2003 covering all EU member states at that time.

The creation of works and other subject matter forms only part of the economic impact of copyright. One can, on good grounds, say that the creation of a work is the starting point in its exploitation. However, in many cases the work needs to be modified, packaged, duplicated and distributed for the use of consumers. Figure 1 outlines the activities related to the production, distribution (referring to all acts of dissemination or diffusion, including distribution of physical copies, communication to the public and broadcasting) and use of copyright-protected material. As can be seen, the activities involved are numerous. Works and other subject matter project their effects on the economy when they are created or produced, distributed and finally used.

**Figure 1:** Economic Activities Related to the Production, Packaging and Distribution of Material Protected by Copyright and Neighbouring Rights



*Source: Economic Importance of Copyright Industries in Finland (2000)*

Obviously the activities related to the creation, production, distribution and use of works and other subject matter vary in different categories of works, as well as other subject matter. For example, a literary work, such as a book in its traditional form, must be printed and physically distributed, but no special equipment is needed to use it. Phonograms, on the other hand, must also be stored in some format, for example on a C-cassette, a CD or in an MP3-file. Recorded music can be distributed either physically on CDs or cassettes through music stores or by mail delivery, or communicated in digital form via the Internet, in which case additional equipment is needed for transmission. The use, such as listening to recorded music, always requires a device, for instance a CD player.

The demand for material protected by copyright or neighbouring rights can be divided according to the use of the material. The demand can be either direct or indirect. Direct demand means that the work or other subject matter is “consumed” as it is by the purchaser. Indirect demand means that the work or other subject matter is used by the purchaser in other productions or in other works and that in some cases the material may be modified.



## 3. Copyright-Based Industries in the context of the National Economy

### 3.1. Latvian Copyright Law

The history of copyright protection in Latvia dates back to March 20, 1911 when the law “On author’s rights” was adopted. Since then several laws have been passed based on political, legislative and technological developments:

- 1937 - “On author’s rights”;
- 1963 - “Authors rights” (part of the Civil Code);
- 1993 - “On copyright and neighbouring rights”.
- 2000 - “*Copyright Law*,” the law in force, was adopted on April 6.

The 2000 *Copyright Law* incorporates all the principles of copyright that are found in all major international agreements to which Latvia is a signatory: the Berne Convention for the Protection of Literary and Artistic Works, the International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations (Rome Convention), the Geneva Convention for the Protection of Producers of Phonograms Against Unauthorized Duplication of Their Phonograms, the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty.

Since May 1, 2004 Latvia has been a member of the European Union and EU directives have become a part of the Latvian legal system. The *Copyright Law* has been harmonized with EU directives: on the legal protection of computer programs (91/250/EEC), on rental rights and lending rights and on certain related rights (92/100/EEC), on the coordination of certain rules concerning copyright and rights related to copyright applicable to satellite broadcasting and cable retransmission (93/83/EEC), harmonizing the term of protection of copyright and certain related rights (93/98/EEC), on the legal protection of databases (96/9/EC), on the harmonisation of certain aspects of copyright and related rights in the information society (2001/29/EC), on the resale right for the benefit of the author of an original work of art (2001/84/EC).

Unlike all other previous laws, the *Copyright Law* recognizes and protects the rights of all works and all right holders that enjoy protection at international level. The *Copyright Law* defines protected works as the “result of an author’s creative activities in the literary, scientific or artistic domain, irrespective of the mode or form of its expression and its value”. There is no special registration or any other formality needed to receive copyright protection. Neighbouring rights are also protected under the *Copyright Law*.

### 3.2. Copyright-Based Industries

Four copyright industry groupings are recognised as making economic contributions and are defined and discussed in the WIPO *Guide on Surveying the Economic Contribution of the Copyright-Based Industries* (2003): Core Copyright Industries, Interdependent Copyright Industries, Partial Copyright Industries, and Non-Dedicated Support Industries.

The primary categories are the core copyright industries and the interdependent copyright industries. Core industries are wholly engaged in creation, production and manufacturing, performance, broadcast, communication and exhibition, or distribution and sales of works and other protected subject matter. Interdependent industries 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.

Two types of industry provide some economic contributions related to copyright but the industries themselves are not copyright industries. The partial copyright industries are industries in which a portion of the activities is related to protected works and subject matter, such as apparel, jewelry, wall coverings, and design. The non-dedicated support industries are industries in which a portion of the economic contribution involves copyrighted works and subject matter not included in the core and interdependent categories, such as transport, telephony, and retailing.

Copyright contributions in the secondary categories, namely the partial and the non-dedicated copyright industries, are not reported separately in national accounts statistics and require sophisticated sampling and estimation techniques that were beyond the scope of this analysis. Basic data for the industries covered by the partial and non-dedicated support categories that were available in Latvian statistics are presented in this report with rough estimates of the portion attributable to copyright industries.

### 3.2.1. Core Copyright Industries

As stated in the previous chapter, copyright protection projects or produces economic effects widely throughout the economy. Works and other subject matter make different contributions to different sectors of the economy. It is possible to identify sectors or industries where copyright and neighbouring rights have fundamental importance, that is to say industries which would not exist without copyright-protected works and other protected subject matter. These industries can be called core copyright industries. Additionally, other sectors or industries can be classified according to the importance of copyright. *Table 1* describes the industries that are considered to be the core copyright industries.

The core copyright industries operate almost exclusively with material protected by copyright and neighbouring rights. These industries create, produce or distribute works and other subject matter. All activities in these industries are tied to protected material, and their existence depends on copyright and neighbouring rights protection. In this study, all the activities of these industries are included in the measurement of the economic contribution of copyright and neighbouring rights unless some part of the operation is clearly identifiable as not copyright-related.

**Table 1:** Core Copyright Industries

Type of Copyright Industry	Main Groups of Industries	Subgroups
<b>Core copyright industries</b>	Press and literature	<ul style="list-style-type: none"> <li>• Authors, writers, translators</li> <li>• Newspapers</li> <li>• News and feature agencies</li> <li>• Magazines/periodicals</li> <li>• Book publishing</li> <li>• Cards and maps, directories and other published material</li> <li>• Pre-press, printing and post-press of books, magazines, newspapers and advertising materials</li> <li>• Wholesale and retail of press and literature</li> <li>• Libraries</li> </ul>
	Music, theatrical productions and opera	<ul style="list-style-type: none"> <li>• Composers, lyricists, arrangers, choreographers, directors, performers and other personnel</li> <li>• Printing and publishing of music</li> <li>• Production/manufacturing of recorded music</li> <li>• Wholesale and retail of recorded music</li> <li>• Artistic and literary creation and interpretation</li> <li>• Performances and allied agencies</li> </ul>
	Motion pictures and video	<ul style="list-style-type: none"> <li>• Writers, directors, actors etc.</li> <li>• Motion pictures and video production and distribution</li> <li>• Motion picture exhibition</li> <li>• Video rentals and sales, video on demand</li> <li>• Allied services</li> </ul>
	Radio and television	<ul style="list-style-type: none"> <li>• National radio and television broadcasting companies</li> <li>• Other radio and television broadcasters</li> <li>• Independent producers</li> <li>• Cable television (systems and channels)</li> <li>• Satellite television</li> <li>• Allied services</li> </ul>
	Photography	<ul style="list-style-type: none"> <li>• Studios and commercial photography</li> <li>• Photo agencies and libraries</li> </ul>
	Software and databases	<ul style="list-style-type: none"> <li>• Programming, development and design, manufacturing</li> <li>• Wholesale and retail of pre-packaged software</li> <li>• Database processing and publishing</li> </ul>
	Visual and graphic arts	<ul style="list-style-type: none"> <li>• Artists</li> <li>• Art galleries, other wholesale and retail</li> <li>• Picture framing and other allied services</li> <li>• Graphic design</li> </ul>
	Advertising services	<ul style="list-style-type: none"> <li>• Agencies, buying services</li> </ul>
	Copyright collecting societies	



### 3.2.2. 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. The interdependent industries can be divided on the basis of their complementarities with the core copyright industries into core interdependent and partially interdependent copyright industries. The first group includes industries that produce goods that are jointly consumed with the products of core copyright industries. The second group includes industries that produce goods that to some extent contain some part of copyright material but to a lesser extent than core interdependent industry products. The core interdependent copyright industries and partial interdependent copyright industries are described in *Table 2*.

**Table 2:** Interdependent Copyright Industries

Type of Copyright Industry	Main Groups of Industries	Subgroups
<b>Core interdependent copyright industries</b>	TV sets, radios, VCRs, CD players, DVD players, cassette players, electronic game equipment, and other similar equipment	<ul style="list-style-type: none"> <li>• Manufacture</li> <li>• Wholesale and retail</li> </ul>
	Computers and equipment	<ul style="list-style-type: none"> <li>• Manufacture</li> <li>• Wholesale and retail</li> </ul>
	Musical instruments	<ul style="list-style-type: none"> <li>• Manufacture</li> <li>• Wholesale and retail</li> </ul>
<b>Partial interdependent copyright industries</b>	Photographic and cinematographic instruments	<ul style="list-style-type: none"> <li>• Manufacture</li> <li>• Wholesale and retail</li> </ul>
	Photocopiers	<ul style="list-style-type: none"> <li>• Manufacture</li> <li>• Wholesale and retail</li> </ul>
	Blank recording material	<ul style="list-style-type: none"> <li>• Manufacture</li> <li>• Wholesale and retail</li> </ul>
	Paper	<ul style="list-style-type: none"> <li>• Manufacture</li> <li>• Wholesale and retail</li> </ul>

Interdependent copyright industries are closely associated with copyright-protected material, either with their production or exploitation. These industries produce and manufacture hardware used in the creation, production, transmission in the networks or consumption of works and other subject matter. Obviously, the hardware can also be used in connection with material, which is not protected by copyright or neighbouring rights, although such use is only a fraction of the total.

### 3.2.3. Partial Copyright Industries

The industries in which activities and production partially depend on material protected by copyright or neighbouring rights are called partial copyright industries. Material protected by copyright and neighbouring rights generates part of the production value of such industries. However, the impact of works and other subject matter on the total production value and employment of these industries is difficult to calculate accurately and the proportion varies between industries and nations. In this study, the contributions of these industries are separated from the more direct copyright contribution calculations for precision, but data on partial industries and the estimated copyright contributions are included in section 4.3.



#### 3.2.4. Non-Dedicated Copyright Industries

Industries whose contribution is enhanced because they provide support to copyright industries — such as transportation, telephony, and general retailing — are called non-dedicated support industries. As is the case with partial copyright industries, the impact of copyright products and goods on the production value and employment of these industries is difficult to calculate accurately and the proportions vary between industries and nations. In this study, the contributions of these industries are separated from the more direct copyright contribution calculations for precision, but data on non-dedicated support industries and the estimated copyright contribution are included in section 4.4.

#### 3.3. Measurement of the Economic Contribution of Copyright and Neighbouring Rights

The size of an industry can be described in many ways: net sales, turnover, number of employees, value of assets and net profits. When estimating the contribution of an industry to the total economy, one can obviously calculate the industry's relative share of the total employment, the total profit of the industry, etc., but these indicators have some weaknesses. They do not measure accurately the economic contribution of the industry but rather some other aspects. Turnover, for example, actually measures the gross output of an industry. Gross output in turn contains double counting of certain activities. For example, the printing and publishing sector turnover (and thus gross output) includes the cost of paper, which is also included in the gross output of the paper industry.

The best method for assessing the economic contribution of an industry is to use value added or the Gross Value Added (GVA). The contribution of an industry is the share of its value added of the Gross Domestic Product (GDP). The value added of an industry can be calculated in different ways. One way is to deduct other costs except labour and capital costs from net revenues. Another method is to add labour costs (including all social security contributions and taxes) to operating profit. The value added of an industry is obviously the sum of the figures for all the companies in that sector.

All the previous studies on the economic contribution of copyright and neighbouring rights have used value added or GVA and its share of GDP as the main indicator. In addition to value added, the studies present the labour force figures for the copyright based industries and their share of total employment.

#### 3.4 Study Methods

In this study the economic contribution of copyright and neighbouring rights is measured according to the guidelines drawn up by the World Intellectual Property Organization (WIPO).

The study includes core copyright industries and interdependent copyright industries (copyright hardware). The categories of "partial copyright industries" and "non-dedicated support industries" are only partially included in the calculations because of the inability to adequately estimate portions of their contribution related to copyright.

The indicators for the contribution of Latvian copyright industries to the national economy are turnover, value added and the number of employees. The value added is obtained when labour costs (including social security contributions and taxes) are added to the operating margin and the income from the sale of fixed assets is deducted from this sum. The GDP share of GVA is calculated to reveal the economic contribution of the copyright industries to the domestic economy. In addition to the value added, the work force of the copyright industries is calculated and compared with the total work force in Latvia. The study also presents some values of the foreign trade of copyrighted goods in Latvia.

All the previous studies in this field have used the same approach: they identify and classify copyright industries and calculate their value added. Revenues, the number of employees and exports have been presented as additional information in some studies.

The data were collected primarily from Eurostat industrial statistics. In order to fill the rather substantial gaps in the Eurostat data some additional sources were used including European Audiovisual Observatory and OECD and UNESCO statistics. Assistance was also provided by the staff of the Central Statistical Bureau of Latvia.

The Eurostat data source used is New Cronos database, theme 4: Industry, Trade and Services: Annual Enterprise Statistics. The values for turnover are the indicator 12110 Turnover, the values for value added are the indicator 12150 Value Added at Factor Cost, and the values for number of employees are the indicator 16130 Number of Employees.

For some industries the turnover data was available but the value added data was unobtainable. In those cases the assessment of the value added was made by calculating the average value added to turnover share in the EU-15 countries for that particular industry and using that average share to calculate the value added from the turnover of that particular Latvian industry.

Data for the artistic and literary creation and performances category was not available from the standard data sources. This category is an important one for both cultural and economic reasons. We suggest that follow-up activities seek information from professional and trade organizations, as this was not possible within the framework of the current study.

This study does not include copyright piracy or other illegal uses of copyright-protected works and other protected subject matter, because such activities are not included in the official or other statistics used.

## 4. Economic contribution of Copyright Industries in the Latvian economy

### 4.1. Contribution of the Core Copyright Industries

This section presents the figures for the core copyright industries in Latvia. The year chosen for the analysis is 2000. *Table 3* shows that the reported combined turnover of the core copyright industries was €532 million and the reported combined value added was €228 million, which is 2.9% of GDP. The combined reported number of employees in the core copyright industries was 34,556, which represents 3.7% of the total workforce. The difference in the share of GDP and the share of workforce is partly explained by the fact that in some industries data on the number of employees were available whereas the turnover and value added data were not.

Data with which to assess the economic contributions of photography and visual and graphic arts was not available. The situation is rather similar to the EU-15 countries where the problems of data availability were encountered for the same industries.

**Table 3:** Economic Contribution of Latvian Core Copyright Industries in 2000

CORE COPYRIGHT INDUSTRIES	Turnover (million €)	Value added (million €)	Value added / GDP	Number of employees	Employees / total employment
<b>Press and Literature</b>	<b>272.1</b>	<b>105.7</b>	<b>0.014</b>	<b>15,794</b>	<b>0.017</b>
Newspapers	30.1	15.6		1,865	
News and feature agencies, etc.					
Magazines and periodicals	46.2	24.2		1,854	
Books, maps	24.1	8.6		835	
Other publishing (cards, directories, etc.)	0.7	0.1		80	
Pre-press, printing, and post press of published materials	80.1	40.2		3,609	
Retail of press and literatures	77.0	10.5		2,901	
Libraries <sup>1</sup>	13.9	6.5		4,650	
<b>Music, Theatrical Productions, Opera</b>	<b>7.5</b>	<b>0.9</b>	<b>0.000</b>	<b>573</b>	<b>0.01</b>
Printing and publishing of sheet music	0.7	0.1		60	
Reproduction of recorded music				279	
Wholesale and retail of recorded music <sup>2</sup>	6.8	.,8		234	
Artistic and literary creation and interpretation					
Performances and allied agencies (booking agencies, ticket agencies, etc)					

Table 3 (continued)

<sup>1</sup> Source: UNESCO library statistics.

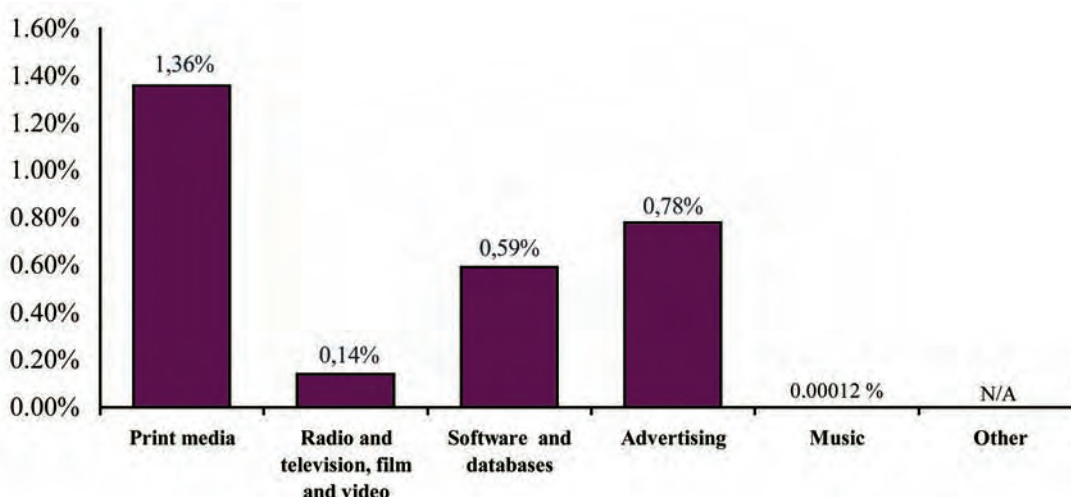
<sup>2</sup> Turnover from the recording industry data, estimated value added based on the average EU-15 value added to turnover ratio in music sales. Sources: Eurostat New Cronos and Factors and Impacts in the Information Society. A Prospective Analysis in the Candidate Countries. Report on Latvia, March 2004.

Table 3 (continued)

<b>Film and Video</b>	<b>7.3</b>	<b>3.4</b>	<b>0.000</b>	<b>2,951</b>	<b>0.003</b>
Motion picture and video production				1,572	
Motion picture and video distribution				180	
Motion picture exhibition <sup>3</sup>	5.3	2.4		1,199	
Video rentals and sales	2.0	1.0			
<b>Photography</b>					
Photographic Services, Studios, etc.					
<b>Visual and Graphic Arts</b>					
Art galleries and other wholesale and retail					
<b>Radio and Television</b>	<b>43</b>	<b>11</b>	<b>0.001</b>	<b>8,900</b>	<b>0.009</b>
Radio and television activities <sup>4</sup>	43.0	11.1		8,900	
Transmission via cable and satellite networks					
<b>Software and Databases<sup>5</sup></b>	<b>97.9</b>	<b>45.9</b>	<b>0.006</b>	<b>3,947</b>	<b>0.004</b>
<b>Advertising</b>	<b>104.3</b>	<b>60.7</b>	<b>0.008</b>	<b>2,401</b>	<b>0.003</b>
<b>TOTAL</b>	<b>532</b>	<b>228</b>	<b>2.9%</b>	<b>34,566</b>	<b>3.7%</b>

The economic contribution of copyright industries is not evenly distributed between them. The two largest copyright industries, the press and literature and advertising, account for more than two thirds of the total value added of the core copyright industries.

Figure 2: Contribution of Latvian Core Copyright Sectors to GDP



<sup>3</sup> Estimated from gross box office for year 2000. Source: European Audiovisual Observatory Yearbook 2002, vol. 3.

<sup>4</sup> Value added estimated according to average value added to turnover share in the EU-15.

<sup>5</sup> Sources: Eurostat New Cronos and Factors and Impacts in the Information Society. A Prospective Analysis in the Candidate Countries. Report on Latvia, March 2004.



#### 4.2. Contribution of the Interdependent Copyright Industries

Table 4 shows the economic impact of the interdependent copyright industries (copyright hardware). The turnover of these industries amounted to €300.7 million. The value added of these industries was €86.8 million, which represents 1.1% of GDP.

The total contribution to GDP is the aggregate of core copyright industries (2.9%) and interdependent copyright industries (1.1%), which makes 4.0%. In comparison, the corresponding figure for the EU-15 industries in 2000 was 5.3%.

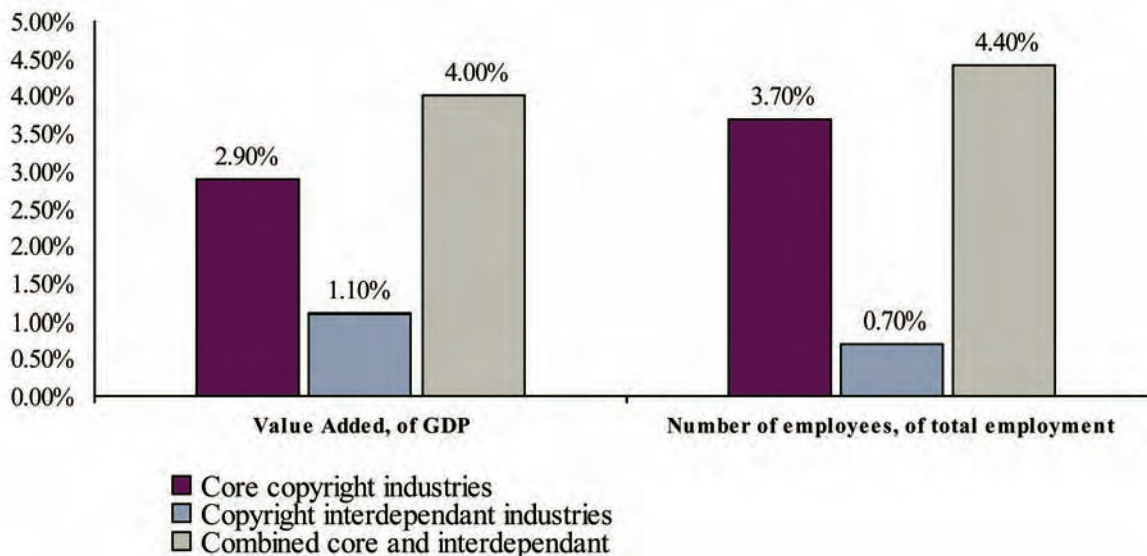
The total share of employment is the sum of core copyright industries (3.7%) and interdependent copyright industries (0.7%), which makes 4.4%.

**Table 4:** Economic Contribution of Latvian Interdependent Copyright Industries in 2000

COPYRIGHT DEPENDENT INDUSTRIES	Turnover (million €)	Value added (million €)	Value added / GDP	Number of employees	Employees / total employment
<b>TV sets, radio sets, VCRs, CD players, cassettes, and other equipment</b>	<b>3.0</b>	<b>0.3</b>	<b>0.000</b>	<b>356</b>	<b>0.000</b>
Manufacture	3.0	0.3		356	
<b>Wholesale and retail of radio and television goods and musical instruments</b>	<b>203.0</b>	<b>42.0</b>	<b>0.005</b>	<b>6,069</b>	<b>0.006</b>
<b>Computers and Equipment</b>	<b>42.0</b>	<b>18.1</b>	<b>0.002</b>	<b>143</b>	<b>0.000</b>
Manufacture	15.8	2.2		143	
Wholesale and retail <sup>6</sup>	26.2	15.9			
<b>Musical Instruments</b>	<b>0.1</b>	<b>0.1</b>	<b>0.000</b>	<b>26</b>	<b>0.000</b>
Manufacture	0.1	0.1		26	
<b>Photographic and Cinematographic Instruments</b>	<b>1.0</b>	<b>0.6</b>	<b>0.000</b>	<b>65</b>	<b>0.000</b>
Manufacture	1.0	0.6		65	
Manufacture of prepared unrecorded media					
Manufacture of paper	51.6	25.7			
<b>TOTAL</b>	<b>300.7</b>	<b>86.8</b>	<b>1.1%</b>	<b>6,659,0</b>	<b>0.7%</b>

<sup>6</sup>Includes wholesale only. Source: Factors and Impacts in the Information Society. A Prospective Analysis in the Candidate Countries. Report on Latvia, March 2004.

**Figure 3:** Latvian Core and Interdependent Contributions Compared and Combined



**4.3. Contribution of the Partial Copyright Industries**

Data on partial copyright industries was collected for this study, however, independent estimates for the portions directly attributable to copyright in Latvia have not been made. The contributions for those overall industries are:

**Table 5.** Turnover, Value-Added, and Employment in Partial Copyright Industries

	Turnover	Value added	Number of employees
Manufacture of textiles and textile products	274	115.2	24,963
Manufacture of wearing apparel; dressing; dyeing of fur	111.6	52.6	14,301
Manufacture of footwear	5.1	1.1	653
Manufacture of wallpaper	: cp	: cp	53 p
Manufacture of furniture	106.2	41.6	7,335
Striking of coins	: cp	: cp	1
Manufacture of jewellery and related articles n.e.c.	: cp	: cp	159 p
Manufacture of games and toys	6	3.8	728
Miscellaneous manufacturing n.e.c.	16	6.5	1439
<b>Total</b>	<b>518.9</b>	<b>220.8</b>	<b>49,632</b>

c=confidential data; p = provisional data

In two recent studies, Singapore and the USA, estimates of the contribution of the partial copyright industries were made. No independent estimate has been made for Latvia.<sup>7</sup> However, using an averaged factor based on the Singapore and USA studies to establish the potential percentage of the partial copyright industry in Latvia attributable to copyright, this industry can be considered to have contributed an additional value added of €22.47 million and 4,182 employees in 2000.

<sup>7</sup> Creation of accurate factors to estimate the copyright-related value requires survey work and discussion with industry personnel which was beyond the scope of this study. Appropriate factors will vary from country to country depending upon industry structure, production methods, costs for resources and production, and prices for goods and services sold.



**Table 6.** Calculation of Partial Copyright Industry Contributions

	Averaged Factor*	Latvian Value-Added million €	Latvian Employment
Manufacture of textiles and textile products	0.42%	0.48	105
Manufacture of wearing apparel; dressing; dyeing of fur	0.46%	0.24	66
Manufacture of footwear	0.42%	0.00	3
Manufacture of wallpaper	1.65%		1
Manufacture of furniture	41.00%	17.06	3,007
Striking of coins	8.25%		0
Manufacture of jewellery and related articles n.e.c.	9.13%		15
Manufacture of games and toys	45.50%	1.73	331
Miscellaneous manufacturing n.e.c.	45.50%	2.96	655
<b>Total</b>		<b>22.47</b>	<b>4,182</b>

\*This factor is an average based on factors used in studies recently completed in Singapore and the USA.

#### 4.4. Contribution of the Non-Dedicated Support Industries

Data on non-dedicated support industries was collected for this study; however, independent estimates for the portions directly attributable to copyright in Latvia have not been made. The contributions for those industries overall are:

**Table 7.** Turnover, Value-Added, and Employment in Non-Dedicated Support Industries

	Turnover	Value added	Number of employees
Wholesale trade and commission trade, except motor vehicles and motorcycles	5159.3	605.8	42,169
Retail trade, except motor vehicles, motorcycles; repair of personal and household goods	2179.6	250.6	8,2879
Land transport; transport via pipelines	533.1	256.2	38,574
Water transport	5.8	1.7	355
Air transport	59.5	11.4	577
Support and ancillary transport activities; activities of travel agencies	953.5	350.3	14,860
Post and courier activities	: c	: c	7,352
Telecommunications	: cp	: cp	6,771
<b>Total</b>	<b>8890.8</b>	<b>1476</b>	<b>193,537</b>

c = confidential data; p = provisional data

The direct contribution of the non-dedicated support industries to the Latvian economy has not been surveyed independently in this study. However, on the basis of the averaged factor derived from similar surveys in other countries it has been possible to estimate that the non-dedicated support industries in 2000 contributed an additional value €60.80 million and 7036 employees in 2000.

**Table 8.** Calculation of Non-Dedicated Support Industry Contribution

	Averaged Factor *	Latvian Value-Added, million €	Latvian Employment
Wholesale trade and commission trade, except motor vehicles and motorcycles	3.55%	21.51	1497
Retail trade, except motor vehicles, motorcycles; repair of personal and household goods	4.15%	10.40	3439
Land transport; transport via pipelines	3.08%	7.88	1186
Water transport	5.80%	0.10	21
Air transport	5.30%	0.60	31
Support and ancillary transport activities; activities of travel agencies	5.80%	20.32	862
Post and courier activities	5.80%		
Telecommunications	4.25%		
<b>Total</b>		<b>60.80</b>	<b>7036</b>

\*This factor is an average based on factors used in studies recently completed in Singapore and the USA.



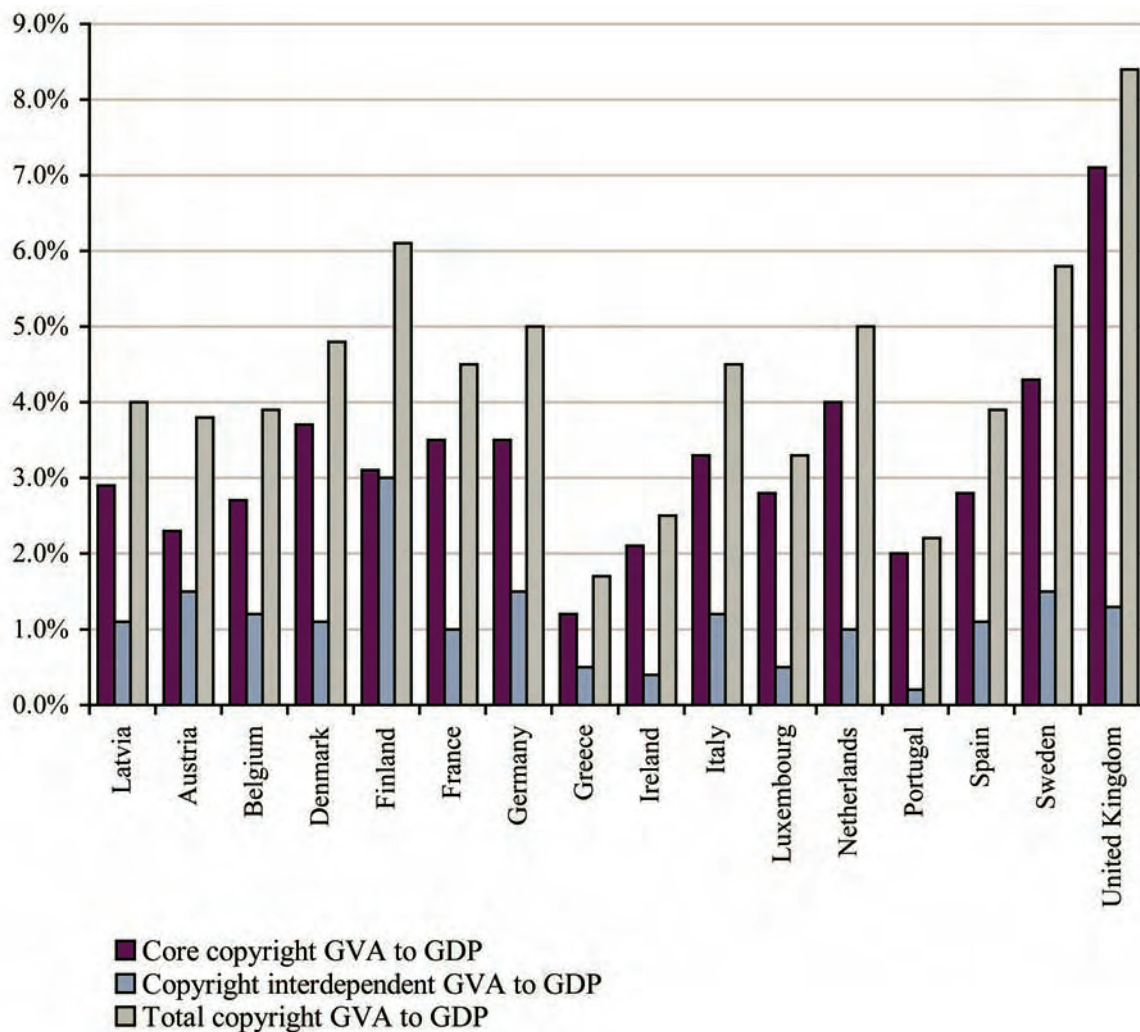
## 5. International Comparisons

Figure 4 compares the economic contributions of Latvian and the EU-15 copyright industries. For the core copyright industries, Latvia shows a larger contribution to GDP than Austria, Belgium, Greece, Ireland, Luxembourg, Portugal, and Spain.

The interdependent copyright industry contribution exceeds that of France, Greece, Ireland, Luxembourg, the Netherlands and Portugal and approximates that of Belgium, Denmark, Italy, and Spain. Only eight of the EU-15 member states show higher contributions for core and interdependent contributions combined.

It should be noted that research on contributions in other nations was based on a slightly different category of copyright industry. For a general comparison of contributions, however, these differences are not significant.

**Figure 4:** Comparison of the Economic Contribution of the Core and Interdependent Copyright Industries in Latvia and the EU-15 countries as a percentage of GDP.

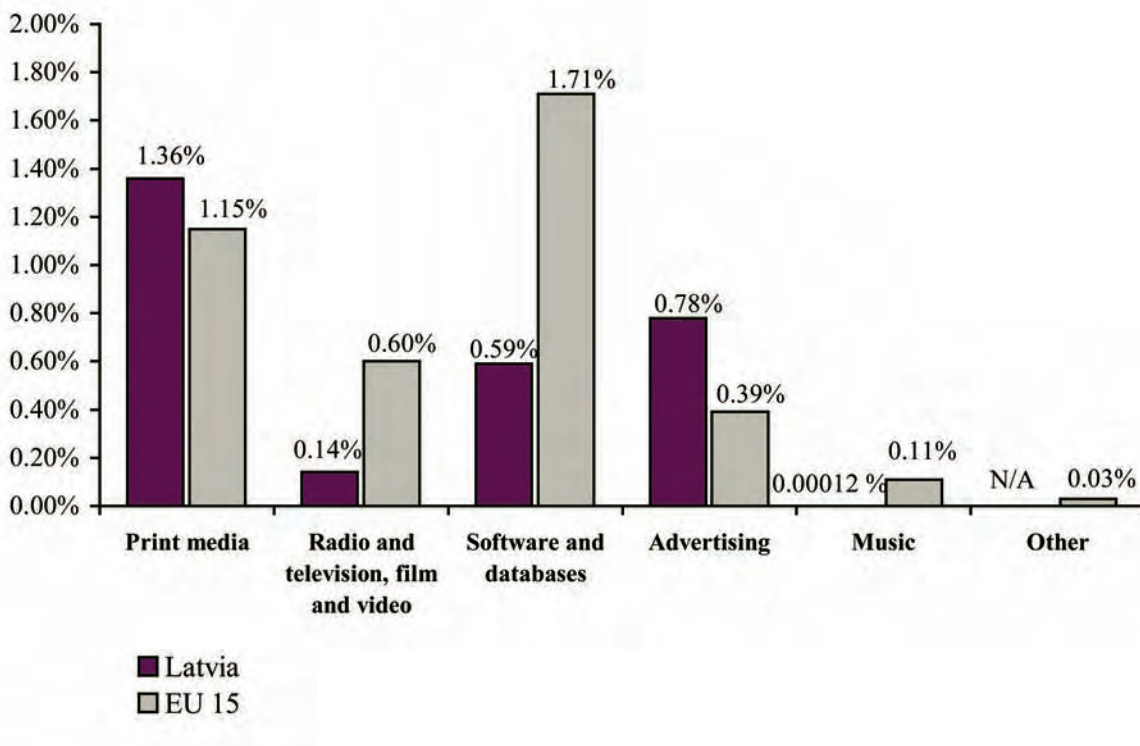


The comparison between core copyright industries in Latvia and the EU-15's total contribution to total GDP (Figure 5) indicates that

- the contribution of the category "print media" exceeds that of the EU-15 countries,
- falls short in the categories of
- "radio and television" where the contribution of Latvia is only one sixth of the EU-15's average,
- and "software and databases" where the contribution of Latvia is about one third.

Advertising has become an important contributor to the Latvian economy in a very short period of time. In 2000 it contributed 0.78% to GDP; that is twice the average share of advertising in the EU-15.

**Figure 5:** Comparison of the Economic Contribution of Sub-Categories of the Core Copyright Industries between Latvia and the EU-15

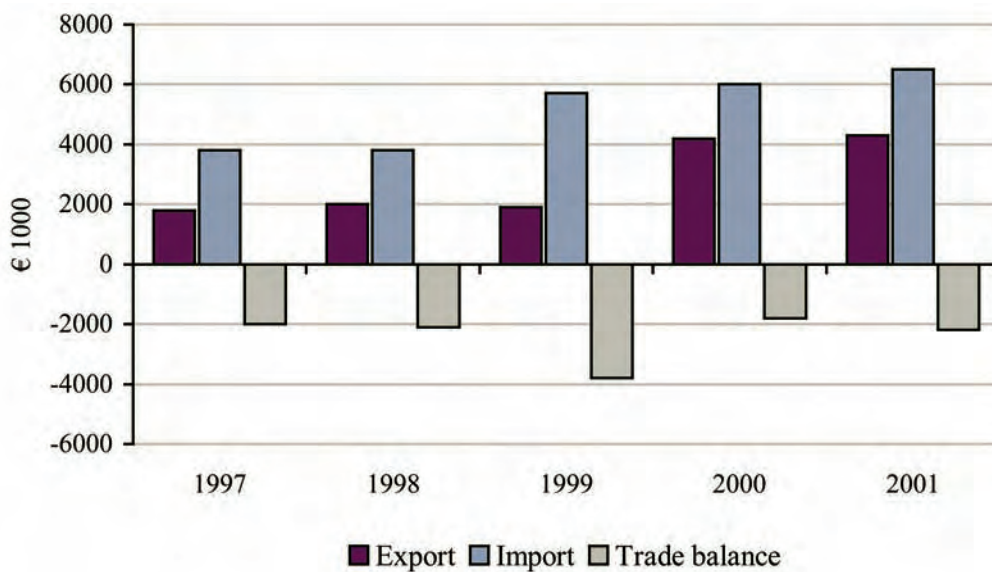


## 6. Foreign Trade in some Copyrighted Goods

This section documents the foreign trade in some copyrighted goods. The goods presented are books, newspapers and magazines, other printed matter (including other published print works and commercial printed material, such as advertising) and art works. The categories included here are limited by comparison to the overall copyright industries and are products rather than services. Limitations in categories used in available trade statistics did not permit the compilation of data for the full range of copyright industries. For the four categories of material for which data was available, overall exports amounted to a total value of €5.15 million and overall imports had a value of €18.4 million. This produced an overall trade surplus of €16.7.

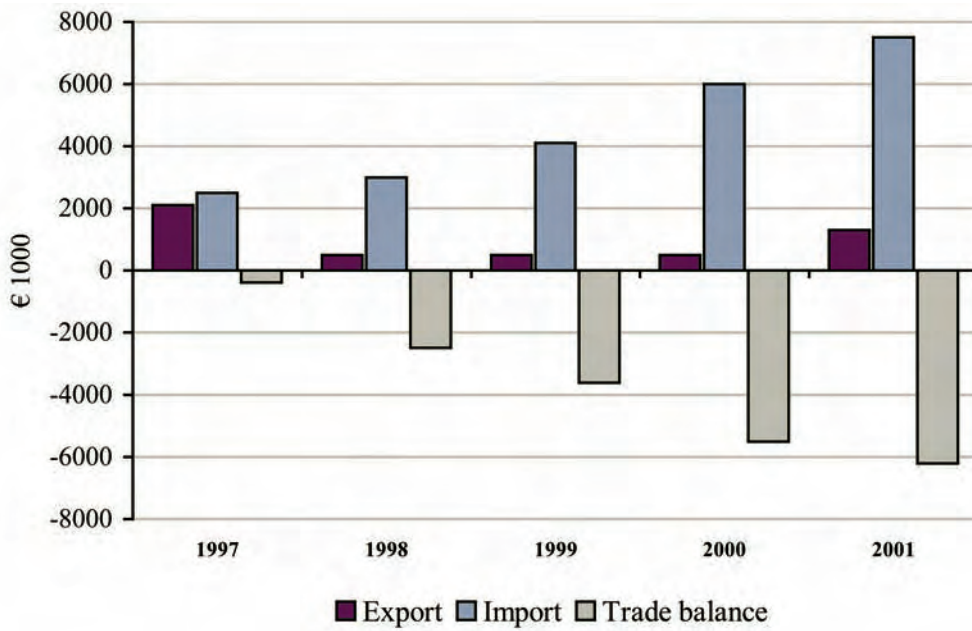
For books, both imports and exports have increased annually from 1997 to 2001. The trade balance shows a deficit for each year studied. It does not show an increasing trend but a declining share of the total international trade. In 2000, exports were valued at €4 million and imports were valued at €6 million, producing a negative trade balance of €1.8 million. This phenomenon is found in many small nations because they usually have smaller export potential for books in their national languages and often utilize scientific, technical and other imported books in other foreign languages.

**Figure 6:** Latvian Export, Import and Trade Balance 1997-2001



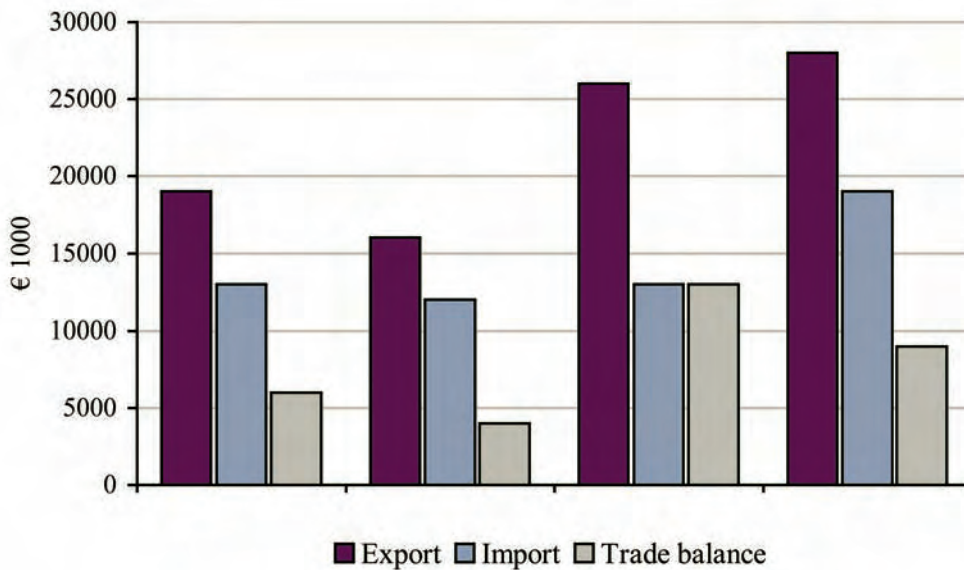
Newspapers and periodicals are combined in the trade statistics, so there is no way of distinguishing them separately. It is likely that the majority of the total trade consists of periodicals. Latvia shows a growing trend in trade deficit in this category. In 2000, the value of exports was €500,000, whereas import value totalled €6 million, producing a negative trade balance of €5.5 million.

**Figure 7:** Latvian Export, Import and Trade Balance of Newspapers and Periodicals 1997-2001



The development in the foreign trade of other printed matter shows an annual surplus from 1997 to 2001. Imports have risen steadily whereas for exports there was a period of decline from 1997 to 1999 and after that a sharp rise when the export of other printed matter nearly doubled from 1999 to 2000. In 2000, exports were valued at €28 million and imports at €19 million producing a positive trade balance of €9 million.

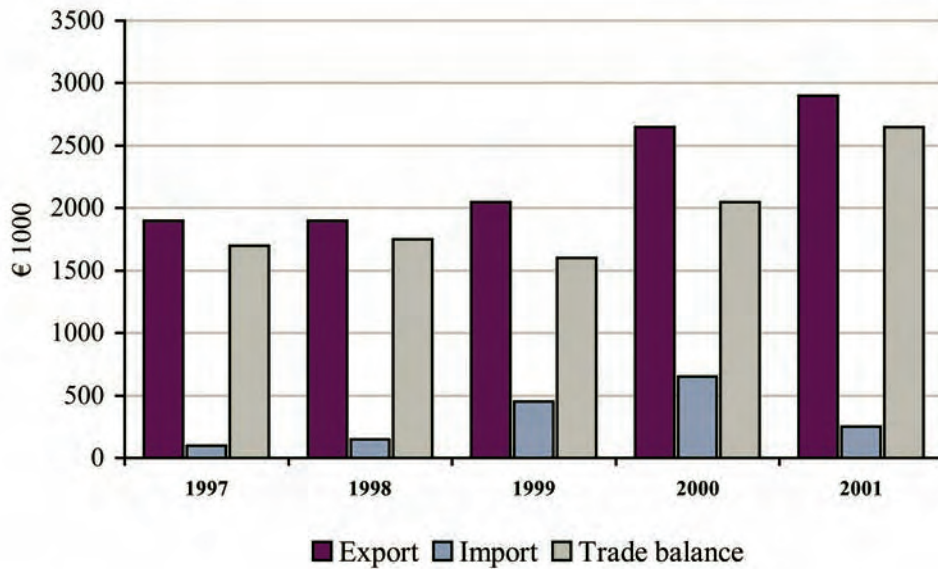
**Figure 8:** Latvian Export, Import and Trade Balance of Other Printed Matter 1997-2001





The foreign trade in art works shows a strong annual surplus for the five-year period studied. The total exports from 1997 to 2001 were over ten times higher than imports. In 2000 exports had a value of €2.7 million, whereas imports had a value of only €650,000, producing a trade surplus of €2.1 million.

**Figure 9:** Latvian Export, Import and Trade Balance of Art Work 1997-2001



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## ANNEX II. Nace classification codes and other sources of data used in the study

CORE COPYRIGHT INDUSTRIES	Source
<b>Press and Literature</b>	
Newspapers	Nace 2212
News and feature agencies, etc.	
Magazines and periodicals	Nace 2213
Books, maps	Nace 2211
Other publishing (cards, directories, etc.)	Nace 2212
Pre-press, printing, and post press of published materials	Nace 222
Retail of press and literatures	Nace 5247
Libraries	UNESCO library statistics
<b>Music, Theatrical Productions, Opera</b>	
Printing and publishing of sheet music	Nace 2214
Reproduction of recorded music	
Wholesale and retail of recorded music	Recording industry data
Artistic and literary creation and interpretation	
Performances and allied agencies (booking agencies, ticket agencies, etc)	
<b>Film and Video</b>	
Motion picture and video production	
Motion picture and video distribution	
Motion picture exhibition	European Audiovisual Observatory, Yearbook 2002
Video rentals and sales	Nace 714 ; Cinema, TV and radio in the EU, Statistics on Audiovisual services
<b>Photography</b>	
Photographic Services, Studios, etc.	
<b>Visual and Graphic Arts</b>	
Art galleries and other wholesale and retail	
<b>Radio and Television</b>	
Radio and television activities	Nace 922
Transmission via cable and satellite networks	
<b>Software and Databases</b>	Nace 72; Factors and Impacts in the Information Society. A Prospective Analysis in The Candidate Countries. Report on Latvia, March 2004
<b>Advertising</b>	Nace 744

\*NACE (*Nomenclature des Activités de la Communauté Européenne*) is the official classification for statistical data used in national and European statistics.

COPYRIGHT DEPENDENT INDUSTRIES	Source
<b>TV sets, radio sets, VCRs, CD players, cassettes, and other equipment</b>	
Manufacture	Nace 323
<b>Wholesale and retail of radio and television goods and musical instruments</b>	Estimated from Nace 5143; Nace 5147; Nace 5245
<b>Computers and Equipment</b>	
Manufacture	Nace 3002
Wholesale and retail	Factors and Impacts in the Information Society. A Prospective Analysis in the Candidate Countries. Report on Latvia, March 2004.
<b>Musical Instruments</b>	
Manufacture	Nace 363
<b>Photographic and cinematographic instruments</b>	
Manufacture	Nace 334
Manufacture of prepared unrecorded media	
Manufacture of paper	Nace 2112



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# The Economic Contribution of Copyright-Based Industries in Hungary

THE 2005 REPORT

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# I. Introduction

## 1. International surveys

Being the first researcher to study the economic aspects of copyright law in detail, it was Arnold Plant<sup>1</sup> who laid down the foundations of the economics of copyright law. In addition to theoretical arguments<sup>2</sup> addressing the relationship between copyright and economics, the studies and researches launched in the second half of the 20th century also focused on quantifying the economic contribution and significance of copyright based industries. The first studies were published in Canada and Sweden in the 1970s to be followed by further research works from the USA, New Zealand, the United Kingdom, Holland, Germany, and Austria in the 1980s.<sup>3</sup> These analyses allowed for plenty of methodological considerations due to a lack of standard applicable methodology. Ever since the 1990s new countries (Finland, Japan, the MERCOSUR countries – Argentina, Brazil, Paraguay, Uruguay – and Chile)<sup>4</sup> have been arriving on the scene preparing comprehensive studies and using an increasingly integrated standardised methodology to study the economic roles of copyright based industries. The analysis of the EU countries was prepared with the coordination and under the guidance of Robert Picard, Timo Toivonen, and Mikko Grönlund in 2003.<sup>5</sup> Consistently adopting the methodology defined by the World Intellectual Property Organization (WIPO), the Singapore, Canada, and USA reports were published in 2004, as well as the Latvian report<sup>6</sup> in early 2005, prepared by renowned experts like Robert Picard and Timo Toivonen. Out of the industrialized countries the USA, Finland, and Holland regularly publish reports<sup>7</sup> on the economic significance of copyright based industries, their contribution to the national GDP and economic growth.

WIPO issued a methodological guide in 2003 with a view to revealing the economic contribution of copyright based industries under the title of “Guide on Surveying the Economic Contribution of the Copyright-Based Industries”.<sup>8</sup> It is generally true that in countries where economic policy-makers are aware of the economic importance of copyright industries, the development of copyright based industries is considered a key issue among the development policies of the given country. This is one of the many reasons why WIPO encourages research projects aimed at studying the economic roles of copyright based industries.

<sup>1</sup> Arnold Plant: *The Economic Aspects of Copyright in Books*, *Economica*, 1., 1934, pp. 167-195

<sup>2</sup> Including but not limited to: W. Landes – R. Posner : *An Economic Analysis of Copyright Law*. *Journal of Legal Studies*. 1989. Vol: 18, pp. 325-363.; Richard Watt: *Copyright and Economic Theory: Friends or Foes?* Edward Elgar. 2000.

<sup>3</sup> Marlies Hummel: *The Economic Importance of Copyright*. *Copyright Bulletin*. 1990. Vol. 24. No. 2 pp. 14-22., Fritz Scheuh–Hartmut Holzmüller: *Die wirtschaftliche Bedeutung des Urheberrechts in Österreich*. Orac, Wien, 1989.; *The Economic Importance of Copyright*. Common Law Institute of Intellectual Property. London. 1993.

<sup>4</sup> Copyright White Paper. Japan Copyright Institute. 2001.; Economic importance of copyright industries in Finland. Finnish Copyright Industries in 1997. Finnish Copyright Society. Helsinki 2002.; Norwegian Copyright Industries in 1999. Finnish Copyright Society and Finnish Copyright Institute. Helsinki 2002.; *Estudio sobre la importancia de las industrias y actividades protegidas por el derecho de autor y los derechos conexos en los países de MERCOSUR y Chile*. UNICAMP, OMPI.; Economic Contributions of Singapore's creative industries. Economic Survey of Singapore. First Quarter 2003. pp. 51-75.

<sup>5</sup> *The Contribution of Copyright and Related Rights to the European Economy*. The report was compiled and written by Robert G. Picard, Timo E. Toivonen, Mikko Grönlund. 20 October 2003.

<sup>6</sup> Leo Kah Mun-Chow Kit Boey-Lee Kee Beng-Ong Chin Huat-Loy Wee Loon: *Economic Contribution of Copyright-Based Industries in Singapore*, 2004. October. IP Academy, Singapore., *The Economic Contribution of Copyright Industries to the Canadian Economy* ([www.pch.gc.ca/progs/ac-ca/progs/](http://www.pch.gc.ca/progs/ac-ca/progs/)), Robert G. Picard–Timo E. Toivonen: *The Economic Contribution of Copyright-Based Industries in Latvia 2000.*, Ministry of Culture of the Republic of Latvia, 2005.

<sup>7</sup> Stephen E. Siwek: *Copyright Industries in the US Economy*. The 2002. report.;

<sup>8</sup> *Guide on Surveying the Economic Contribution of the Copyright-Based Industries*. WIPO, 2003.

In cooperation with the Finnish government, WIPO established a Working Group with a view to defining and determining a methodological guide in 2002 in order to study the economic contribution of copyright based industries. The members of the group were well-known experts on the issue: Mr. Jeremy Thorpe (Australia), Mr. Antonio Marcio Buainain (Brazil), Mr. Ahmed Ghoneim (Egypt), Mr. Robert Picard (Finland), Mr. Jules Theeuwes (Netherlands), Dr. Ruth Towse (Netherlands), Mr. Richard Watt (Spain), and Mr. Stephen Siwek (USA). The team was chaired by Mr. Jukka Liedes, Special Adviser to the Finnish Government. The group was assisted by a number of international organisations including: the International Confederation of Authors and Composers Societies (CISAC), the International Federation of Reproduction Rights Organisations (IFRRO), International Federation of the Phonographic Industry (IFPI), International Intellectual Property Alliance (IIPA), International Publishers Association (IPA).

The preparation of the WIPO methodological guide called for the need for international comparison. Earlier studies had limited possibilities to present and analyse the economic contribution of copyright based industries in international comparison because of the different terminology, the differing statistical data, and national legal regulations. The WIPO methodological guide is designed to eliminate conceptual and methodological differences and helps make international comparisons. Based on the guide the countries use a standard method and the same statistical figures to calculate the same indicators (statistical indexes), which are now comparable with the data of other countries.

WIPO's methodological guide had a threefold purpose :

1. summing up the existing experiences in the surveying of copyright based industries;
2. development of a practical analytical instrument for future surveys to serve as a guideline and define recommendations;
3. laying down common basic statistical methodologies for the comparison of future surveys with the results of previous researches.

WIPO invited Hungary to participate in this pioneering project in the East Central European region in acknowledgment of her internationally-acclaimed statistical system, her internationally-recognised experts in copyright, the extensive cultural statistics and, last but not least, for her internationally acclaimed contribution to creative art.

In addition to WIPO, the European Union is paying increased attention to the economic significance of copyright based industries. This is underlined by the fact that in 2003 a report on the economic contribution and significance of copyright based industries was commissioned by the European Commission's Internal Market Directorate-General. The study, which is based on the WIPO-established methodology, shows the contribution of core copyright industries and copyright-dependent industries<sup>9</sup> to GDP in the EU-15 members on aggregate as well as in a country breakdown in the year 2000. It also shows the number of employees working in the sector and their productivity.<sup>10</sup>

<sup>9</sup> Exact definition given in Chapter III.

<sup>10</sup> The Contribution of Copyright and Related Rights to the European Economy. Prepared by: Robert G. Picard, Timo E. Toivonen, Mikko Grönlund. 20 October 2003.



## 2. Hungarian culture studies

So far no analysis has been prepared in Hungary on the economic contribution of copyright based industries, but there are numerous studies that provide us with a detailed picture of selected segments of the cultural sector as well as the entire Hungarian culture.

A comprehensive study<sup>11</sup> from 1996 provides us with a differentiated picture on the state of Hungarian cultural industries. The research conducted under the leadership of the Institute of Sociology of the Hungarian Academy of Sciences (HAS), in cooperation with Szonda Ipsos, the Centre for Regional Studies of the HAS, the Institute for Political Sciences of the HAS, and Alius Kft. gives us a comprehensive analysis of the state and development trends of the most important cultural industries – publishing, libraries, cinema, film, television, theatre, music, fine arts, museums, archives, community centres – as well as the cultural behaviour of the population, the regional characteristics of culture, the institutional system transmitting cultural values, and the state of financing. In the course of the survey on the economic role of culture, the research project emphasized that the value established by culture is double that of the required resources and this was indeed a steady trend in the 1990s. The research monitors and provides an insight into the development of the cultural industries up to the first half of the 1990s.

There have been numerous analyses prepared in recent years concerning the Hungarian cultural market under the aegis of the Hungarian Central Statistical Office (HCSO). One of them<sup>12</sup> provides an overview of the state of culture in the 1990s from an economic and cultural-sociological perspective by analysing the database of a cultural statistical observation conducted in 2000, presenting the relationship of supply and demand to the cultural market (books, press, television, libraries, public education and culture, cinemas, film production and museums), and the behaviour of the market. Another analysis<sup>13</sup> relies on the Budapest data of a 1999/2000 time-scale analysis to present the different types of recipients of culture.

In 2005 the Hungarian Institute for Culture published the “Meeting Culture” series<sup>14</sup>, which may be considered a follow-up to the 1996 study. One of the volumes contains a statistical data-based analysis of the cultural processes, the main trends of specific areas of culture (publishing, libraries, mass communication, cinema, theatre, concerts, museums, public education and cultural institutions), while another volume focuses on the cultural customs of Budapest, and a third volume provides an overview of reading habits, the role of festivals, and community centres.

A 1999<sup>15</sup> study enlists the most important theoretical research results of cultural economics, as an interdisciplinary academic area, in which Hungarian and international researchers examine the micro- and macroeconomic correlations of culture, the main characteristics of cultural assets, the alternative options available to privatisation, and the particular economic problems of the specific cultural industries from a theoretical perspective.

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<sup>11</sup> The Cultural State of Hungarian Society, Research leaders: Iván Vitányi, Péter Hidy, László, The Institute of Sociology of HAS, Budapest. 1997.

<sup>12</sup> Cserta, Orsolya: The Development of Cultural Markets in Hungary; *Statisztikai Szemle*, Vol. 80. 2002. Issue No. 5-6. pp. 577-597.

<sup>13</sup> Bognár, Virág: Consumer Types of Culture; *Statisztikai Szemle*, Vol. 80. 2002. Issue No. 5-6. pp. 537-556.

<sup>14</sup> Bárdosi, Mónika-Lakatos, Gyuláné-Varga, Alajosné: The State of Culture in Hungary; MMI. 2005., Hunyadi, Zsuzsa: The Audience, Role, and Place of Festivals in the Consumption of Culture, MMI. 2004., Hunyadi, Zsuzsa: Cultural Habits of Budapesters; Institute of Sociology of MMI-HAS; 2004., Reading Habits; MMI. 2005.

<sup>15</sup> Daubner, Katalin–Horváth, Sándor–Petró, Katalin (ed.): Cultural-economic studies, Aula kiadó, 2002.

### 3. Research objective, backgrounds

In 2004 the Hungarian Patent Office (HPO) endeavoured to be the first in Central Eastern Europe<sup>16</sup> to conduct a survey on the economic contribution of copyright based industries using the methodology developed and recommended by WIPO.

The President of the HPO's advisory board, the Hungarian Council for the Protection of Intellectual Property, discussed and approved the objectives of the research in March 2004, which provided the foundations for the prospective work.<sup>17</sup>

The main objective of the research was to present the economic contribution, performance, and economic role of copyright based industries in the national economy of Hungary using the WIPO methodological guide. Accordingly, the Hungarian analysis follows the statistical method recommended by the methodological guide<sup>18</sup> and calculates the indicators recommended therein, trying to adapt to the Hungarian statistical data collection system as much as possible.

Supplementing and going beyond the thematic recommended by WIPO, the Hungarian survey presents the development trends and structural characteristics of the key primary copyright based industries by means of cultural statistics and researching the available academic literature. This is intended to make the overall picture provided by the macroeconomic analysis more detailed.

WIPO provided professional advice on the implementation of the Hungarian project; the internationally-acclaimed American economist, Mr. Stephen E. Siwek, personally contributed to the success of the Hungarian survey by sharing his vast experience in methodology.

On 19-20 October 2004 a WIPO-HPO joint seminar was held in the HPO with the participation of WIPO-delegated experts, Stephen E. Siwek and Dimiter Ganchev, key figures in the Hungarian copyright law profession, and members of the HPO working group. The seminar addressed issues like the present research experiences on the economic role of copyright industries, and the unresolved questions of adapting the international methodology that was to provide the backbone of the Hungarian survey.<sup>19</sup>

In 2004 the HPO entered into an agreement with the Hungarian Central Statistical Office with a view to adapting the WIPO analysis method in Hungary. As a first step, the HCSO compiled and made the necessary statistical data available for the project.

<sup>16</sup>In addition to Hungary, a similar study was prepared by Finnish researchers on Latvia in 2004.

<sup>17</sup>The Economic Contribution of Copyright-Based Industries in Hungary. (Compiled by: Penyigey, Krisztina-Munkácsi, Péter-Vadász, Ágnes) HPO; 2004. Bp.

<sup>18</sup>The methodology of the Hungarian analysis was elaborated jointly by the members of the Hungarian Patent Office and the experts of the Hungarian Central Statistical Office.

<sup>19</sup>Information concerning the study on the Economic contribution of copyright based industries in Hungary. HPO. 2004.

## II. Copyright Law in Hungary<sup>20</sup>

### 1. The beneficiaries and the subject matter of copyright law

The Universal Declaration of Human Rights defined copyright<sup>21</sup> as a basic human right in 1948: “Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits, and 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”. Being part of the continental system, the Hungarian copyright law in force forms part of civil law in the wide sense, which is designed to settle property-related and personal matters. Copyright law protection is absolute in its structure (*erga omnes*) establishing a negative obligation, which is very similar to an ownership title<sup>22</sup> in character. The beneficiaries of copyright protection are the authors, the creators of individual, original works in literature, science, and art, who are entitled to moral and economic rights. The author must be a natural person; however, the product may be the outcome of creative cooperation between a number of individuals. The authors of a common work, the parts of which cannot be used independently, shall have the copyright accrue to them jointly and – in case of any doubt – in equal parts. Thus authors of the entire work can dispose of it together. In other cases of copyright law, when a common work is made up of parts which can be used independently, then autonomous copyright shall accrue to the joint authors with regard to the respective individual parts.

The subject matter of copyright protection are authors’ works. The Copyright Act does not define the author’s work itself therefore it was the legal theory that established the conceptual components of author’s work. Accordingly, an author’s work shall be understood to be the result of

- any creative intellectual activity performed in the field of literature, art, or science,
- having an individual-original character,
- expressing an articulated thought,
- conceivable by others,
- and usually presented in a recorded format.<sup>23</sup>

Similar to the main copyright legal systems in the world, the Hungarian regulations also provide us with a list of examples of works that may be considered typical. In addition to the extensive list, the law also defines the scope of works not falling under the protection of copyright; e.g. legal provisions, court and other official resolutions, authorities or other official announcements and files, as well as standards rendered

<sup>20</sup> This chapter was written by Dr. Péter Munkácsi. The authors are grateful to Dr. Zoltán Kiss (Hungarian Patent Office) who kindly commented on the taxation-related considerations of copyright based activities.

<sup>21</sup> The earliest records of copyright go back to the privileges extended by 15-16th century monarchs and rulers, which provided protection not for the authors, but the printing guilds. The fundamentals of modern copyright regulations were laid down by the statute of *Anne Stuart* in 1710. By the end of the 18th century and the beginning of the 19<sup>th</sup> century the so-called continental (*droit d’auteur*) and the Anglo-Saxon (*copyright*) systems of copyright law had evolved in Europe and in the USA. As the first direct outcome of international attempts to standardise copyright laws, the Berne Convention (BC) on the protection of literary and artistic works was established in 1886. Other fundamental documents of international cooperation on copyright law include: the Universal Copyright Convention (UCC) from 1952, the 1961 Rome Convention (RC) for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) signed in 1994. The BUE and the RC comprise the backbone of the 1996 WIPO Copyright Treaty, and the WIPO Performances and Phonograms Treaty, which brought the internet-related copyright laws to international levels.

<sup>22</sup> *Szerzői jogj törvény. A kommentárokat írta* Dr. Mihály Ficsor [Copyright Law. Comments written by Dr. Mihály Ficsor], VIVA Média Holding, Budapest, 1999, p.3.

<sup>23</sup> Lontai, Endre – Faludi, Gábor – Gyertyánfy, Péter – Vékás, Gusztáv; *Magyar polgári jog, szellemi alkotások joga* [Hungarian civil law – rights of intellectual creations], Eötvös József Könyvkiadó, Budapest 2004, p.41.

mandatory by legal statutes and other decrees, all facts and news of the day that merely serve as a basis for press information, and expressions of folklore. In practice many people seek protection for ideas, principles, procedures, operating methods; these are unprotected subject matter, that fall within the scope of the relevant provisions of the civil code regulating non-defined intellectual creations.

Authors' works can be categorised by the origins of the work: they may be originals or secondary (derivative). The adaptation, remake, or translation of originals falls into this latter category given that the outcome has individualistic, original traits.

## 2. Overview of the economic considerations of Hungarian copyright law

The first Hungarian copyright laws – Act XVI of 1884 and Act LIV of 1921 – were modern codifications neatly adapted to the civil relations of the era and taking the theoretical foundations of intellectual property, which withstood the test of time, as a premise when they recognised that while copyright may well be different from property rights, it is nonetheless an institution relating to property rights in essence. Codified in the era of socialism, Act III of 1969 was produced under a constellation of relatively favourable economic policies and was strongly based on the international legal evolution of the domain concerned. Nevertheless, the system of central economic and political control, strongly evident between 1970 and 1990, left a heavy imprint on the development of copyright laws. The state monopoly of customers, users, distributors of art works, and central foreign exchange control was a natural, inherent characteristic of the system. There were only one or two radio stations, TV channels, music companies, recording studios, movie distributors, cinema companies organised by geographic exclusivity, book distributors, hardly a dozen different-profile book publishers, two or three film producers and concert organisers were operating at the time. Even the state and cooperative catering trade was organised under a geographic hierarchy no matter how widely the industry availed itself of music as a source of entertainment. Under these circumstances the performance and publishing rights obtained from the author did not become the subject of property rights, but the works were always used by the acquirer of rights in the course of completion of his state-defined duties. Certain areas (e.g. film production and book publishing) were given significant direct and regular state support.

All this led to state preferences, bans, and censorship when it came to the issue of presenting the works to the public. The criticism of fine and applied arts, as well as the practice of contracting with foreign users was also centralised; determining royalty fees was also aimed to regulate incomes (income restrictions).

The copyright laws of the time also indicate that the sale of artistic works was performed by a single channel and that the operators who so communicated the artistic work, the performers, acted mostly as employees in a contractual relationship. State organisations were often favoured by copyright law, for example, in terms of free utilisation of works. However, the previously effective laws contained important counterweights to offset dominance of state monopolies: according to contractual rules it was (and still is) impossible to deviate from a legal provision to the detriment of the author which was originally aimed at protecting the author.<sup>24</sup> The content of copyright laws was defined by the integral unity of moral and economic rights. According to Article 10 of this Act any unauthorised use violates the author's moral rights.

<sup>24</sup> *Szerzői jogi törvény. A kommentárokat írta Dr. Ficsor Mihály* [Copyright Act. Comments written by Dr. Mihály Ficsor], VIVA Média Holding, Budapest, 1999, pp.7-8.



From 1989-90 contradictory economic and social processes began to unfold with an effect on copyright. The cultural market – including production and use – changed and a number of new actors entered the arena. Practically any work could be published and this was clearly visible in the number of publications. Often with no special knowledge of the law or art, production and user enterprises were very short-lived; this is similarly severe in terms of royalty payments. In the beginning of the 1990s the forces and confines imposed by foreign exchange regulations and international contract had been eliminated; the royalty tariffs due on individual licensing agreements became the lowest royalty fee limits since high inflation rendered them meaningless. Competition on the cultural market sometimes avails itself of dishonest means; the level of compliance with copyright laws is very low. This is due to a number of reasons including, for example, that the small privately-owned user enterprises replacing the “socialist economic organisation” giants were much more sensitive to costs, and the self-interest of decision-makers was now much more in focus. The legal awareness of copyright among members of society is also weakening. Public fees and dues burdening SMEs have risen. The efficiency of the enforcement of court decisions has subsided. In short it can be said that the authors of published works are now in a significantly weaker position not only in terms of their economic rights but also in terms of their moral rights.<sup>25</sup>

It was necessary to introduce new economic rights because of private copying – while maintaining the previously acknowledged and accepted demand for fees to be paid on blank audio and video carriers – for the period of drafting and preparing the 1999 Act LXXVI on Copyright (CA). The frequency and intensity of photocopying and other reproduction of printed works now required that royalty fees due on private copying had to be extended to works distributed in print. It was necessary to establish separate regulations on the activities of enterprises providing photocopying services for a fee. The provisions of our Copyright Act governing the fees due on so-called reprography came into the force on 1 September 2000.

Under the legislation of the CA, the provision giving the author exclusive right to make available to the public his work via internet was of great significance. The nearly one and a half decades, which have passed since the Act came into force, was insufficient for an appropriate jurisdiction to develop and provide guidelines on the treatment of illegal internet-based uses with particular attention to peer-to-peer networks, resulting in serious financial losses for the music, film, and software industries. Consensus by the legal profession with regards to the curtailing of illegal content-sharing should be sought in the extension of marketed legal content instead of the imposition of further prohibitions. In order to understand how the main principles which define the beneficiaries and subject-matter of copyright protection and which have been upheld since the end of the 19<sup>th</sup> century began to change in order to adapt to consumer needs and the demands of technology, and also in order to promote the drafting of optimal legislative decisions that are sensitive to this change, it has now become essential to analyse Hungarian copyright law for the first time in its history from an economic viewpoint.<sup>26</sup>

When looking at the various economic aspects of copyright, we must not ignore the taxation considerations of intellectual activities, royalties, and collective management of rights. Hungarian tax laws have a long tradition of granting tax allowances and tax exemptions to copyright based activities:

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<sup>25</sup> Ib. pp.9-10.

<sup>26</sup> Copyright, and in a wider sense intellectual property, was first subjected to economic analysis by Smith, Bentham, and Mill – the great classics of economics – and then by Pigou, and Taussig in the first decades of the 20th century. The pioneering work in this field was published by Arnold Plant, American economist in 1934 (See Footnote 1). The projection of the theories of marginal cost, transaction/social cost (“The Problem of Social Cost” from 1960; published in Hungarian in 2004) bearing the name of another American economist, Ronald H. Coase, provided a solid foundation to the American-based legal and economic interdisciplinary research from the 1970s; the most important intellectual workshop of the time was the Chicago school bearing the names of William M. Landes and Richard A. Posner.

- a) Personal income tax allows the creators of works protected by copyright (neighbouring rights) to avail themselves of a tax allowance amounting to a maximum of HUF 50,000 or up to 25% of the income derived from specific activities.
- b) A private entrepreneur using the entrepreneurial income based taxation method may write-off the acquisition price of an intellectual production (as a right of economic value) used permanently – for at least one year or more – in a period 6 years or more.
- c) As of 1 January 2005 the entrepreneurial revenue may be reduced by the costs written off in the given tax year and incurred in the acquisition and maintenance of patents, utility models and design copyrights in Hungary.
- d) The corporate tax base (profit before tax) is reduced by the amount (not to exceed 1% of the value of all investments in the tax year) used for purchasing a work of fine art recognised as of artistic value in the expert opinion of the appropriate artistic body (Advisory Office of Fine Arts) authorized by law or by the value in the tax year of the purchase and the following four tax years broken down in equal parts.
- e) Profit before taxes can be reduced from 2003 by deducting 50% of income received as royalties. Profit before tax can be reduced by a maximum of 50% by the deduction of the above item, as well as other items known as profit gained from interest and stock exchange transactions.

According to the definitions of the Act on company tax, royalties shall be:

consideration given for the use, or right to use of copyright and neighbouring rights relating to

- a) patent, protected procedures, trade marks, or similar rights,
- b) know-how, confidential business information,
- c) literary, artistic or scientific work.

f) The tax allowances relating to film production changed (expanded) on 23 November 2004. From that date the sum of support can not only be deducted from the tax base in the case of commissioned work (films produced on commission), but also in the case of non-commissioned work (Hungarian movie productions, or international co-productions).<sup>27</sup>

g) Following the amendment of November 2005, Hungary introduced three rates of VAT: 5, 15 and 20%. Journals; music scores and maps (only as products); cable television; television programme transmission; radio programme transmission; movies, videos, and DVD screening; performing art services; puppet shows; artistic creative activities; circus performances; library, archive, museum and other cultural services fall under the 15% rate. VAT at 5% is imposed on books, which is considered an exceptionally favourable rate, as will dailies, and other newspapers, periodicals on subscription in 2006. Services falling under the 20% VAT rate include: books and periodicals (newspapers, journals, magazines); movies, videos, and DVD production; and movie, video, and DVD distribution. Collective copyright management comes under the same category as the creative and performing art activities it is designed to represent or convey and is encumbered with VAT at 12%.

<sup>27</sup> The benefit can be enjoyed with a certificate of support issued by the National Film Office. No certificate will be issued if the motion picture falls under category V in accordance with Act II of 2004 on Motion Picture (films that are likely to exert a seriously unfavourable influence on the physical, intellectual or moral development of minors particularly by containing pornography or extreme or unjustified violence). The aggregate value of certificates of support issued with respect to a given motion picture cannot exceed 20% of the production costs of the film. Further to this, the benefit can only be enjoyed if the sponsor has not obtained property rights to the movie (e.g. right to distribution) since, according to accounting provisions, the sums paid as compensation for the acquisition of property rights cannot be written off as support.

The Copyright Experts Council was founded in 1970. Its function and the framework of its structure and operation were confirmed in Act No. LXXVI of 1999. The members of the Council are appointed for a five-year period by the Minister of Justice in conjunction with the Minister of National Cultural Heritage. The Government Decree No. 156/1999 (XI. 3.) Korm. on the Organization and Functioning of the Copyright Experts Council contains further regulations on the appointment of the Council of a maximum of 200 members, its board of fifteen members and the President. According to the CA and Government Decree the Council deals with professional questions that arise in copyright disputes at the request of courts or authorities, or on out-of-court commission in matters in connection with the exercise of user rights.

The Board of the Copyright Experts Council consists of members proficient in the fields of copyright or creation and performance. The Board usually proceeds in three member councils, however in more complicated cases five member councils may be set up. If the adoption of an expert opinion necessitates special expert knowledge, an external expert's contribution can be requested. It is a characteristic of the Board's expert opinions that they extend to both the specialist and legal issues of the given case. Mostly they do not decide purely professional issues, therefore they usually do not participate e.g. in the decision of technical issues, or in the estimation of the value of seized pirated cassettes. According to practical experience, the Copyright Experts Council primarily plays a role in disputes between parties already involved in court proceedings, however it is not impossible for it to be requested to give an expert opinion in out-of-court procedures or before litigation.

### 3. European legal harmonisation in Hungarian copyright law

The Treaty of Rome establishing the European Communities makes no reference to a "community copyright law"; in pursuit of the legal practices of the European Court of Justice building on Articles 28 and 34 of the EC Treaty (former Articles 30-36) and aiming to harmonise territorial and single market requirements, the European Community harmonised certain sub-areas within copyright through the imposition of certain directives on the subjects contained in the "Green Books" issued by the Commission in 1988 and in 1991. Hungarian copyright law has been steadily adapting to the European Community's developing and constantly-changing copyright regulations since the mid-1990s. Act VII of 1994 on the amendment of certain patent and copyright laws was a significant step in the legal harmonization as it implemented some essential adjustments to Act III of 1969: it re-regulated the protection of rights, neighbouring rights, increased the term of protection, and introduced rights to rent and lending. One of the main objectives and guiding principles of creating the 1999 CA was to render Hungarian regulations as consistent with the contents of the copyright directives of the European Community as possible. This aim was essentially achieved by the CA.

In accordance with the annually-revised legal harmonisation programme, the establishment of complete harmonization with the Community directives was deferred with regard to two important issues: legal harmonisation regarding databases was effected by the amendment of the CA by Act LXXVII of 2001, while harmonization with the so-called INFOSOC directive<sup>28</sup> was established by Act CII of 2003 coming into force

on the day of accession. In addition to its primary objective, this latter regulation provided the legal background for the performance of tasks and changes that were necessary for the Hungarian copyright code to fully comply with all the major norms of the European Community law on the day of our accession to the European Union. Adaptation to community law required that other principles, norms, legal practices be considered in addition to the directive on copyright with particular attention to the freedom of movement of goods, the freedom of service provision across borders, certain bans on discrimination and on the law of competition.

In order to adapt to specific international copyright instruments (BC, TRIPS Agreement, WIPO Copyright Treaty), the law produced changes in the collective management of rights. As a result of these modifications, mandatory collective management of rights was replaced by collective management with extended effect in the case of certain entitlements, which allowed some authors and other authorised parties to opt for their exclusion from collective management and choose the option of individual assertion of rights.

As a result of the legal developments outlined above, the CA contains regulations which are by and large in harmony with the EC Directives<sup>29</sup>.

Although our effective copyright law contains regulations that are by and large consistent with Directive 2001/84/EC of the European Parliament and of the Council on the resale right for the benefit of the author of an original work of art, the amendment of the CA was adopted (see Act CVIII of 2005; entry into force on 1 January 2006), in order to comply with legal harmonisation obligations at the time of preparing this survey. The implementation of Directive 2004/48/EC of the European Parliament and of the Council on the enforcement of intellectual property rights will generate changes in a number of provisions under copyright regulations.

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<sup>28</sup> See Footnote 31 below.

<sup>29</sup> The CA is consistent with the following community directives:

- Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs;
- Council Directive 92/100/EEC of 19 November on rental rights and lending rights and on certain rights related to copyright in the field of intellectual property;
- Council Directive 93/83/EEC of 27 September 1993 on the coordination of certain rules concerning copyright and rights related to copyright applicable to satellite broadcasting and cable retransmission;
- Council Directive 93/98/EEC of 29 October 1993 harmonizing the term of protection of copyright and certain related rights ;
- Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases;
- Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society;
- Directive 2001/84/EC of the European Parliament and of the Council of 27 September 21 on the resale right for the benefit of the author of an original work of art.



### III. Types of Copyright-Based Industries

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#### 1. Copyright-Based industries

The activities and industries<sup>30</sup> which produce creations protected under copyright law and the industries that utilise such products are important factors in the economies of industrialized countries. Works<sup>31</sup> under copyright protection fulfil important social and cultural functions; their production is important from an economic perspective as they generate added value.

The creation of works under the protection of copyright only presents a starting point in terms of the economic weight and effect of copyright. The creation of copyright-protected works is essentially associated with other activities that increase added value. The indulgence or “consumption” (to use a term borrowed from economics) of literary and artistic creations and works cannot be possible without the interposing of certain associated activities (e.g. wrapping, copying, distribution, etc.).

The economic diffusive effect of copyright-protected creations is easily visible in the book and music publishing industries. The writer’s literary product in the shape of a written manuscript is managed under the auspices of the publisher, who makes the necessary arrangements for printing, distribution, and marketing. Books are physical estates whose “consumption” requires no special hardware. As for musical compositions, the end product does not only have to be converted to a musical score, but sound recordings will have to be made. The recordings must be stored, distributed, and sold to the customer in an appropriate medium (e.g. audio cassette, CD). Then, in order to listen to or “consume” the musical composition, special hardware (e.g. cassette/CD player) is also necessary.

The following graph shows the various types of activities necessary for or associated with the creation, distribution, and consumption of copyright-protected creations.

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<sup>30</sup>The study uses the term industry differently from the meaning as we know it from (industry) statistics; it is used as a synonym for a comprehensive group of activities. This is the intended meaning whenever we talk about copyright based industries.

<sup>31</sup>According to Article 1, paragraph (2) of CA,

“In particular the following shall fall under the scope of this Act:

- a) literary works (of fiction, trade, science, journalism etc.),
- b) speeches delivered in public,
- c) computer program creations and related documentation (software), whether fixed in source code or object code or any other form, including application programs and operation systems,
- d) dramas, musico-dramatical works, ballets or pantomimes,
- e) musical works with or without words,
- f) radio and television plays,
- g) cinematographic creations and other audiovisual works (cinematographic creations),
- h) drawings, paintings, sculpture, engravings, creations produced by lithography or in like manner, and designs thereof,
- i) artistic photographs,
- j) maps and other cartographic creations,
- k) architectural creations and designs thereof, and designs of building complexes and town planning projects,
- l) designs of engineering structures,
- m) applied art creations and designs thereof,
- n) costume and scenery designs,
- o) industrial art designs,
- p) databases qualifying as collections of works.

Creations and works under the protection of copyright do not carry equal weight in the various sectors of the economy. There are industries that are almost totally based on copyright-protected creative works (e.g. literature, music), while in other sectors copyrighted creations are only partly represented (e.g. apparel industry, jewelry industry) or have no roles to play at all (e.g. machine-tool manufacturing).

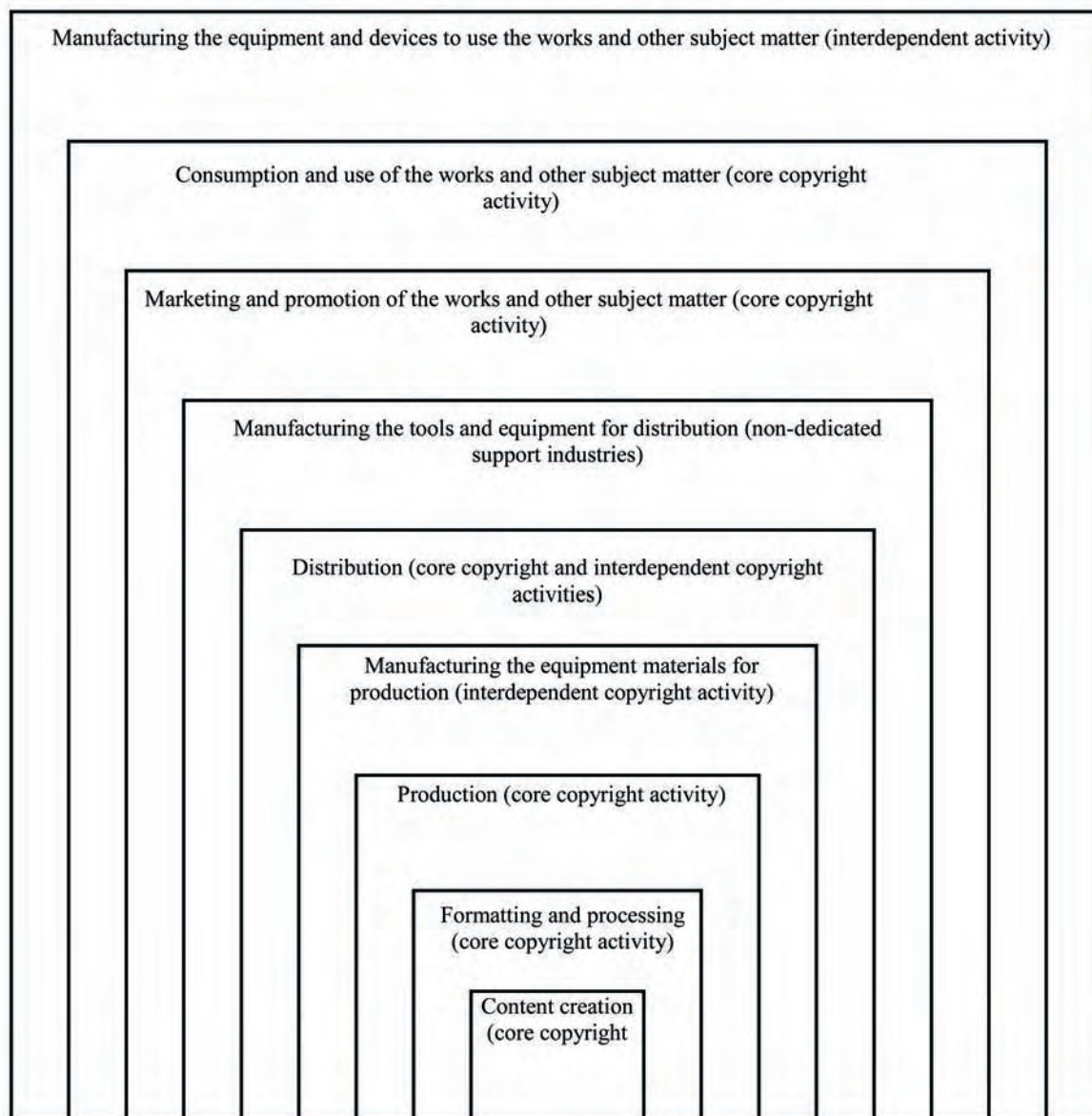
Prior to the standardised methodology laid down by WIPO, earlier studies used different terms and categories for activities that were outside the scope of copyright protection in the strict sense, but were nonetheless closely associated with the process of creation protected by copyright. The American and Japanese survey distinguished partial copyright industries, distribution, and interdependent copyright industries, in addition to core copyright industries. In addition to the core elements, the Australian survey distinguished partial copyright industries and distribution industries. The Finnish and Norwegian survey identified the core copyright elements and groups of interdependent copyright industries and non-dedicated support industries. The German survey recognised primary, secondary and related sectors.

Participants in the expert session in Helsinki in July 2002 arrived at a consensus with regards to the categorisation of copyright based industries and distinguished the following four groups (categories). This categorisation was used as the basis for the WIPO methodological guide.

The methodological guide published by WIPO distinguishes the following four main categories of copyright based industries depending on the type of association to copyright. They are:

- I. core copyright industries
- II. interdependent copyright industries or copyright-dependent industries or copyright-hardware
- III. partial copyright industries
- IV. non-dedicated support industries

## Economic activities relating to the production, packaging, and distribution of materials protected by copyright and neighbouring rights



Source: Based on the study *The Contribution of Copyright and Related Right to the European Economy, Final report, 2003*. p. 18. and completed with application of the copyright definitions specified in the *WIPO guide*.

**I. Core copyright industries** or prime copyright industries include sectors that are fully engaged in the creation, production and manufacturing, performance, broadcasting, communication and exhibition or distribution and sale of works and other creations under the scope of copyright. Core or prime copyright industries are defined areas in the economy whose activities are based on creations protected by copyright and neighbouring rights. Consequently, the existence of these industries depends largely on copyrighted creations. These industries make up the core of copyright based industries and their activities in them are almost exclusively associated with creations protected by copyright. For this reason the full activities and performance of these industries must be taken into consideration when trying to establish the economic contribution of copyright industries.

The following industries fall into this particular category:

- press and literature,
- music, theatrical productions, opera,
- motion pictures and video,
- radio and television,
- photography,
- software and databases,
- visual and graphic arts,
- advertising,
- copyright collective management societies.

The core copyright industries primarily include the cultural sphere and the software industry.

**II. The interdependent copyright industries or copyright-dependent industries or copyright-hardware** include industries that are engaged in the production, manufacturing and sale of devices and equipment which are wholly or primarily responsible for the promoting the creation, production and utilisation, “consumption” of works under copyright protection. These industries produce devices or hardware that is used for the creation, production, distribution, “consumption” of the creations, works. These hardware devices can also be used for the creation, or “consumption” of objects not under the protection of copyright. Examples include televisions, cameras, or computers.

The interdependent copyright industries may be divided into two larger groups depending on the nature of their relationship to core copyright industries<sup>32</sup>:

- industries depending on core copyright industries
- industries depending on partial copyright industries

Industries in the former group produce goods which consumers use, together with the output of core copyright industries. The second group includes industries that produce goods that are needed to provide base materials for the respective copyright industry.

The following industries come under the first group of interdependent copyright industries:

- Manufacture, wholesale and retail of TV sets, radios, VCRs, CD players, DVD players, cassette players, electronic game equipment, and other similar equipment,
- Manufacture, wholesale and retail (sales and rental) of computers and equipment,
- Manufacture, wholesale and retail (sales and rental) of musical instruments,

The following industries belong to the second group of interdependent copyright industries:

- Manufacture, wholesale and retail (sales and rental) of photographic and cinematographic instruments,
- Manufacture, wholesale and retail (sales and rental) of photocopiers,
- Manufacture, wholesale and retail of blank recording material,
- Manufacture, wholesale and retail of paper.

<sup>32</sup> The distinction between the two interdependent copyright industries was based on the Latvian report prepared by the Finnish experts (Robert G. Picard–Timo E. Toivonen: The Economic Contribution of Copyright-Based Industries in Latvia 2000. p. 11.).



**III. Partial copyright industries** include industries that are only partially engaged in production of copyright-protected creations. Only a specific proportion, a defined percentage of the production of these industries is associated with products protected by copyright and related rights. The so-called copyright factor is an indicator of the percentage ratio, which shows what percentage of the production of the industry is under the protection of copyright<sup>33</sup>.

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.

**IV. Non-dedicated support industries** are industries in which a portion of the activities is related to facilitating broadcast, communication, distribution and sale of products and works and other protected subject matter.

The following industries come under this category:

- general wholesale and retailing,
- general transportation,
- telephony and Internet.

The following table summarises all the copyright based industries included in the Hungarian survey. The industries were determined according to the WIPO guide but also taking into account the specifics of the Hungarian statistical system.

The following table provides a comparison of the industries recommended by WIPO and those used by the Hungarian survey. As it transpires from the table, they roughly correspond. There are differences, for example, in visual and graphic arts, advertising, wholesale, retail, and rental. The aggregation of the Hungarian data collection system did not allow us to present visual and graphic arts and interior design separately. Visual and graphic arts are shown on the one hand in an aggregated manner along with advertising and also with artistic creation in statistics. Interior design is listed together with architecture, engineering and surveying in the Hungarian data. In the Hungarian data collection system the wholesale and retail sale and rental of interdependent copyright industries and the wholesale and retail sale of partial copyright industries are shown as an aggregate figure, so the actual figures of specific industries can only be estimated.

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<sup>33</sup> The values and the methodology of determining the copyright factors used in the Hungarian survey are outlined in the following Chapter.

### Copyright-Based industries in Hungary<sup>1</sup> (The categories used in the Hungarian survey)

I. Core copyright industries	II. Interdependent copyright industries <sup>2</sup>	III. Partial copyright industries	IV. Non-dedicated support industries
Press and literature	Television and radio sets, <i>etc.</i>	Apparel, textiles and footwear	General wholesale and retailing
Music, theatrical productions, opera	Computers and equipment	Jewelry and coins	General transportation, storage and communication
Motion pictures and video	Musical instruments	Other crafts	
Radio and television	Photographic and cinematographic instruments	Furniture	
Photography	Photocopiers	Household goods, china and glass	
Software and databases	Blank recording material	Wall coverings and carpets	
Advertising	Paper	Toys and computer games	
Professional organisations		Architecture, engineering, surveying	
		Museums	
	(Wholesale and retail, and rental of interdependent copyright industries)	(Wholesale and retail of partial copyright industries)	

<sup>1</sup> The Hungarian adaptation of the WIPO "Guide on Surveying the Economic Contribution of the Copyright-Based Industries".

<sup>2</sup> Based on the basic data, the wholesale and retail, and rental of interdependent copyright industries and the wholesale and retail of partial copyright industries are shown separately. During the adjustment of data, wholesale, retail and rental were divided among the specific activities. As a result, the data already contains the manufacture, wholesale, retail and rental of products in this category.

## Copyright-Based groups of industries

Category	Groups of industries	
	WIPO	Hungary
<b>I. Core copyright industries</b>	<ul style="list-style-type: none"> <li>– press and literature,</li> <li>– music, theatrical productions, opera,</li> <li>– motion pictures and video,</li> <li>– radio and television,</li> <li>– photography,</li> <li>– software and databases,</li> <li>– <b>visual and graphic arts,</b></li> <li>– advertising services</li> <li>– copyright collective management societies</li> </ul>	<ul style="list-style-type: none"> <li>– press and literature,</li> <li>– music, theatrical productions, opera,</li> <li>– motion pictures and video,</li> <li>– radio and television,</li> <li>– photography</li> <li>– software and databases,</li> <li>– advertising</li> <li>– copyright collective management</li> </ul>
<b>II. Interdependent copyright industries</b>	<ul style="list-style-type: none"> <li>– manufacture, wholesale and retail of TV sets, radios, VCRs, CD players, DVD players, cassette players, electronic game equipment, and other similar equipment,</li> <li>– manufacture, wholesale and retail (sales and rental) of computers and equipment,</li> <li>– manufacture, wholesale and retail (sales and rental) of musical instruments,</li> <li>– manufacture, wholesale and retail (sales and rental) of photographic and cinematographic instruments,</li> <li>– manufacture, wholesale and retail (sales and rental) of photocopiers,</li> <li>– manufacture, wholesale and retail of blank recording material,</li> <li>– manufacture, wholesale and retail of paper.</li> </ul>	<ul style="list-style-type: none"> <li>– manufacture of TV sets, radios, VCRs, CD players, DVD players, cassette players, electronic game equipment, and other similar equipment,</li> <li>– manufacture of computers and equipment,</li> <li>– manufacture of musical instruments</li> <li>– manufacture of photographic and cinematographic instruments</li> <li>– manufacture of photocopiers</li> <li>– manufacture of blank recording material,</li> <li>– manufacture of paper</li> <li>– <b>rental</b></li> <li>– <b>wholesale and retail of interdependent copyright industries</b></li> </ul>
<b>III. Partial copyright industries</b>	<ul style="list-style-type: none"> <li>– apparel, textiles and footwear,</li> <li>– jewelry and coins,</li> <li>– other crafts,</li> <li>– furniture,</li> <li>– household goods, china and glass,</li> <li>– wall coverings and carpets,</li> <li>– toys and computer games,</li> <li>– architecture, engineering, surveying,</li> <li>– <b>interior design,</b></li> <li>– museums</li> </ul>	<ul style="list-style-type: none"> <li>– apparel, textiles and footwear,</li> <li>– jewelry and coins,</li> <li>– other crafts,</li> <li>– furniture,</li> <li>– household goods, china and glass,</li> <li>– wall coverings and carpets,</li> <li>– toys and computer games,</li> <li>– architecture, engineering, surveying,</li> <li>– museums,</li> <li>– <b>wholesale and retail of partial copyright industries</b></li> </ul>
<b>IV. Non-dedicated support industries</b>	<ul style="list-style-type: none"> <li>– general wholesale and retailing</li> <li>– <b>general transportation</b></li> <li>– <b>telephony and Internet</b></li> </ul>	<ul style="list-style-type: none"> <li>– general wholesale and retailing</li> <li>– general transportation, storage, communication</li> </ul>

The differences between the columns are shown in red.



## 2. Copyright factor

The so-called copyright factor is a percentage ratio expressing the share of copyright activities in a given industry, i.e. the figure indicates the extent of dependence of the product of the given industry on copyright. In the calculations recommended by the WIPO guide the copyright factor is used as a weight, which – depending on the industry – may take a value between 0 and 1. Industries that only produce products and works and other protected subject matter have a copyright factor value of 1 whereas industries having nothing to do with copyright have a copyright factor value of 0.

By multiplying the added value, output, and the number of employees by the copyright factor of the industry studied, we arrive at the added value, output and the number of employees of copyright based activities. This way we can accurately determine the significance of copyright based industries in the national economy and on employment figures.<sup>34</sup>

All the products created by the core copyright industries are protected by copyright; in this case the copyright factor value is 1, similarly to the interdependent copyright industries. The larger share of the partial copyright industries and the non-dedicated support industries has no relation to copyright at all. Only a small fraction of the products produced by partial copyright industries are protected; the percentage figure is expressed by the value of the copyright factor. For example, it is estimated that only a very small fraction (0.5%) of added value is generated by textiles, leather goods, and footwear and can be considered protected subject matter, therefore the value of the copyright factor is 0.005.

As for the non-dedicated support industries, we used the calculation method applied by the American survey<sup>35</sup> to establish the copyright factor of general wholesale and retailing, general transportation, and communication. We based everything on the presumption that the weight represented by the copyright based activities in the support, distribution industries corresponded with the ratio of copyright based industries (core copyright industries, interdependent copyright industries, partial copyright industries) to the GDP. As for non-dedicated support industries the value of the copyright factor in 2002 in Hungary was 0.057.

When determining the copyright factors in the Hungarian survey, we benefited from all previous analyses on the economic contribution of copyright based industries and relied heavily on the copyright factors applied primarily by the US, Singapore and Latvian studies. We also took into consideration the regulations of copyright law, the structure of the industry, and the extent of aggregation of the available statistical data<sup>36</sup>. Relying on all these factors and an expert estimate we used the following copyright factors in the Hungarian survey.

<sup>34</sup> The figures adjusted by the copyright factor are shown in the Appendix.

<sup>35</sup> Stephen E. Siwek-Harold W. Furchtgott-Roth: Copyright Industries in the U. S. Economy. November 1990. Appendix B.

<sup>36</sup> As for the partial copyright industries, the data required and supplied by the HCSO did not contain items that have no relationship to copyright. This way, for example, the figures on the textile industry do not contain any information on protective and work apparel. This can also be interpreted that in this case the copyright factor was 0 and the multiplication of output by zero will produce zero.



## Copyright factors in the Hungarian survey

Description	Copyright factor
<b><i>I. Core copyright industries (CORE)</i></b>	
Press and literature	1.000
Music, theatrical productions, opera	1.000
Motion pictures and video	1.000
Radio and television	1.000
Photography	1.000
Software and databases	1.000
Advertising	1.000
Professional organisations	1.000
<b><i>II. Interdependent copyright industries</i></b>	
Manufacture of TV sets, radios, VCRs, CD players, DVD players, cassette players, electronic game equipment, and other similar equipment	1.000
Manufacture of computers and equipment	1.000
Manufacture of musical instruments	1.000
Manufacture of photographic and cinematographic instruments	1.000
Manufacture of photocopiers	1.000
Manufacture of blank recording material	1.000
Manufacture of certain types of paper	1.000
Rental of certain consumer goods	1.000
Wholesale and retail of interdependent copyright industries	1.000
<b><i>III. Partial copyright industries</i></b>	
Certain types of apparel, textiles and footwear	0.005
Jewelry	0.250
Other crafts	0.400
Furniture	0.050
Household goods, china and glass	0.005
Wall coverings and carpets	0.020
Toys and computer games	0.500
Architecture, engineering, surveying	0.100
Museums	0.500
Wholesale and retail of partial copyright industries	0.050
<b><i>IV. Non-dedicated support industries</i></b>	
General trade	0.057
General transportation, storage, communication	0.057

## IV. Methodology

### 1. Statistical data collection system

The Hungarian survey designed to measure the economic contribution of copyright based industries follows the methodology recommended by the WIPO guide, in accordance with the main objectives of the research, but also adapts to the possibilities and constraints of the Hungarian statistical data collection and survey system.

The Hungarian survey has calculated the recommended indicators for all four copyright categories defined by the WIPO guide; they are core copyright industries (CORE), interdependent copyright industries (INTERDEPENDENT), partial copyright industries (PARTIAL), and non-dedicated support industries (NON-DEDICATED SUPPORT).

The statistical methodology described in the WIPO guide is based on the UN's ISIC (International Standard Industrial Classification) statistical classifications registry. The methodological guide that served as a reference during the Hungarian survey describes and names in detail in a four-digit breakdown all the sectors and special industries that come under copyright based activities in accordance with the UN ISIC and the EU NACE Rev.1.1 classification systems.<sup>37</sup> The Hungarian Standard Sectoral Classification of Economic Activities (commonly known as TEÁOR'03) is a classification system based on the European Union's corresponding (NACE Rev.1.1.) classification registry. As a result of this, the TEÁOR is compatible with the UN's (ISIC), and the EU's (NACE) nomenclature.

The TEÁOR is a classification system using a four-digit code, where the classification and the listing of the economic units is based on the nature of their main activities. The following example illustrates the hierarchical structure of the classification system:

Classification	Description	Code
Section	Manufacturing	D
Division	Manufacture of machinery and equipment	29
Group	Manufacture of other special purpose machinery	29.5
Class	Manufacture of machinery for paper production	29.55

The initial task was to create so-called "conversion" keys<sup>38</sup>, which convert the corresponding copyright based industries/activities of the UN ISIC system used by WIPO to the Hungarian statistical classification system. As a result, the final Hungarian classification system used today is based on

<sup>37</sup> Pp. 73-79 of the WIPO guide contains a detailed listing of these sectors together with their statistical sectoral code numbers.

<sup>38</sup> Significant contribution was made by the Zoltán Náduvvari-led work team of the Hungarian Central Statistical Office in the elaboration of the solution.

- the TEÁOR, Standard Sectoral Classification of Economic Activities (the Hungarian equivalent of the NACE Rev.1),
- the Combined Nomenclature (CN), which is the product description and coding system of External Trade Commodities,
- the EBOPS, Extended Balance of Payments Services Classification,
- the FEOR, Standard Classification of Occupations (based on ISCO).

The conversion key had to be developed so that it allowed for the conversion of the copyright based industries listed in the WIPO guide to the categories of the Hungarian classification systems of sectors (TEÁOR) and occupations (FEOR). The concrete definitions that were directly related to the products and services listed under the Domestic Product Classification (BTO) and the Classification of Services (SZJ), as well as the occupation groups in the Standard Classification of Occupations (FEOR).

The table on the next page sums up how the Hungarian statistical classifications were linked to the specific copyright categories as defined by the WIPO guide.

For the purposes of the survey, the four-digit, class-level performance and employment figures, necessary for the analysis of copyright industries/activities was provided by the HCSO from the annual economic statistical data series on the basis of the structure of the sectoral classification (TEÁOR) of the given year. Appendix No. 1 contains the list of copyright based industries/activities – codes and descriptions – in accordance with the Hungarian standard sectoral classification (TEÁOR).

The precise determination of the number of employees engaged in the copyright based industries is facilitated and further refined by the provision of figures on gainful employment, which were supplied by the Hungarian Central Statistical Office on the basis of the 2001 census.

On the one hand, the copyright based industries produce tangible trade; the indicators thereof are defined by the customs tariff figures of the imported and exported goods (Combined Nomenclature – CN) rather than by the classification of economic activities. On the other hand, for the purpose of identifying foreign transactions of services that were within the scope of copyright law, and which generate intangible trade, the EBOPS codes are applied. In order to establish consistency of copyright categories with WIPO, the relevant groups of foreign trade classifications (Combined Nomenclature, EBOPS) also had to be defined.

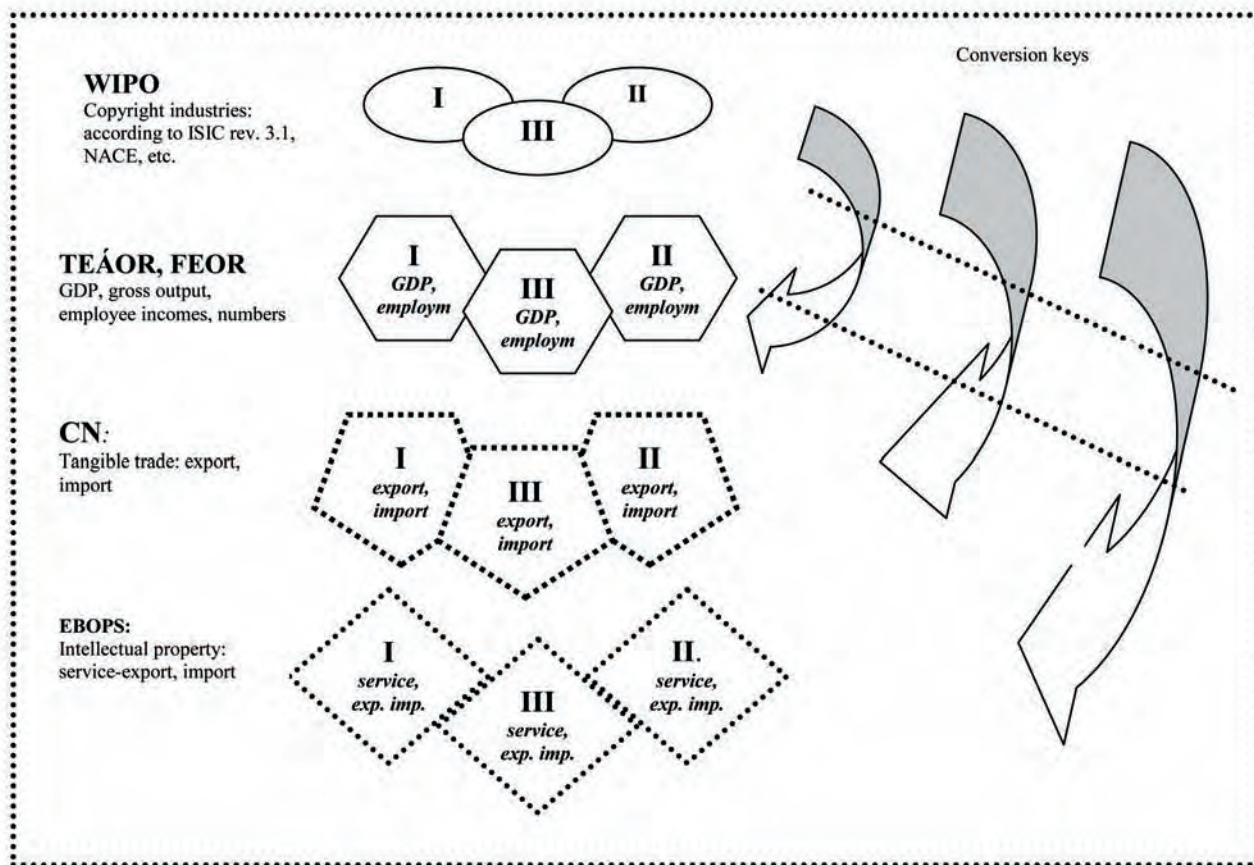
The Hungarian statistical system allows for the generation of data consistent with the WIPO methodology since 2001. The HPO chose the year 2002 as the subject matter for its survey on the economic contribution of copyright based industries, which also means that we are not in a position to present the dynamics of development of copyright based industries in this present survey.<sup>39</sup>

The HCSO provided all the necessary assistance to the HPO for the purpose of establishing the statistical database. The majority of the data collected and processed, such as the GDP expressed by the four-digit number and produced by classes are not public in Hungary. In other words, the HCSO did not officially publish data of such a degree of aggregation. From this it logically follows that the present survey will not disclose unpublished values either. At the same time, the data groups created in accordance with the purposes of the survey, i.e. the data relating to the groups established by the aggregation of the 4-digit data can be disclosed.

<sup>39</sup>This may be the subject of a future survey



## The relationship between the WIPO methodology and the Hungarian system of statistics



### List of acronyms:

**WIPO** – the International Definition of Copyright-Based Industries (according to ISIC rev. 3.1., NACE, etc.)

**TEÁOR** – Standard Sectoral Classification of Economic Activities used in Hungary (similar to NACE Rev.1)

**FEOR** – Standard Classification of Occupations used in Hungary (based on ISCO)

**CN** – Combined Nomenclature, the product description and coding system of External Trade Commodities

**EBOPS** – Extended Balance of Payments Services Classification

## 2. Statistical data and key indicators

In the Hungarian survey the following key indicators on copyright based industries and also on the four different copyright based sectoral groups were calculated for the year 2002 (information in brackets indicates the source of statistical data):

- Value of gross output [million HUF]
- Gross added value [million HUF]
- Value of employee incomes [million HUF]  
(based on the itemisation of the published data of the National Accounts with regard to each class)



- Number employed [persons]
- Number of employees [persons]  
(based on the itemisation of the data of the institutional labour statistical survey with regard to each class)
- Value of annual import and related ratios, 2002 [million HUF]
- Value of annual export and related ratios, 2002 [million HUF]  
(based on the foreign external trade turnover of tangible goods registered by the customs tariff number)
- Value and ratios of annual import of services, 2003. [million HUF]
- Value and ratios of annual export of services, 2003. [million HUF]
- Increase in the value of international trade of services, 2003/2002 (total of national economy)  
(based on the turnover figures of foreign trade of services in 2003 as registered by EBOPS)
- Findings and ratios of the data collection on occupations, 2001. [persons]  
(based on the occupation figures obtained in the 2001 census [FEOR, four-digit])

The information on gross added value, gross output, and employee incomes of copyright based industries was compiled by relying on the data of the National Accounts. The National Accounts system is a macro-economic statistical accounting system, which sums up the country's economic activities. The methodology pursued by the HCSO follows the provisions of the European System of Accounts (ESA 1995).

The official terminology and definitions used by the Hungarian statistical system are fully compliant with European and international requirements. (The definitions of statistical terms and figures are shown in Appendix 2.)

In line with international statistical practices, the calculation of the applied performance indices was made according to sectoral classification by an organisational classification<sup>40</sup>. This means that the complete data series of each business organisation is classified under the economic section within one of its sectors (in the class relating to the statistical classification), according to its main activity. This way, if we take, for example, a company providing software development-services engaged in other secondary activities as well (e.g. education, economic services, or trade), the entire performance of the company will be taken into account under software development regardless of whether performance actually relates to software development or one of the secondary activities. On the other hand, however, the software development activities of, for example, tertiary education institutions will be classified under education. Classification according to type of organisation and activity does not produce significant data distortion since the differences are evened out at national economy level.

Players in the economy are characterised by the activities they are engaged in; the activities must be classified according to the effective standard sectoral classification (TEÁOR'03). The basis of the sectoral classification of economic organisations is the main activity<sup>41</sup>, which generates the greatest added value. The classification of organisations according to their main activity has produced some unlikely situations in

<sup>40</sup> Classification according to organisation type is not a Hungarian peculiarity, but an internationally accepted and widely-used application. This way the particularities relating to classification of organisations were also true for the other countries carrying out the study.

<sup>41</sup> The sectoral classification according to the main activity is carried out at the time of its inception, but review of the TEÁOR classification codes is due annually. During the review the HCSO always selects the activity with the greatest representation. In order to modify the main activity, the activity constituting the largest share must be different from the original classification in two consecutive years.

the case of copyright based industries, too. There is, for example, a commercial television company which was once classified under “advertising” instead of “radio and television” since the lion’s share of its revenue came from advertising in that particular year. As a result, the performance of this television company was shown under “advertising” and not under “radio and television”.

According to international practice the values of the National Accounts are usually higher than the corresponding figures of the annual economic statistical reports. One of the reasons for the differences is that GDP calculation takes into account hidden income-earning activities (e.g. calculating balance figures), which official statistics and taxation data collection cannot use.

The National Accounts report the performance and employee income of one-man enterprises under the so-called household sector. For this reason, and due to methodological considerations the gross output of the corporate and household sectors and the added value are reported as an aggregate.

Required as part of the National Statistical Data Collection Programme, the annual economic statistical data collection is complete among enterprises with 20 or more employees and is representative among enterprises employing 5-19 people. The registration of the performance of enterprises employing fewer than 5 people is not supported by direct statistical data; information relating to this entrepreneurial circle is based on statistical estimation relying partly on the 2002 tax returns, and partly on the environmental average.

### 3. Statistical estimation and data adjustments

The data supplied by the HCSO on the performance of copyright based industries are provided in a four-digit format and relate to class levels. In view of specific considerations of the survey, some of these data require adjustment or further refinement<sup>42</sup>. The four-digit data available provide us with far too aggregated categories to enable us to grasp the essence of copyright based industries exactly. Data relating to telecommunications, and the manufacture of photographic equipment and photocopiers, for example, needed to be adjusted by using various methods of estimation in order to determine the data values necessary for the survey to be used during the calculations.<sup>43</sup>

The aggregation of wholesale and retail activities as used by the Hungarian statistical system is inappropriate for the purpose of surveying copyright industries. As a first step the data series (four-digit) relating to the different wholesale and retail activities were separated depending on whether they belonged to the interdependent copyright industries or the partial copyright industries. The aggregated data were broken down into categories by estimation and in certain copyright industries the wholesale and retail activities could be directly assigned to specific industries/sectors (e.g. retail trade in textiles, leather goods, footwear and furniture). In all other cases the available data on trade was shared among the copyright based industries according to their contribution to GDP.<sup>44</sup>

<sup>42</sup> The appendix contains all adjusted data which we took into account in the analysis.

<sup>43</sup> In order to suit the purposes of the study, data correction was achieved partly by using the CPA six-digit sales ratios (e.g. manufacture of office machinery, photocopiers), and partly by relying on expert estimation (e.g. the distinction between activities related to radio and television within the sector of telecommunications).

<sup>44</sup> The aggregated and broken-down figures are both published in the analysis.

In order to determine the segment of non-dedicated support industries (general wholesale and retail, general transportation) that relate to copyright based industries, estimation was used as it is also common in American practice.<sup>45</sup> Estimation rests on the simplifying assumption that all copyright based industries (core copyright industries, interdependent copyright industries, and partial copyright industries) are engaged in non-dedicated support industries in proportion to their contribution to GDP.

Out of the core copyright industries, the data relating to music, theatrical productions, opera include the entire artistic and literary creation and interpretation sector. In the Hungarian statistical system the activities of theatres, concert, opera, and dance performances are listed under “Artistic and literary creation and interpretation” (92.31) and the creative contribution of artists, music composers, writers, film directors, creative artists, actors, etc. is also included as an aggregate. The contribution of individual/independent artists to artistic and literary creation and interpretation has not been shared among the groups “Music, theatrical productions, opera”, “Motion pictures and video”, and “Advertising”.

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<sup>45</sup> „...for the copyright distribution industries, we applied the ratio of the sum of value added for the core copyright industries, the partial copyright industries, and the copyright-related industries to GNP less the transportation and trade sectors. Application of this weight is equivalent to an assumption that the proportional contribution of copytight industries to transportation and trade sectors is the same as their proportional contribution in the remaining sectors of the economy.” Stephen E. Siwek-Harold W. Furchgott-Roth: Copyright Industries in the US Economy. 1999. Appendix B

## V. The Contribution of Copyright-Based Industries to the Hungarian Economy

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### 1. The performance of copyright based industries

Based on the value of their economic performance, and the number of employees, the contribution of copyright based industries was quite significant to the Hungarian economy in 2002. The total gross added value of copyright based industries came to HUF 987 billion<sup>46</sup>, which represented 6.67% of the total gross national economic added value. Within copyright based industries the gross added value of core copyright industries amounted to HUF 586 billion in 2002, which accounted for 3.96% of the national GDP.

The total contribution of copyright based industries to gross output was HUF 3,412 billion, which represented 9.68% of national economic output. Within this figure, the contribution of core copyright industries came to HUF 391 billion, which represented 3.95% of gross national output.

Total volume of employee incomes within the entire copyright based sector was HUF 552 billion amounting to 7.17% of the whole national economic value. Within this figure, the employee incomes in core copyright industries amounted to HUF 325 billion – 4.22% of national employee incomes.

The total number of people employed in the copyright sector was 278,000, which is 7.10% of total employment. Within this figure, employee numbers in core copyright industries in 2002 was 162,575 people, which accounted for 4.15% of total employment.

To sum up we can safely state that all copyright based industries, i.e. the entire copyright industry, accounted for 7-9% of total economic output, while core copyright activities accounted for 4% on average of the Hungarian national economic performance.

Within copyright based industries, the contribution of core copyright industries is the highest. Based on their contribution to GDP, core copyright industries generate nearly 60% of the total added value of all copyright based industries while the remaining copyright based industries collectively account for 40% of GDP. The economic significance of core copyright industries is similar when we look at employee numbers or employee incomes.<sup>47</sup>

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<sup>46</sup> The yearly average exchange rates between USD and HUF were 1 USD=286.54 HUF in 2001; 258.00 HUF in 2002; 224.44 HUF in 2003; 202.63 HUF in 2004.

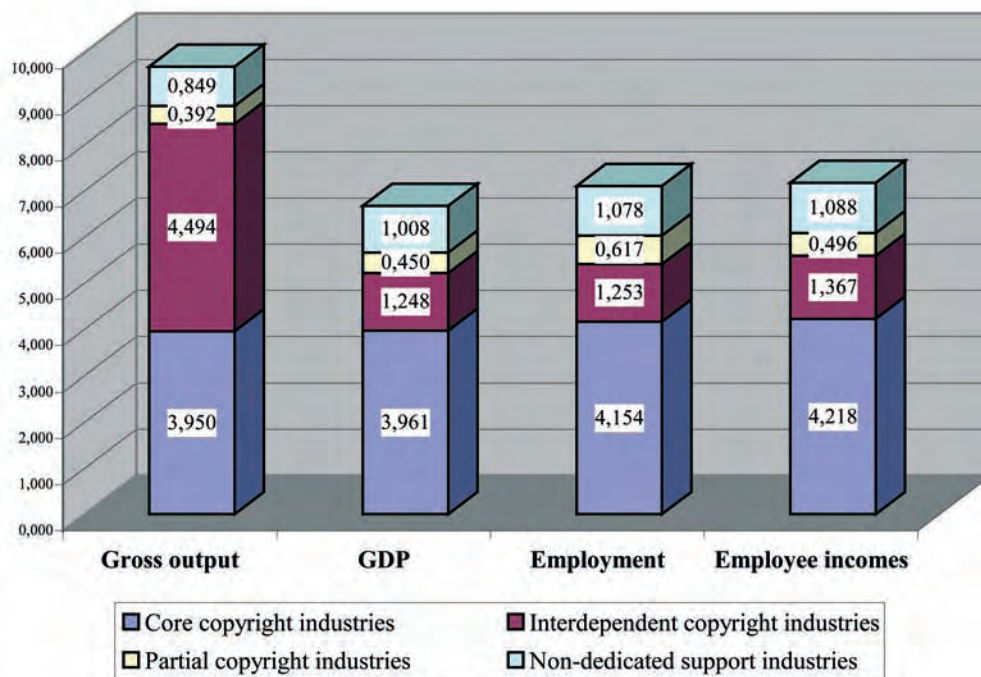
<sup>47</sup> Core copyright based industries account for 40% of total gross output of the copyright based sector. These ratios are largely explained by the particular Hungarian development of interdependent copyright industries, which is outlined in greater detail in section 4 of Chapter V.



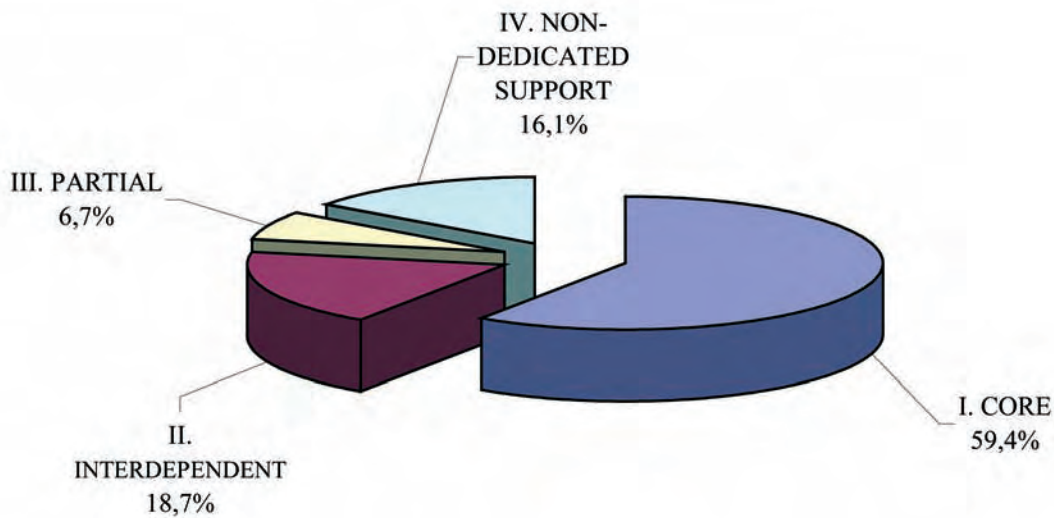
**The economic contribution of copyright based industries in Hungary in 2002 (HUF million, %)**

	GDP		Gross output		Employee incomes		Employee numbers	
	million HUF	%	million HUF	%	million HUF	%	people	%
<b>I. Core copyright industries (CORE)</b>	586,571	3.961	1,391,892	3.950	325,208	4.218	162,575	4.154
<b>II. Interdependent copyright industries (INTERDEPENDENT)</b>	184,841	1.248	1,583,538	4.494	105,391	1.367	49,029	1.253
<b>III. Partial copyright industries (PARTIAL)</b>	66,687	0.450	138,077	0.392	38,251	0.496	24,168	0.617
<b>IV. Non-dedicated support industries (NON-DEDICATED SUPPORT)</b>	149,334	1.008	299,039	0.849	83,872	1.088	42,200	1.078
<b>I-IV. COPYRIGHT-BASED INDUSTRIES TOTAL</b>	<b>987,433</b>	<b>6.668</b>	<b>3,412,546</b>	<b>9.684</b>	<b>552,763</b>	<b>7.169</b>	<b>277,972</b>	<b>7.102</b>
<b>NATIONAL ECONOMY TOTAL</b>	14,807,634	100.000	35,239,550	100.000	7,710,098	100.000	3,914,163	100.000

The economic contribution of copyright based industries in Hungary in 2002 (%)



Representation of copyright based sectors in Hungary based on GDP in 2002 (%)

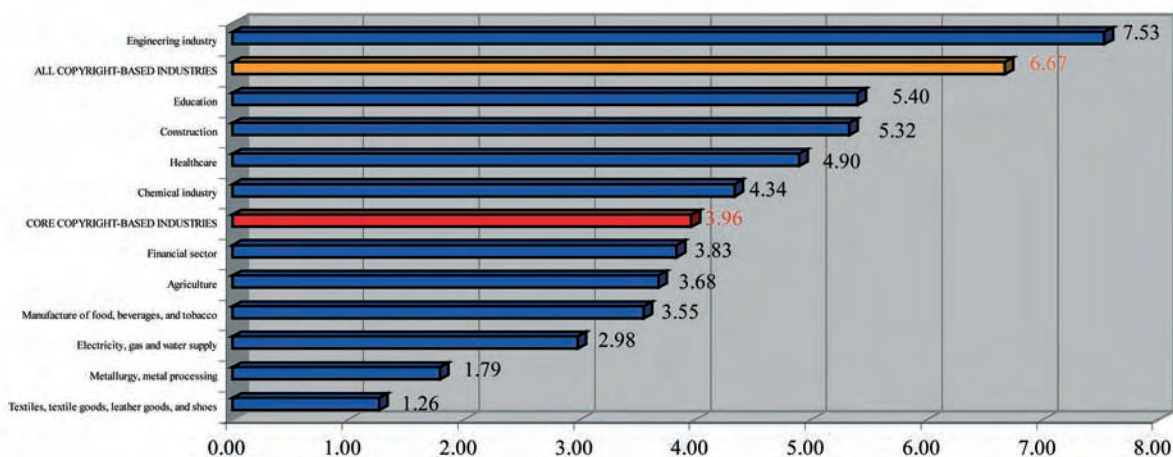


## 2. Comparison with other economic sectors

The role of copyright based industries in economic performance and employment in Hungary is easily illustrated by comparison with the other sectors and industries of the national economy. The contribution of copyright based industries/activities to gross added value and employment statistics in the national economy is not unlike that of large industries with a significant economic contribution. The 6.67% contribution of all copyright based industries to GDP with 3.96% produced by core copyright industries alone is comparable with the performance of economic industries like the engineering industry (7.53%), the chemical industry (4.43%), and the building industry (5.32%). The gross added value generated by core copyright industries is higher than that produced by the textile industry (1.26%), metallurgy and metal processing (1.79%), the electricity industry (2.98%), the food industry (3.55 %), and agriculture (3.68%).

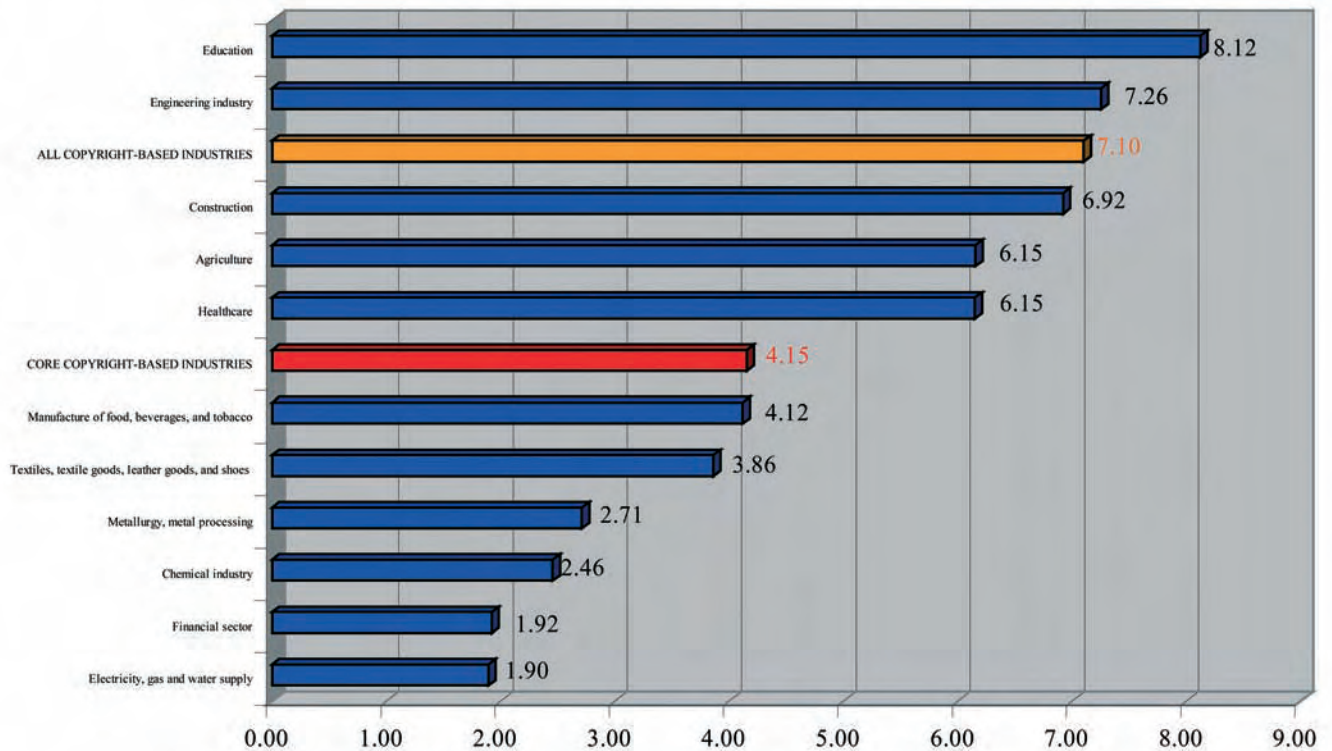
The entire copyright based sector employed 283,000 people, which is 7.1% of total employment. Within this statistic, core copyright industries employed 162,000 people in 2002, accounting for 4.15% of total employment. The collective contribution of all copyright based industries to employment is equivalent to that of the engineering industry (7.26 %), the building industry (6.92%), agriculture (6.15%), and healthcare (6.15%). Core copyright industries employ nearly as many people as the food industry (4.12%). The number of employees in core copyright industries was higher than that of the textile industry (3.86%), metallurgy and metal processing (2.71%), the chemical industry (2.46%), and the electricity industry (1.90%).

### The contribution of copyright based industries to the Hungarian economy in 2002 in comparison with other sectors on the basis of their contribution to GDP (%)



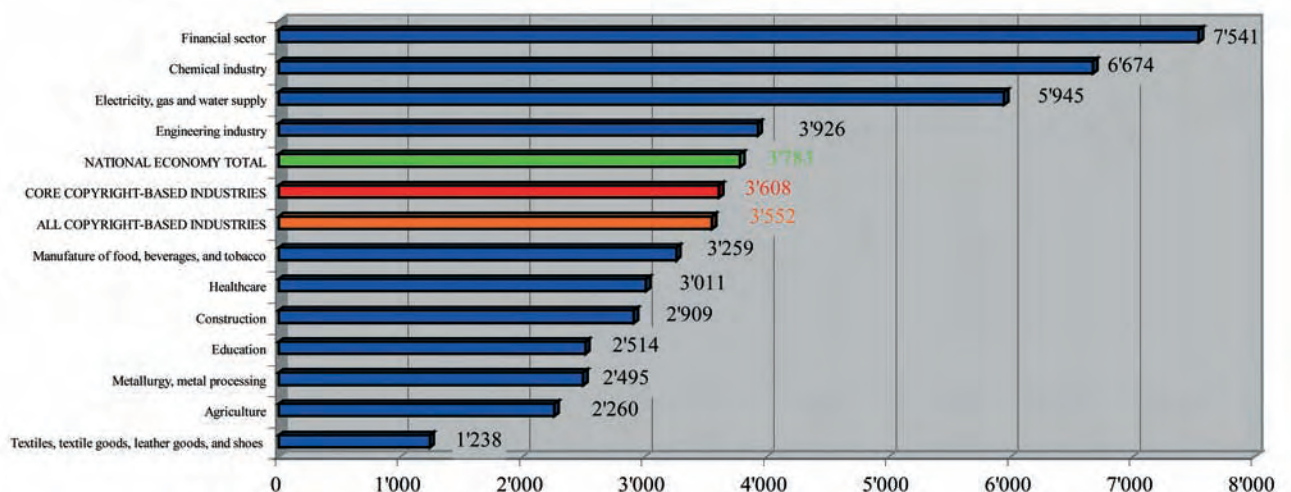


**The contribution of copyright based industries to the Hungarian economy in 2002 in comparison with other sectors on the basis of their contribution to employment (%)**



In 2002 in the copyright based industries – core copyright industries and the overall total of copyright based industries – the productivity index expressed as the fraction of added value per employee was very close to the national economic average. The productivity index of core copyright industries came to HUF 3,608,000, while that of the entire copyright industry was HUF 3,552,000, and the average of the national economy amounted to HUF 3,783,000. Only the traditional industrial sectors like the engineering industry, the chemical industry, and the electricity industry succeeded in producing better performances than the copyright based industries. The food industry, the building industry, metallurgy, metal processing, the textile industry and agriculture had all performed less well than the copyright based industries.

**The productivity of copyright based industries (gross added value per employee) in comparison with other sectors in 2002 (HUF '000s)**





### 3. The economic contribution of core copyright industries

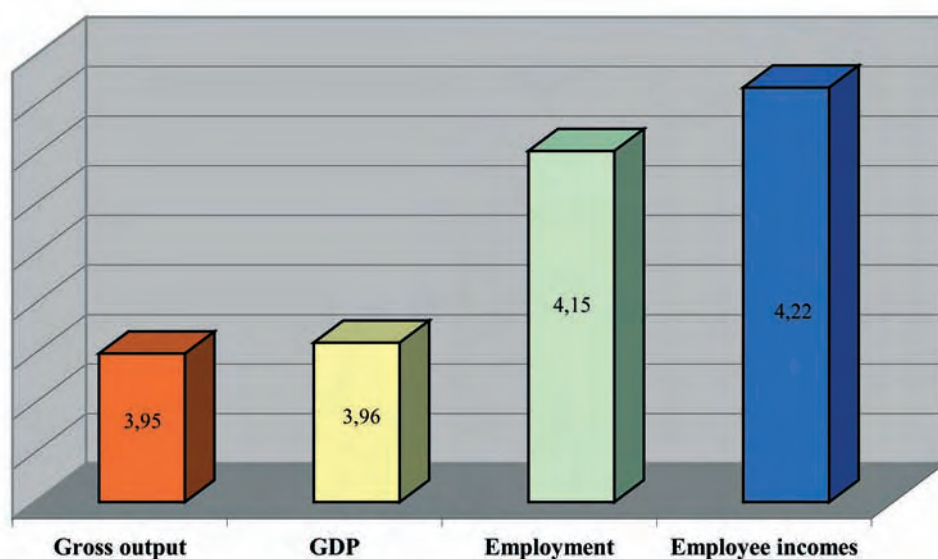
Core copyright industries include industries/activities engaged in creation, production and manufacturing performances, broadcasting and communication, exhibition, or distribution and sale of products and works and other protected subject matter. Core copyright industries, in fact, cover the entire field of culture in the traditional sense of the word as well as the software industry.

The economic performance of core copyright industries is approximately 4% of the entire national economy. The gross output of core copyright industries in 2002 was HUF 1,391 billion. This segment accounted for 3.95% of the gross economic output. The gross added value generated by core copyright industries was HUF 586 billion – 3.96% of the total gross added value produced by the entire national economy. In 2002 162,000 employees were engaged in these industries, which accounted for 4.15% of the total employment. Employee incomes amounted to HUF 325 billion accounting for 4.22% of total employee incomes.

The contribution of core copyright industries to employment and to employee incomes is higher than its contribution to national economic gross added value, or gross output. This phenomenon contradicts the trends observed in industrialized countries and it is a reflection on the fact that the core copyright industries in Hungary use a larger labour force than the average industry. This loss in productivity is probably due to the lower level of mechanisation and automation of the core copyright industries in international comparisons, and the slow establishment of new, labour-saving technologies because of lack of finance.

When we take the average of the EU-15 and each of the old member states separately, we find that the contribution of core copyright industries to employment is lower than its contribution to GDP. In the country comparisons we find only six countries – Denmark, Finland, Greece, Latvia, Singapore, and Hungary – where the contribution of core copyright industries to employment is greater than its role in shaping GDP.

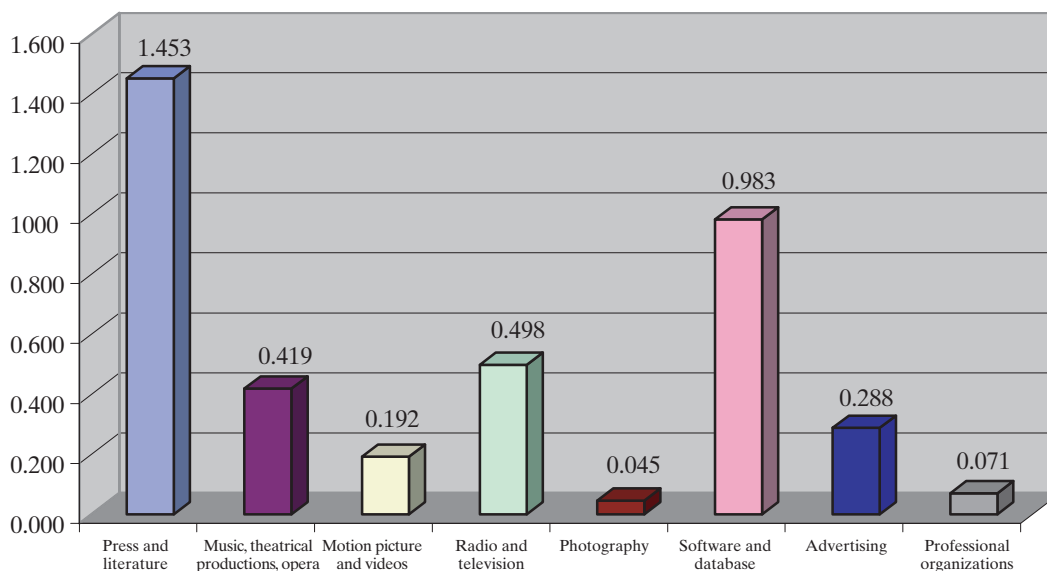
#### The economic contribution of core copyright industries (CORE) in Hungary in 2002 (%)



The following core copyright industries were the most important in terms of their contribution to gross output in 2002 in the order of their contribution: press and literature, software and databases, radio and television, music, theatrical productions, opera, and advertising. These five activities accounted for 92% of the total gross output of core copyright industries. Motion pictures and video, photography and professional organisations<sup>48</sup> made up the remaining 8%.

The heavy concentration of core copyright industries is shown by the fact that 61% of the gross output of core copyright industries came from two areas: press and literature, and software and databases. The traditionally strong Hungarian press and literature sector has a long history while the software industry is a relatively young, but fast-developing industry. This explains the dominance of these two sectors with different pasts and traditions within the core copyright industries.

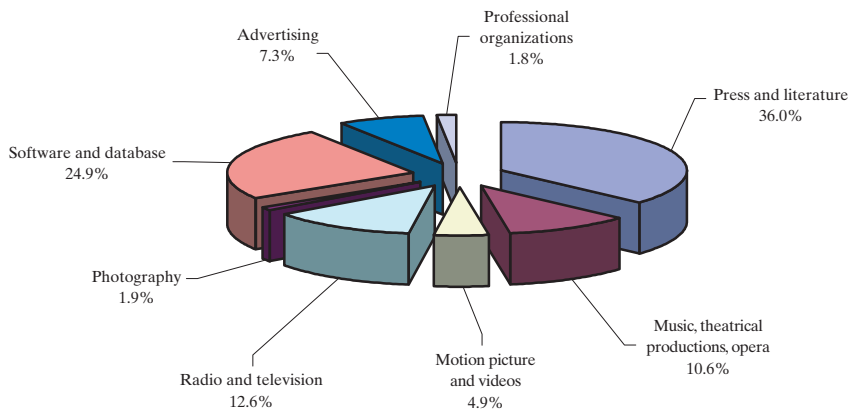
### The weight of core copyright industries on the basis of gross output in 2002 (%)



<sup>48</sup> Since 2003, seven registered organisations concerned with collective administration of copyrights and related rights operate in Hungary: ARTISJUS - Hungarian Bureau for the Protection of Authors' Rights; HUNGART - Society of Visual Artists Performing Collective Administration of Rights; FILMJUS - Hungarian Society for the Protection of Audio-Visual Authors' and Producers' Rights; EJI - Association of Arts Unions Bureau for the Protection of Performers' Rights; MAHASZ - Association of Hungarian Record Companies (Hungarian Group of IFPI); RSZ - Hungarian Alliance of Reprographic Rights; MASZRE - Reprographic Society of the Hungarian Book and Periodical Writers and Publishers)

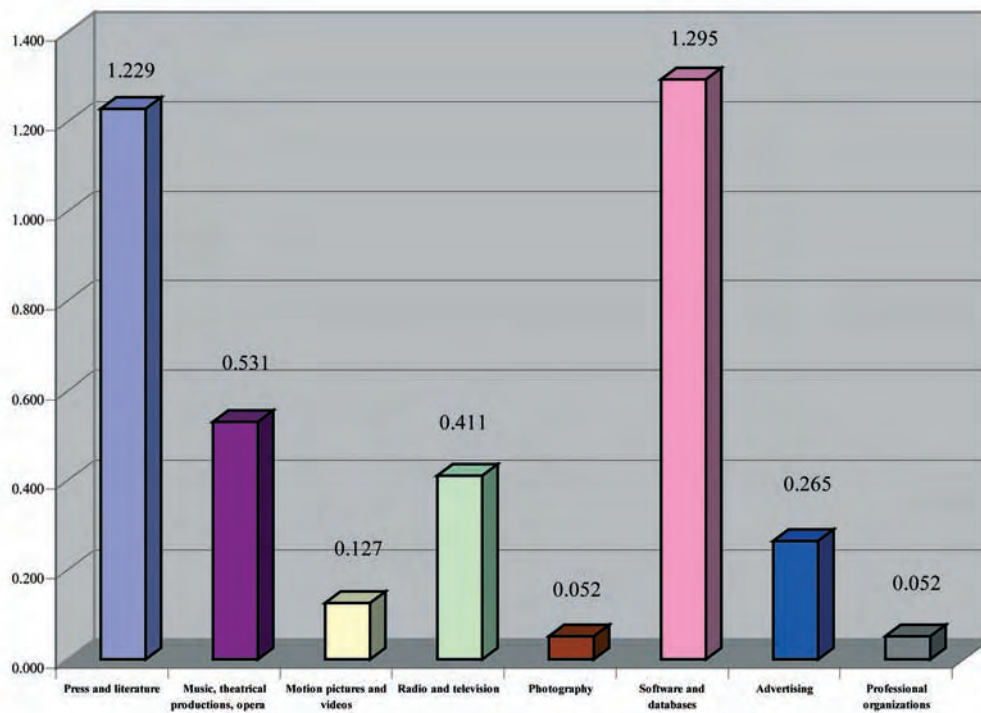


### The representation of core copyright industries based on gross output in 2002 (%)



Of the core copyright industries, the five strongest areas in terms of contribution to GDP are the same as those that make the greatest contribution to gross output; they are: software and databases, press and literature, music, theatrical productions, opera, radio and television, and advertising.

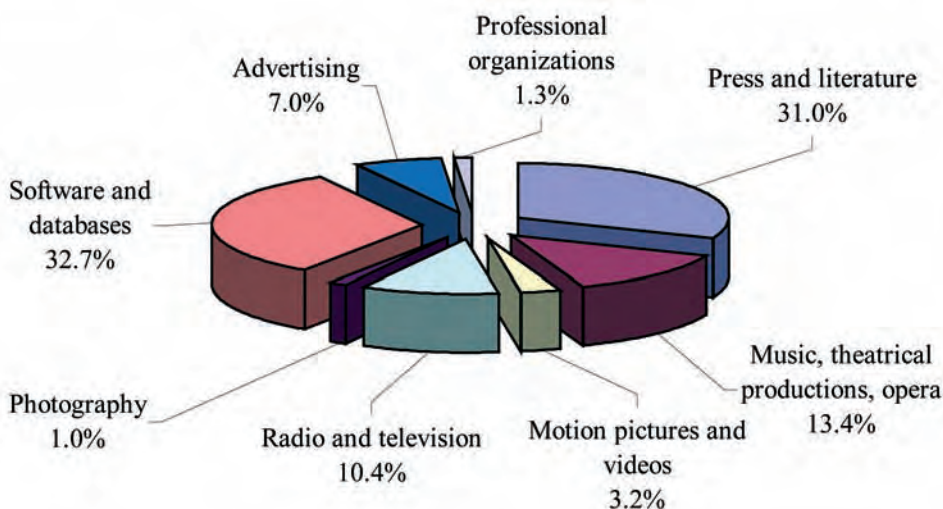
### The contribution of core copyright industries to GDP in Hungary in 2002 (%)



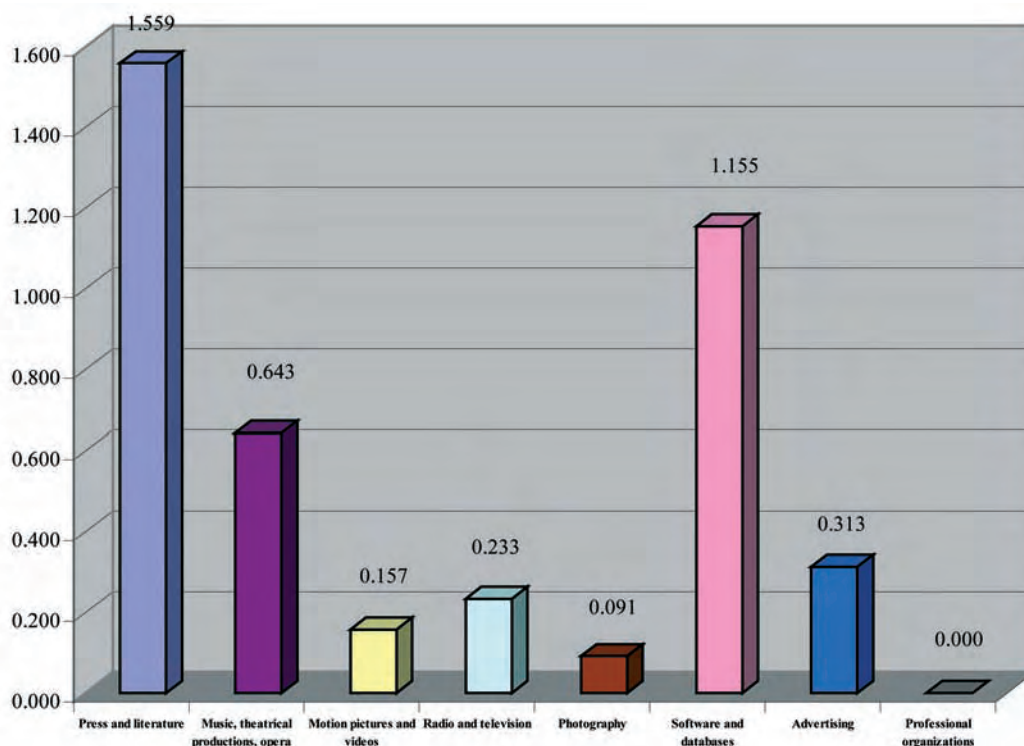
Ninety-five percent of the gross added value produced by core copyright industries came from the above five areas of activity. What is more, two areas – software and databases, and press and literature – accounted for 65% (nearly two-thirds) of the gross added value. Therefore contribution to gross added value was even more strongly concentrated than contribution to gross output.

The difference in the rankings based on the contributions to gross output and gross added value can be explained by the different material demands, intellectual and outside labour intensity in the specific core copyright industries. The greatest contribution of press and literature to gross output is due to its relatively greater material intensity than that of software and databases. As for radio and television, productions are predominantly made with the engagement of outside production companies, which is also reflected in the higher contribution to gross output since the value of gross output – given that all conditions are unchanged – is directly proportional to the increase in the division of labour.

**The structure of core copyright industries in 2002 according to GDP (%)**



**The contribution of core copyright industries to employment in Hungary in 2002 (%)**

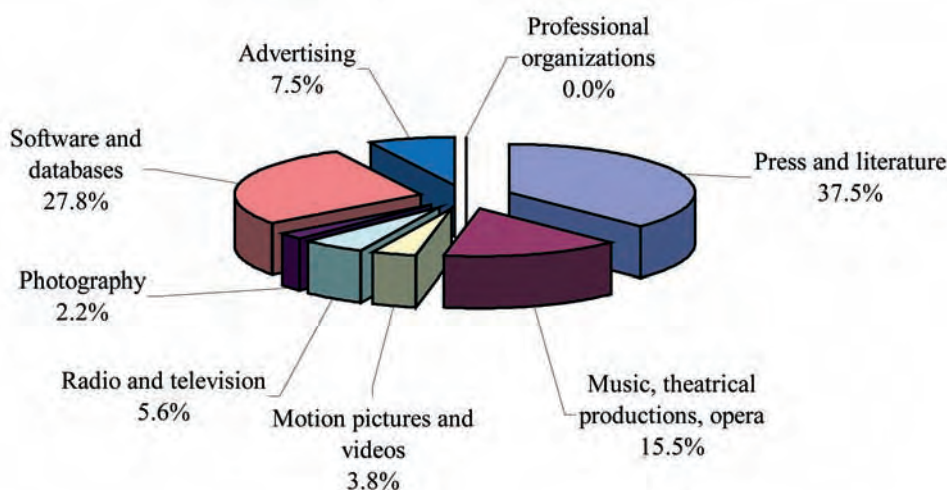




The ranking of core copyright industries in terms of their contribution to employment (workforce-intensity) is as follows: press and literature, software and databases, music, theatrical productions, opera, advertising, and radio and television. It transpires that press and literature swapped places with software and databases; advertising came before radio and television. This is closely related to the labour-intensity of the given activity.

The number of employees engaged in press and literature in 2002 was 61,000, in software and databases the figure was 45,000, in music, theatrical productions, opera it was 25 thousand. Advertising provided jobs for 12,000 people, and radio and television employed 9,000.

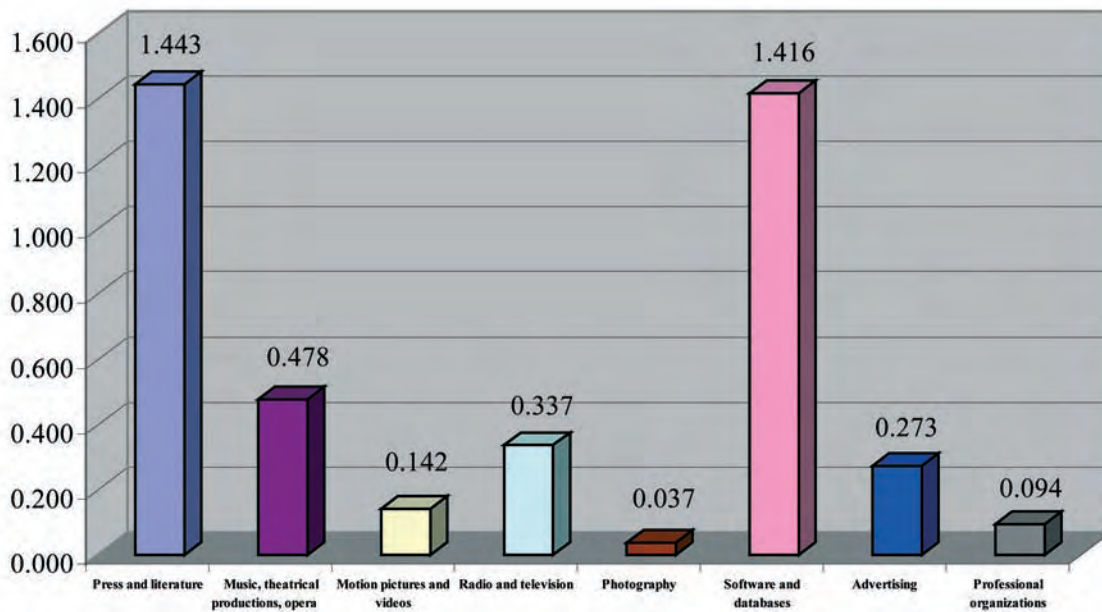
### The structure of core copyright industries on the basis of the number of employees (%)



Ninety-four percent of all employees engaged in different areas of core copyright industries are employed in five fields of activity; 65% are engaged in the two areas mentioned above: in press and literature, and software and databases. The proportion of employees in press and literature is the highest followed by software and databases, and music, theatrical productions, opera. In comparison to gross added value, and gross output, radio and television as well as advertising make a smaller contribution to employment, which is likely to be related to the peculiarities of the division of labour.

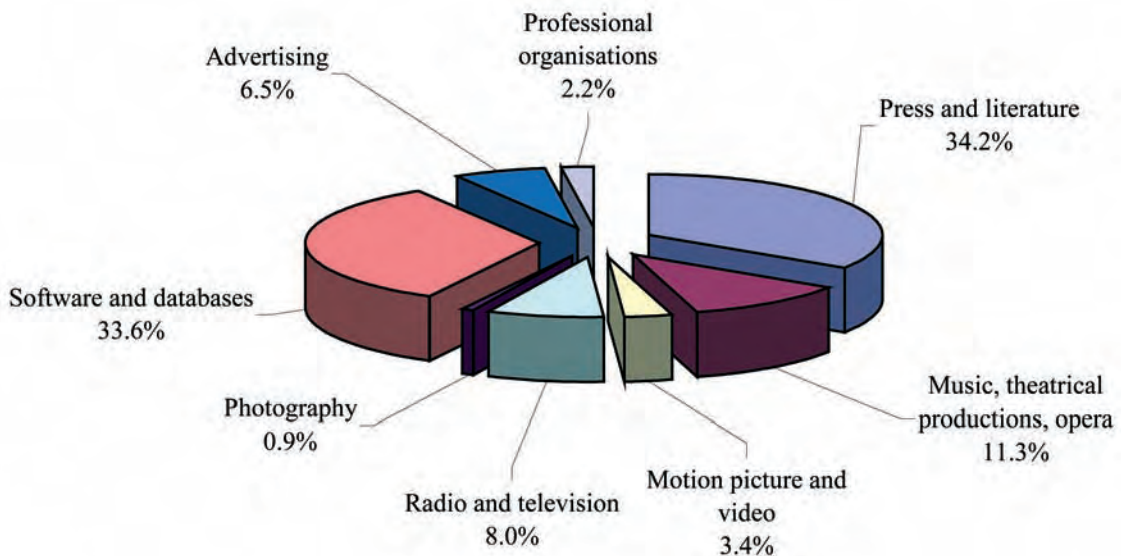
With regards to contribution to employee incomes of the core copyright industries, the five strongest areas are as follows in order of importance: press and literature, software and databases, music, theatrical productions, opera, radio and television, and advertising.

**The contribution of core copyright industries to employee incomes in 2002 (%)**



These five activities accounted for 86% of all employee incomes. The heavy concentration of employee incomes is further demonstrated by the fact that more than two-thirds of incomes come from only two areas: press and literature, and software and databases.

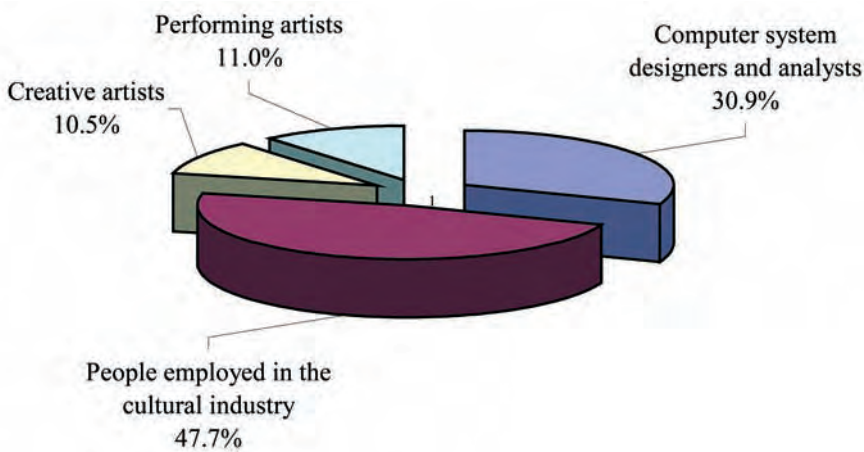
**The structure of core copyright industries on the basis of employee incomes in 2002 (%)**



In the 2001 census 3,690 people claimed to be running one-man enterprises<sup>49</sup>. This survey does not encompass the total number of employees employed by the copyright industries, but only those that are directly engaged in cultural or certain IT activities. Other services related to copyright industries (e.g. ushers in theatres) are not included in the classification. For the purposes of this survey therefore we do not focus on absolute numbers, but rather on the composition of employment.

Out of the survey subjects 87,000 people claimed to be engaged in core copyright industrial activities: 47.7% of these were involved in cultural activities, 30.9% worked in IT, while 21.5% claimed to be creative or performing artists. (For details on employment categories, see Appendix.)

**The distribution of employees engaged in the core copyright industries in the breakdown of occupational categories in 2001 (%)**

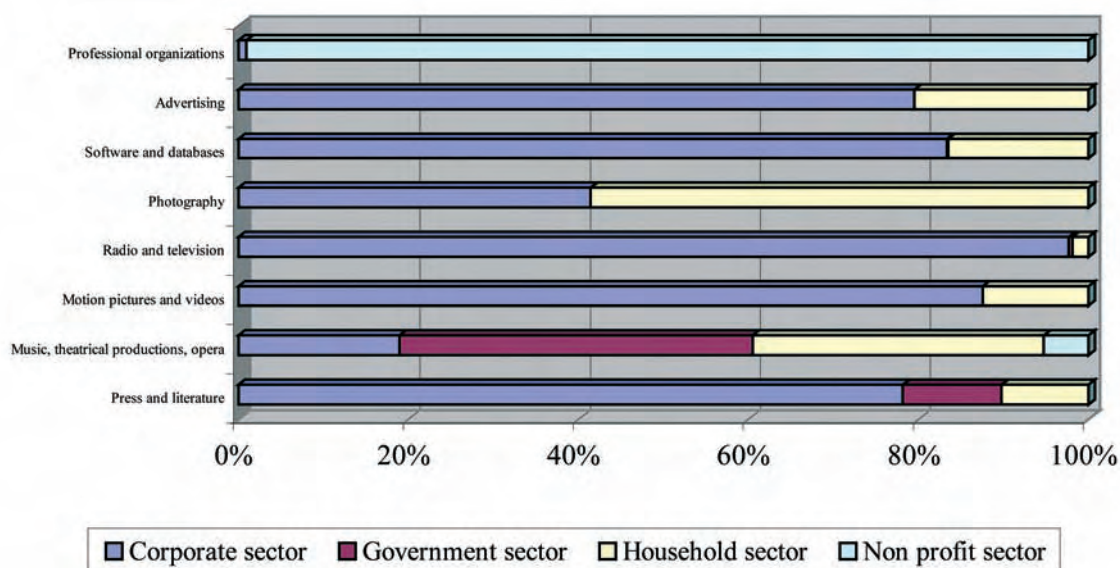


We looked at the composition of employees engaged in copyright based industries. In the core copyright industries, the top two ranks were occupied by other computer associate professionals (9,382), software designers and IT experts (8,171 making a total of 17,553). They are followed by other culture-related professionals (7,167), and librarians (5,966). Fifth place was occupied by journalists (4,303), followed by industrial designers (3,500). The top ten copyright based occupations account for 57.7% of employees engaged in core copyright industries.

Once possession of the available statistical figures we looked at the composition of core copyright industries/activities by sector. According to the Hungarian statistical survey system, the corporate sector includes all enterprises with legal person status and economic organisations without legal person status. The activities of central and local government funded institutions and state allocated funds under the budget directives are classified under the government sector. Households, and small enterprises falling under the scope of the personal income tax law are shown in the household sector. Non-profit organisations assisting households are institutions whose resources are primarily supplied by private financiers.

<sup>49</sup> Following the tradition of census surveys in Hungary, the 2001 census was also conducted by personally questioning the population and completion of a questionnaire; the data does not need to be verified by documents. For this reason the census data may differ from the results of data collection where data had to be verified. The information on the occupations of the working population is published in compliance with the revised FEOR-93 system effective from 1997. The number surveyed amounted to 95% of the 2001 employment figures.

## The structure of core copyright industries by sector in the breakdown of gross added values in 2002 (%)



In the majority of core copyright industries the corporate sector plays a key role. More than three-quarters of gross added value is generated in the corporate sector by press and literature, motion pictures and video, software and databases, and advertising. Accordingly, employees in the fields of motion pictures and video, photography, radio and television, software and databases, advertising, and professional organisations are represented almost exclusively by partnerships and one-man enterprises.

The government sector dominates only music, theatrical productions, opera. The maintenance of theatres and music halls and related institutions is mainly funded by state resources. In the field of music, theatrical productions and opera, 41% of gross added value was generated by institutions owned and run by the central and local governments. In addition to the government sector, the household sector encompassing all one-man and small enterprises that fall under the scope of personal income tax law play a key role in the field of music, theatrical productions and opera. In addition to the institutions financed by the central government, the role of performers working and paying taxes as one-man enterprises, or joint partnerships is also important. Accordingly, joint partnerships and one-man enterprises account for 56.7% of employees and the government and non-profit sector represents 43.3% of employees in the field of music, theatrical productions and opera.

78.2% of gross added value was generated by the corporate sector within press and literature, and accordingly 88.9% of employees were running one-man businesses or joint partnerships and 11.1% of employees were engaged in the government and non-profit sectors.

The contribution of business associations and one-man businesses, or small enterprises in photography is equally shared between the two. Professional organisations are definitely associated with the non-profit sector.



**The gross added value of core copyright industries in 2002 in the breakdown of sectors (HUF million, %)**

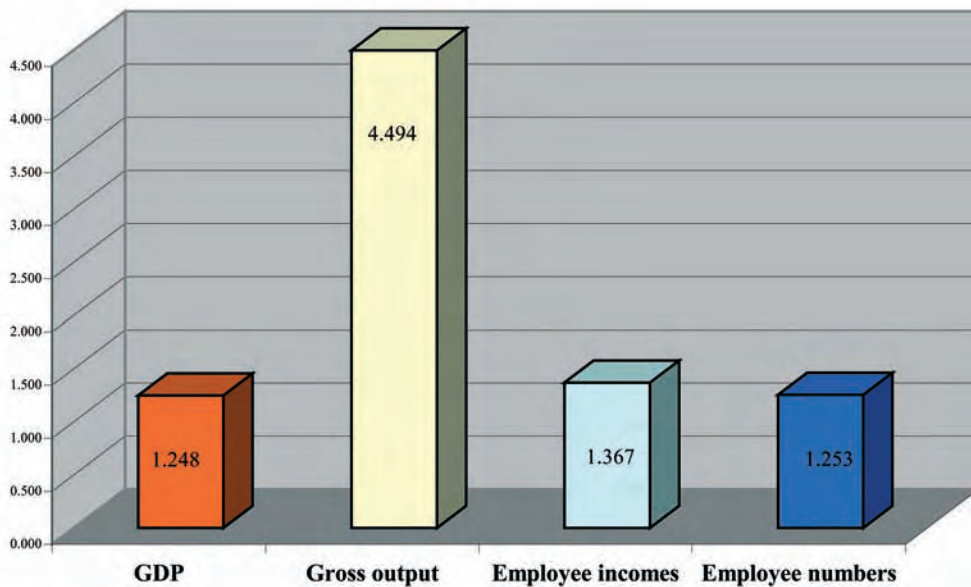
	Gross added value							
	National economy total				HUF million			
	Corporate sector	Government sector	Household sector	Non profit sector	Corporate sector	Government sector	Household sector	Non profit sector
<b>Press and literature</b>	142,312	21,132	18,575	0	78.19	11.61	10.20	0.00
<b>Music, theatrical productions, opera</b>	14,886	32,636	26,931	4,126	18.94	41.53	34.27	5.25
<b>Motion pictures and videos</b>	16,439	0	2,331	0	87.58	0.00	12.42	0.00
<b>Radio and television</b>	44,554	210	859	0	73.14	0.34	1.41	0.00
<b>Photography</b>	3,166	0	4,473	0	41.45	0.00	58.55	0.00
<b>Software and databases</b>	159,783	310	31,634	0	83.34	0.16	16.50	0.00
<b>Advertising</b>	31,176	0	8,017	0	79.54	0.00	20.46	0.00
<b>Professional organisations</b>	72	0	0	7,660	0.93	0.00	0.00	99.07
<b>Core copyright industries (CORE) total</b>	<b>412,388</b>	<b>54,288</b>	<b>92,820</b>	<b>11,786</b>	<b>70.30</b>	<b>9.26</b>	<b>15.82</b>	<b>2.01</b>

#### 4. The economic contribution of interdependent copyright industries

Interdependent copyright industries include industries/activities engaged in the production, manufacturing, and sale of instruments and equipment wholly or primarily designed to promote the creation, production, or "consumption" of copyrighted works and other protected subject matter.

The output value of interdependent copyright industries in 2002 was HUF 1,583 billion, which accounts for 4.49% of the gross national economic output. The gross added value of interdependent copyright industries was HUF 184 billion, which is 1.25% of the national GDP. In 2002, 49,000 people worked in these sectors, which amounts to 1.25% of all employees. The income of employees in the sector was HUF 105 billion, which comes to 1.37% of total employee incomes.

#### The economic contribution of interdependent copyright industries in Hungary in 2002 (%)



The data and the figure shown illustrates that the contribution of interdependent copyright industries in gross national output was 3.5 times higher than its contribution to GDP, employment and employee incomes. This phenomenon is largely due to the odd structure of the Hungarian economy. In Hungary the manufacture of durable consumer goods was developed in the 1990s by the involvement of foreign capital. Attracted by well-qualified labour, cheaper than in western Europe, a number of large foreign companies (e.g. Philips, Samsung) relocated their final assembly plants of a number of durables to Hungary; the activities were almost entirely based on the use and final assembly of imported materials and parts. When modern manufacturing technologies were introduced, yet they represented little added value for Hungary.

A similar process was evident in the manufacture of computers<sup>50</sup>. This explains the fact that in the manufacture of electronic entertainment products (televisions, radios, videos, CD players, DVD players, cassette players, video game consoles) and also in the manufacture of computers the relatively high gross output of these activities is coupled with a relatively low contribution to GDP. These industries work with above-average productivity, which is reflected in the fact that their employment rate is lower than their performance rate.

In 2002 the average ratio of gross added value and gross output of the Hungarian national economy was 42.02%. The same figure in core copyright industries was 42.14%, which is consistent with the national economic average. In contrast to this, the ratio of gross added value/gross output in the manufacture of electronic entertainment (televisions, radios, videos, CD players, DVD players, cassette players, video game consoles) and in the manufacture of computers was extremely low at 9.4%, and 6.4%. This is closely related to the dominance of low added value assembly activities.

On the other hand, the Hungarian economy is characterised by heavy imports of durable consumer goods, which explains the high proportion of retail and wholesale trade associated with interdependent copyright industries.

Taking these specifics into consideration, we studied the activities of interdependent copyright industries from two aspects. The statistical data provided by the HCSO were related to the manufacturers' activities and showed relatively aggregated figures on the wholesale and retail trade activities and rental of interdependent copyright industries. In our first approach, we listed retail and wholesale activities and rentals related to interdependent copyright industries as a separate figure.

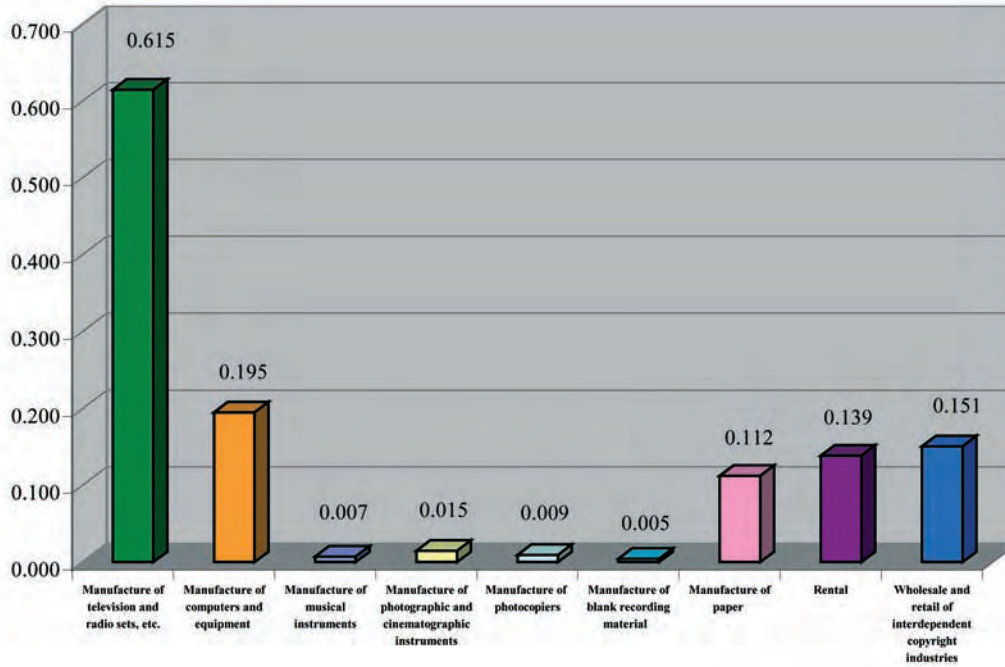
As for the performance rates within interdependent copyright industries, there are two main areas: the manufacture of televisions, radios, videos, CD and DVD players, cassette players, video game consoles, which are collectively referred to as entertainment electronics, and the manufacture of computers account for 65% of added value within the category. These manufacturing activities are followed by wholesale and retail, and rentals. The contribution of interdependent copyright-industry-related wholesale and retail activities to gross output and gross added value was 0.15% of the national economic average for both. The proportion of employees engaged in this sector was much higher at 0.24%. The higher-than-average labour demand of wholesale and retail is articulated in the fact that the contribution of trade-related activities to employment is higher than the economic contribution of wholesale and retail.

Entertainment electronic products (television, radio, etc.), computers, the manufacture of paper, together with wholesale, retail and rental account for 97% of added value in this field, which demonstrates that there is practically hardly any manufacture of photocopiers, musical instruments, blank recording material or photographic equipment in Hungary.

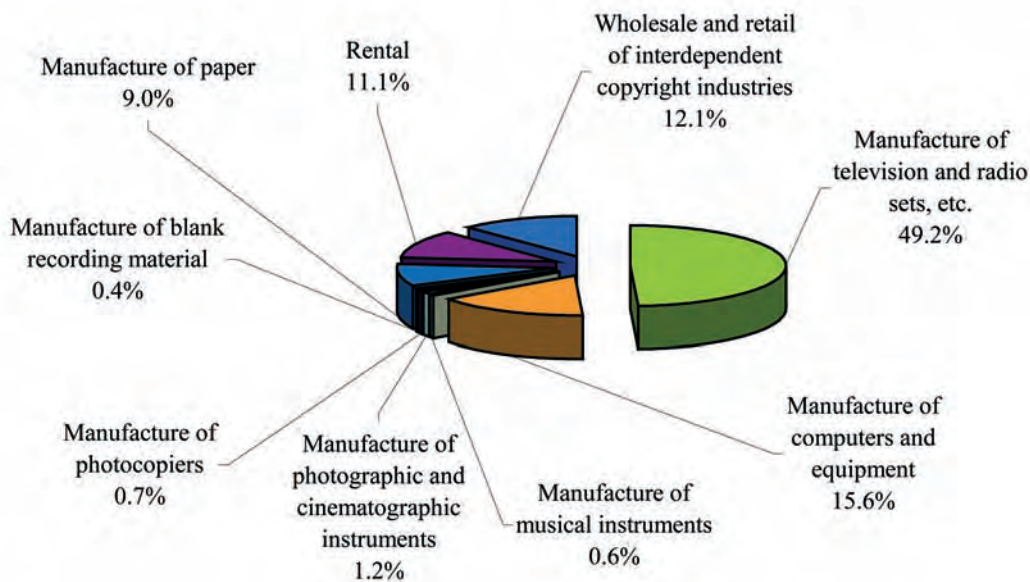
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<sup>50</sup> At the IBM's Székesfehérvár factory in the customs-free zone, hard disk drives were manufactured. IBM Storage grew into becoming Hungary's sixth largest company and was one of the largest exporters in the country. Due to falling global demand, IBM stopped production in its Székesfehérvár factory on 30 November 2002.

**The contribution of interdependent copyright industries to GDP in 2002 (wholesale and retail shown separately (%))**

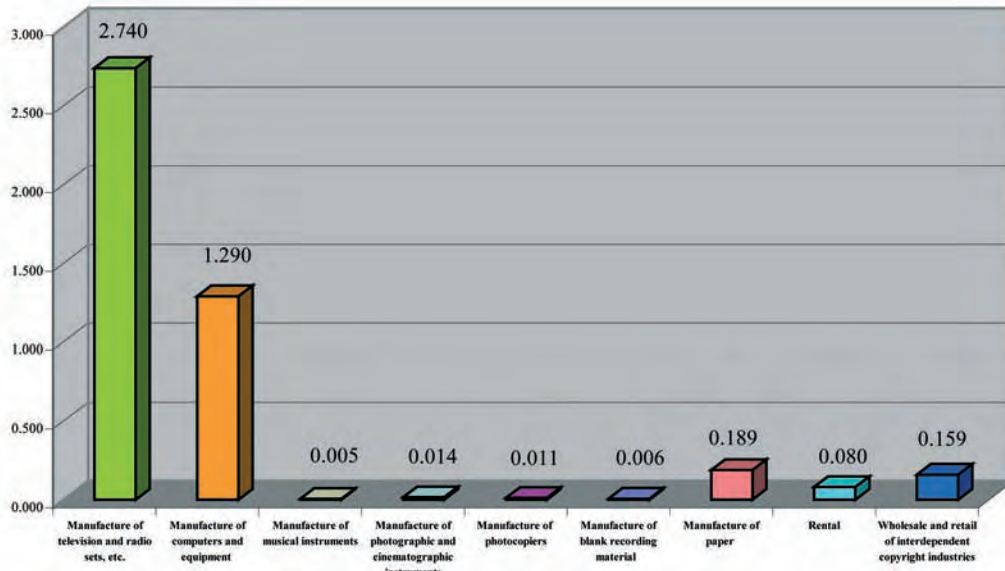


**The contribution of interdependent copyright based industries to gross added value in 2002 (%)**

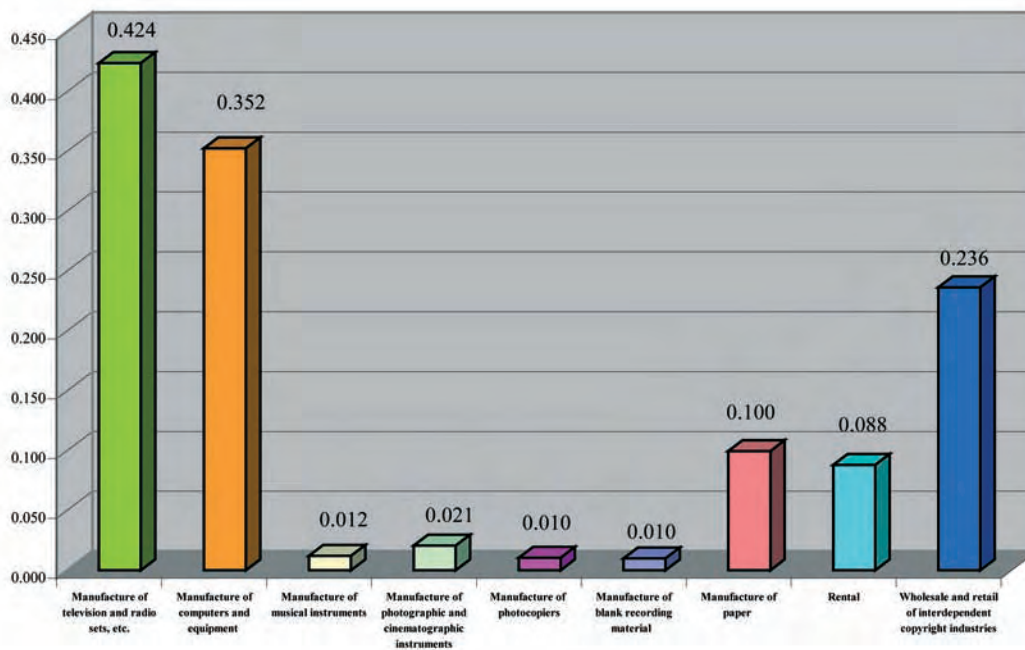




**The contribution of interdependent copyright industries to gross output in 2002 (wholesale and retail shown separately (%))**



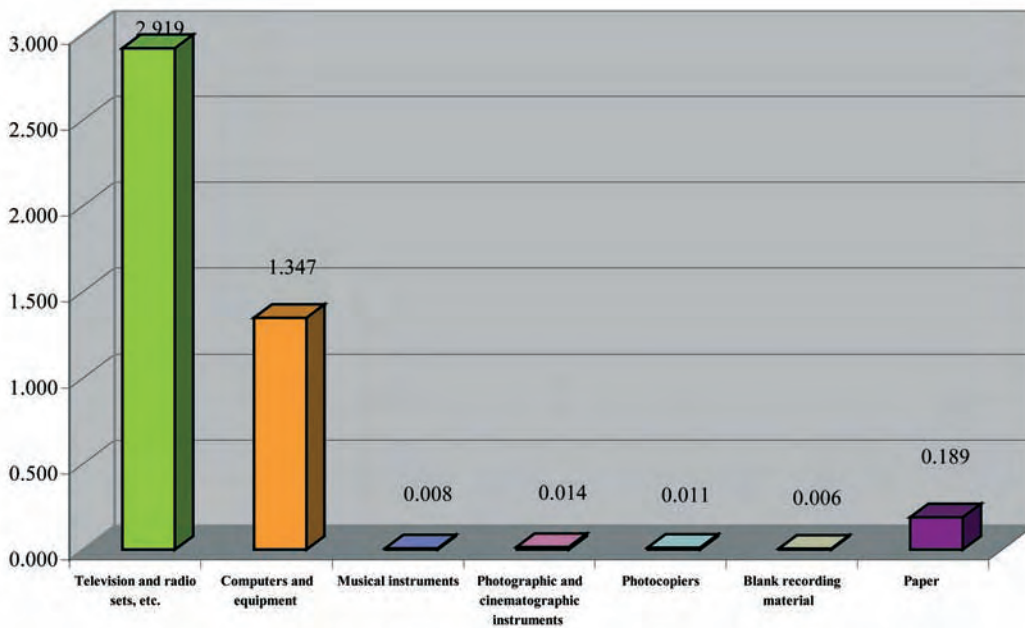
**The contribution of interdependent copyright industries to employment (wholesale and retail shown separately (%))**



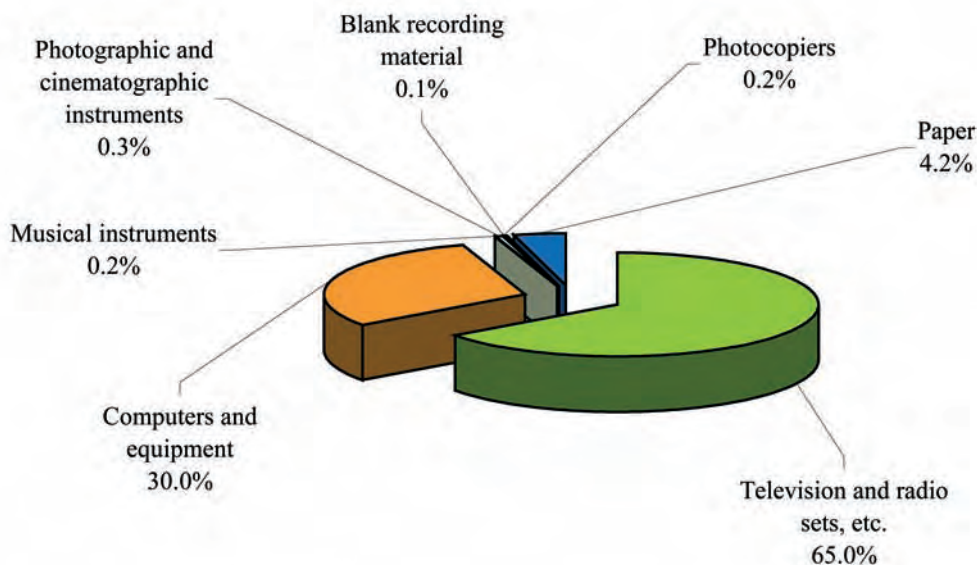
In the second approach we shared the values of wholesale and retail, and rental activities among the given sectors as a form of data correction. The purpose of data correction was to adapt Hungarian statistics to European and American practices and include not only the manufacture but also the wholesale and retail of hardware products of copyright industries and also rental activities where applicable. Consequently, we divided the wholesale and retail activities relating to interdependent copyright industries – in consideration of the proportion of added value – among the given sectors. The following distribution values have been prepared with the inclusion of data adjusted for wholesale and retail and rental, but must be treated with caution as rough estimates.

Based on its contribution to gross output, out of all the interdependent copyright industries entertainment electronics (television, radio, video, CD and DVD players, cassette players, and video game consoles) is ranked top followed by the computer industry. The lion's share (93%) of aggregate output of interdependent copyright industries is given by these two sectors. The output of the remaining sectors is insignificant.

**The contribution of interdependent copyright industries to gross output in 2002 (%)**

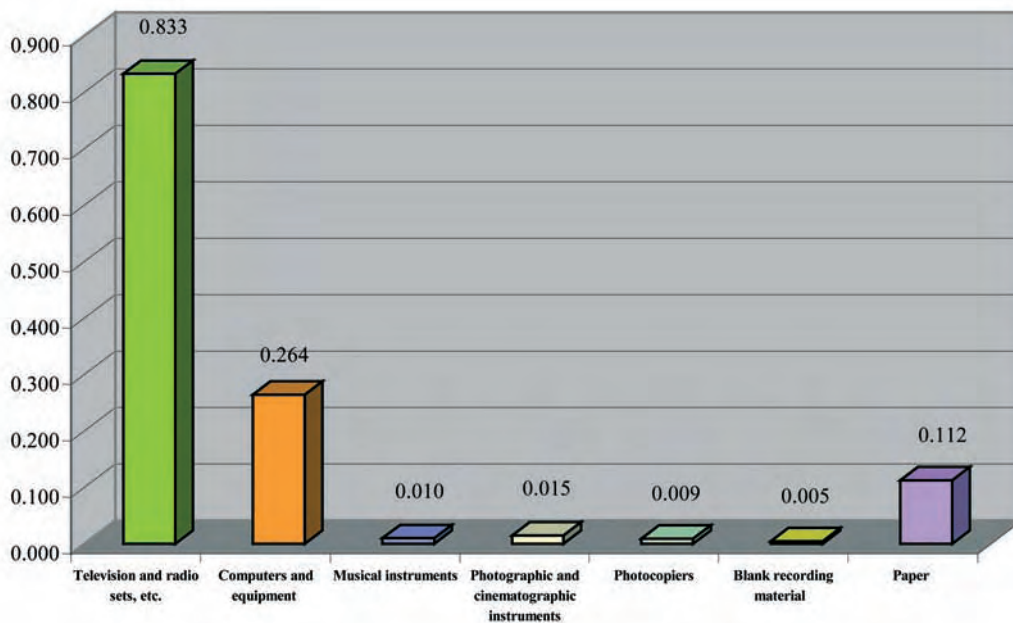


**The structure of interdependent copyright industries on the basis of gross output in 2002 (%)**



The above two sectors – entertainment electronics and the computer industry – play the most important role in the contribution to GDP. In addition to these, the paper manufacturing sector is worth attention for its contribution to GDP.

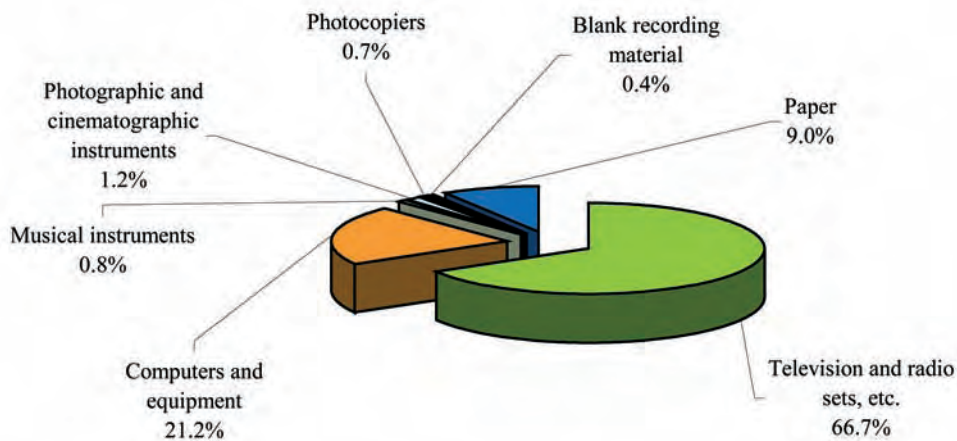
**The contribution of interdependent copyright industries to GDP in 2002 (%)**



The importance of this area is demonstrated by the fact that the above three industries (entertainment electronics, computers and equipment, and paper manufacturing) accounted for 97% of the aggregate gross added value of the interdependent copyright industries. What is more, only two of the three

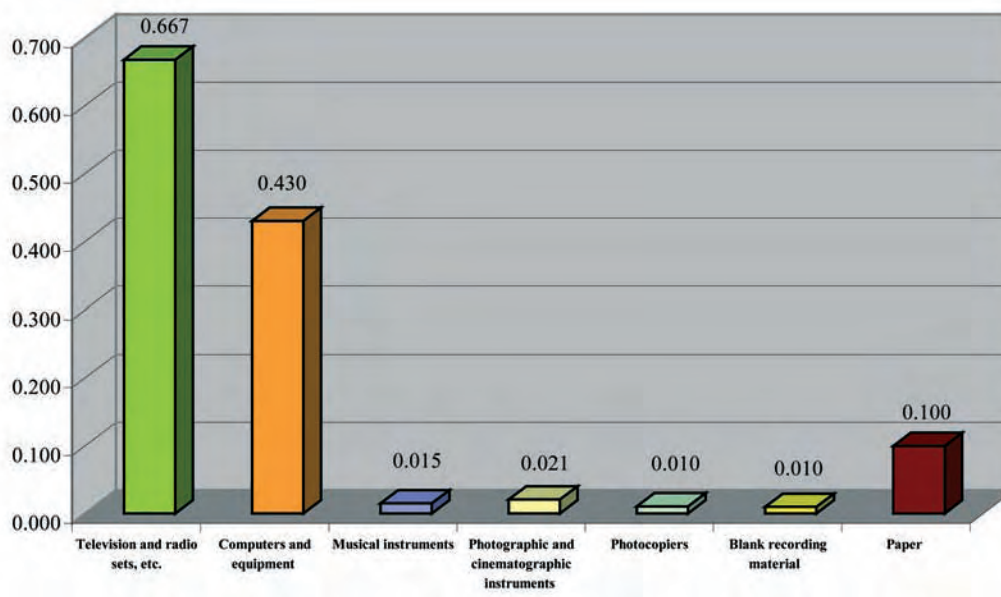
(entertainment electronics, computers and equipment) are responsible for 89% of all added value. The “industrial” performance of musical instruments, photographic instruments, and photocopiers is insignificant in the Hungarian economy.

### The structure of interdependent copyright industries based on GDP (%)



The sectors with the highest number of employees within the interdependent copyright industries are: entertainment electronics, computers and equipment and paper.

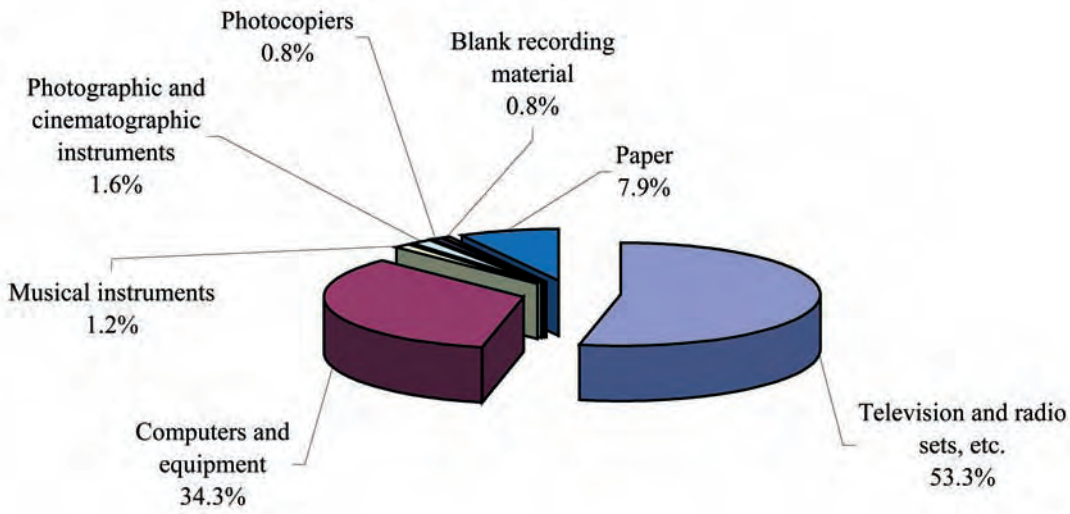
### The contribution of interdependent copyright industries to employment in 2002 (%)



95.5% of employees in the interdependent copyright industries were engaged in these three industries.

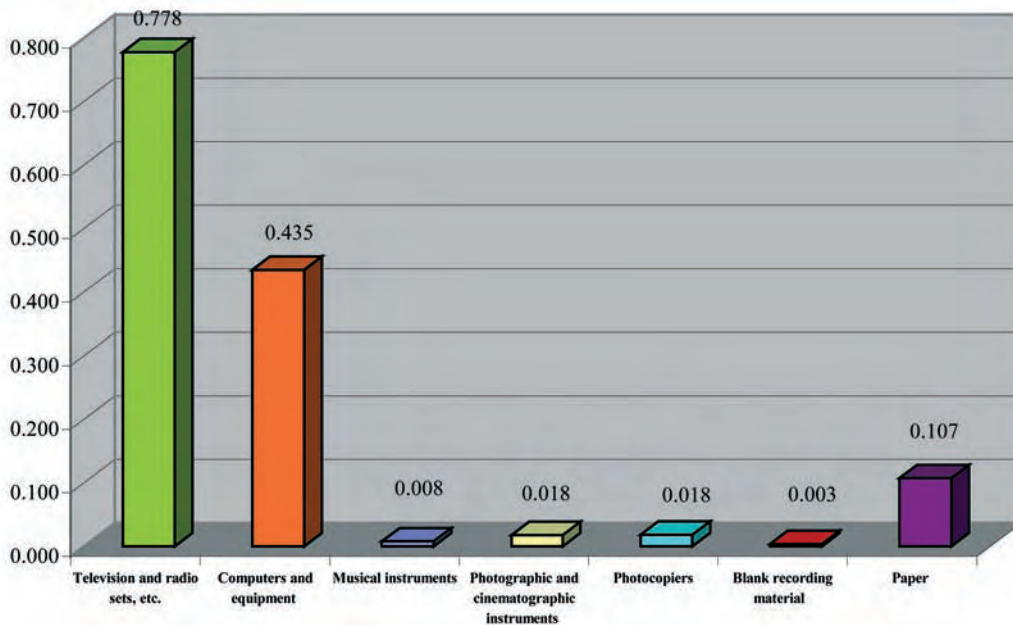


**The structure of interdependent copyright industries based on employment in 2002 (%)**

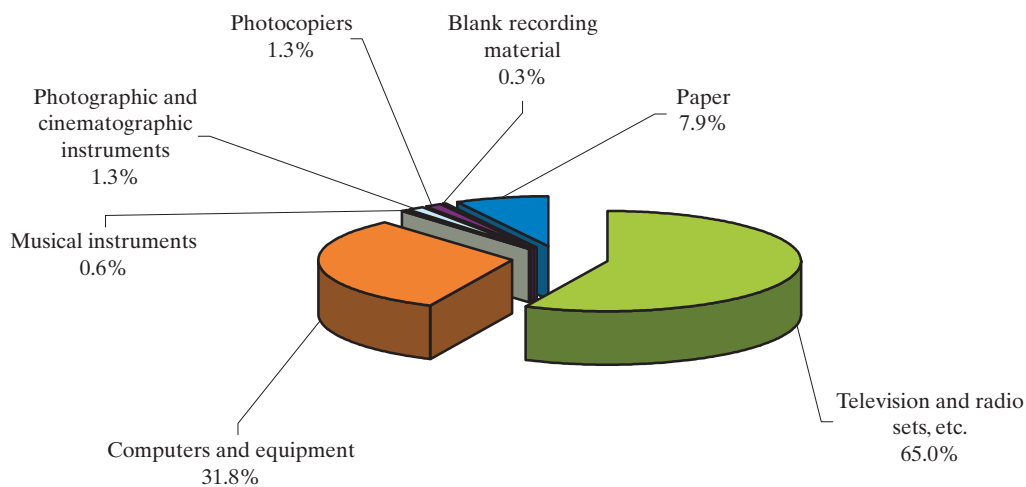


Again, the role of the above three industries previously mentioned with respect to employee incomes is dominant with a share of 96.6%.

**The contribution of interdependent copyright industries to employee incomes in 2002 (%)**



### The structure of interdependent copyright industries based on employee incomes in 2002 (%)



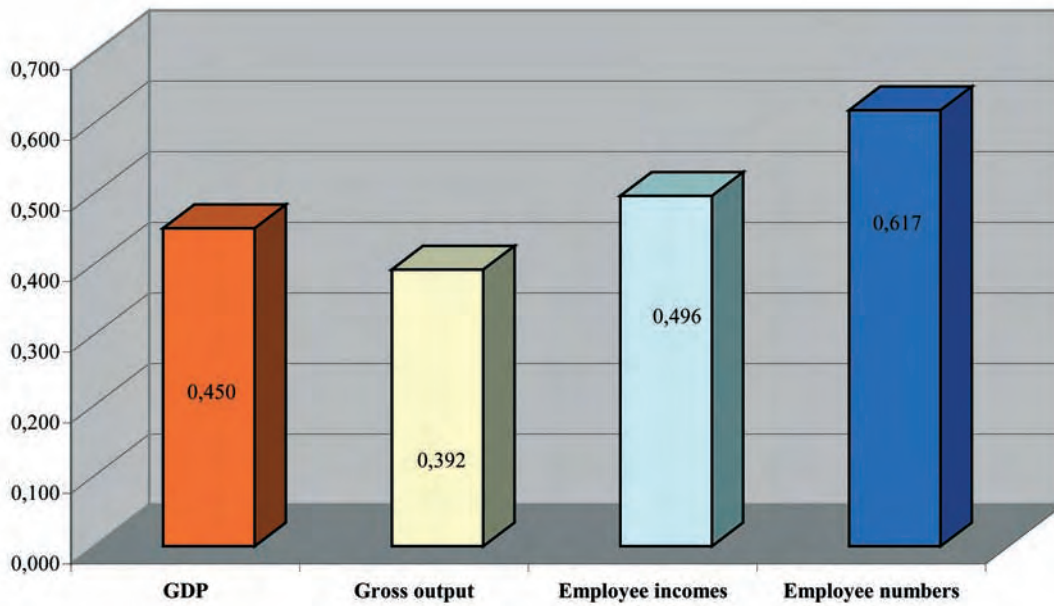
### 5.The economic contribution of partial copyright industries

Partial copyright industries include industries that are only partially engaged in production of copyrighted works, i.e. only a specific segment of their activities is aimed at creating copyright-protected works. The proportion of copyrighted works is expressed by the so-called copyright factor<sup>51</sup>, whose value was established by an expert estimation. The performance indicators of partial copyright industries below are adjusted by the copyright factors, and the following distribution rates have also been prepared using performance values adjusted by the copyright factors.

The contribution of partial copyright industries to performance and employment is relatively low, since most of the activities of these industries are not aimed at creating copyrighted works and other protected subject matter. The value of gross output of partial copyright industries in 2002 was HUF 138 billion, which accounted for only 0.39% of gross national output. Added value generated by these sectors amounted to HUF 67 billion, which is 0.45 of national GDP. The number of employees engaged in partial copyright industries was 24,000 accounting for 0.61% of total employment. Contribution to employee incomes was HUF 38 billion – representing 0.49% of the national aggregate.

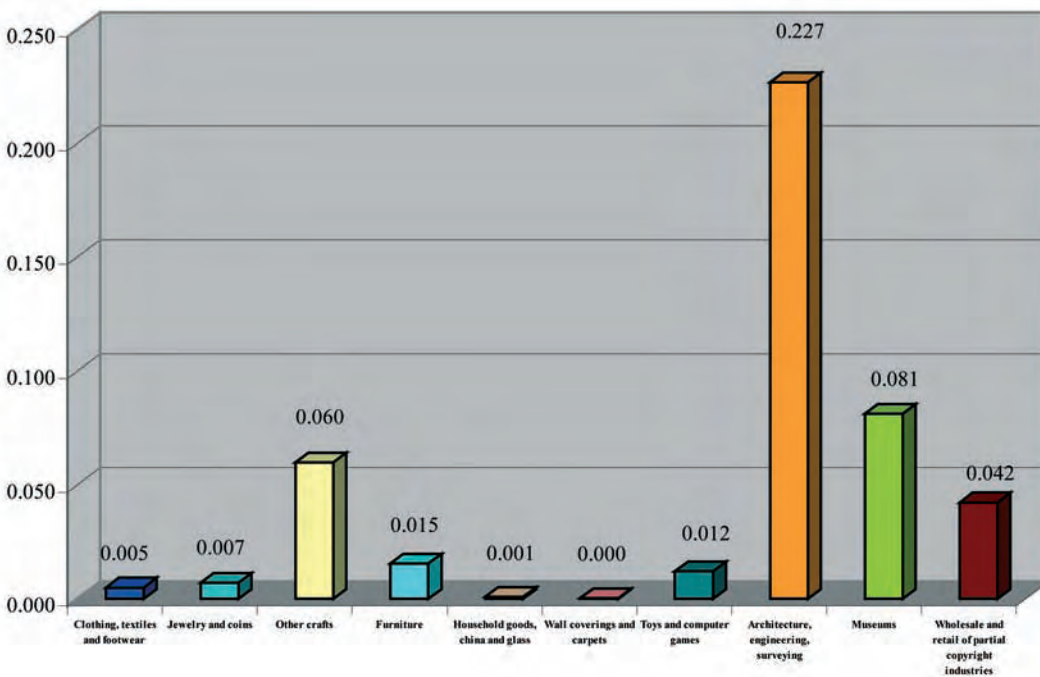
<sup>51</sup> For more details on copyright factors, see section 2 of Chapter III

**The economic contribution of partial copyright industries in Hungary in 2002 (%)**



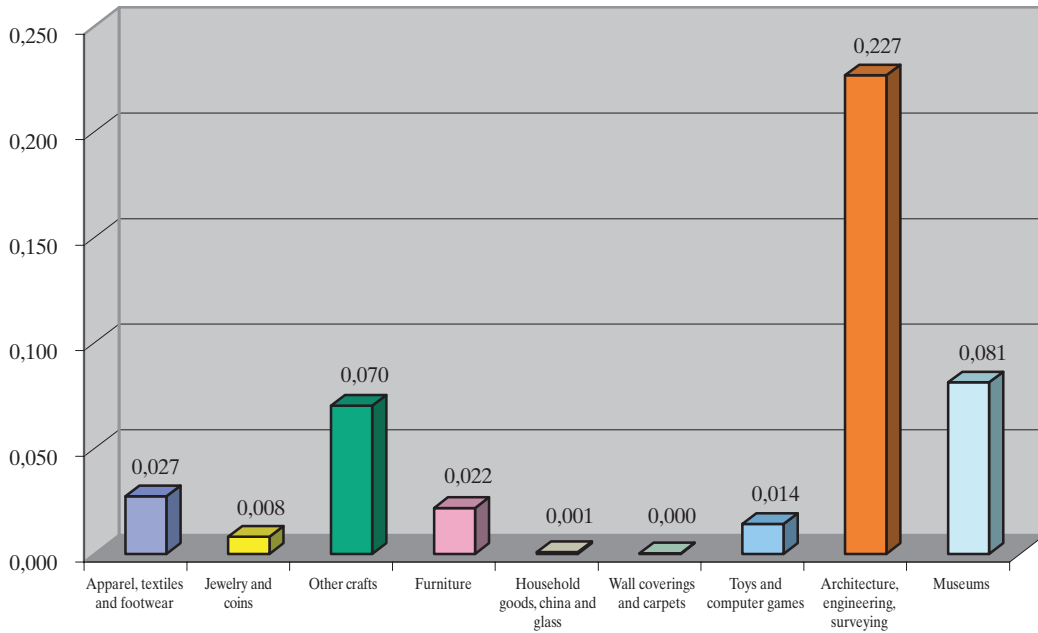
The proportion of retail and wholesale in partial copyright industries is nearly 10%.<sup>52</sup>

**The contribution of partial copyright industries to gross added value in 2002 (wholesale and retail shown separately (%))**



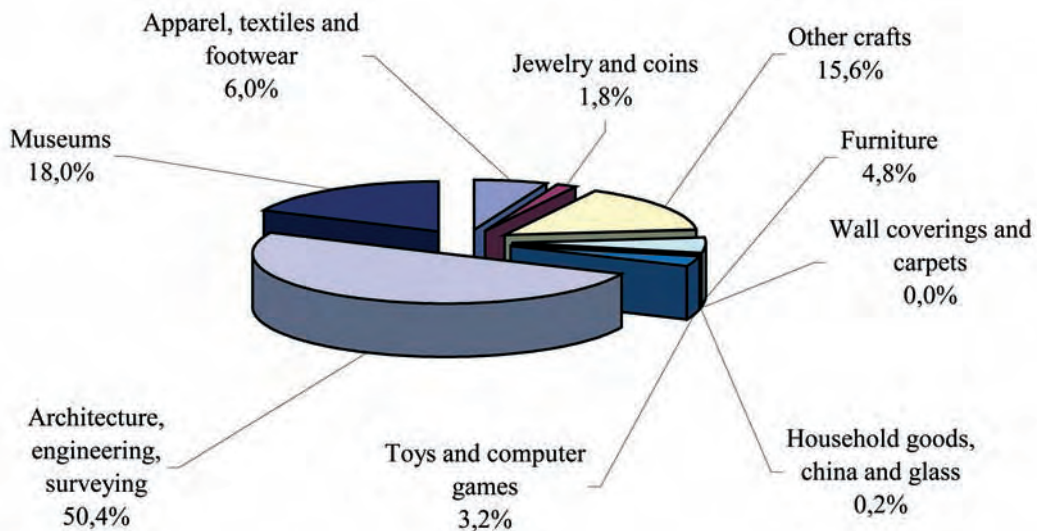
<sup>52</sup> As shown by the following graphs, we made two calculations: one where wholesale and retail were separated and one where they were distributed among the specific sectors

**The contribution of partial copyright industries to gross added value in 2002 (%)**



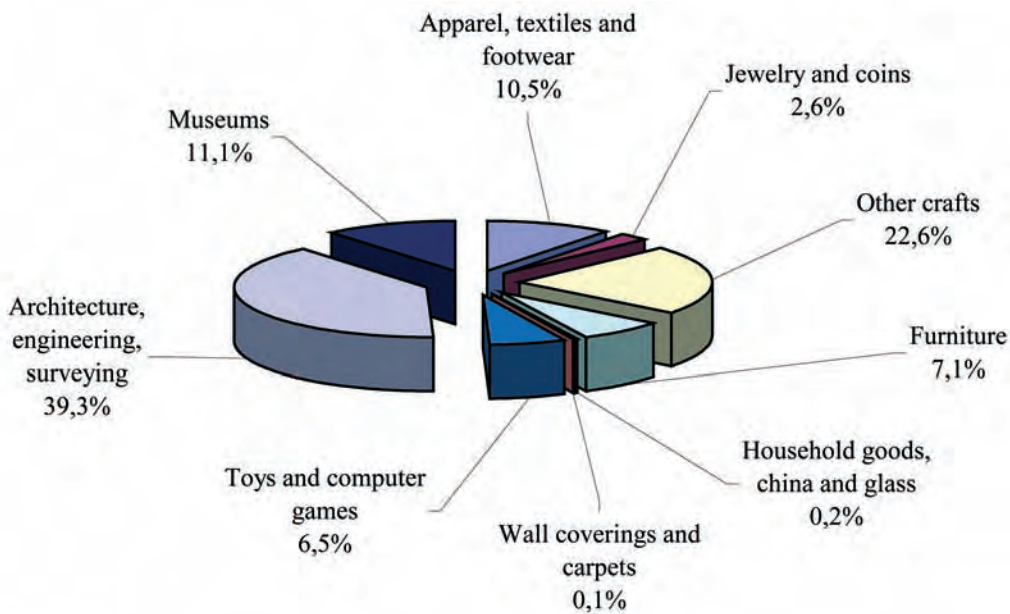
Based on their contribution to gross added value, gross output and employment, as well as to employee incomes, the following activities play the most important roles among the partial copyright industries in order of contribution: architecture, engineering, and surveying, museums, other crafts, apparel and toys. The ranking is not indicative of the size of the sector, but primarily of the extent of activities aimed at creating copyrighted works and products.

**The structure of partial copyright industries based on contributions to GDP in 2002 (%)**





### The structure of partial copyright industries based on contributions to employment in 2002 (%)



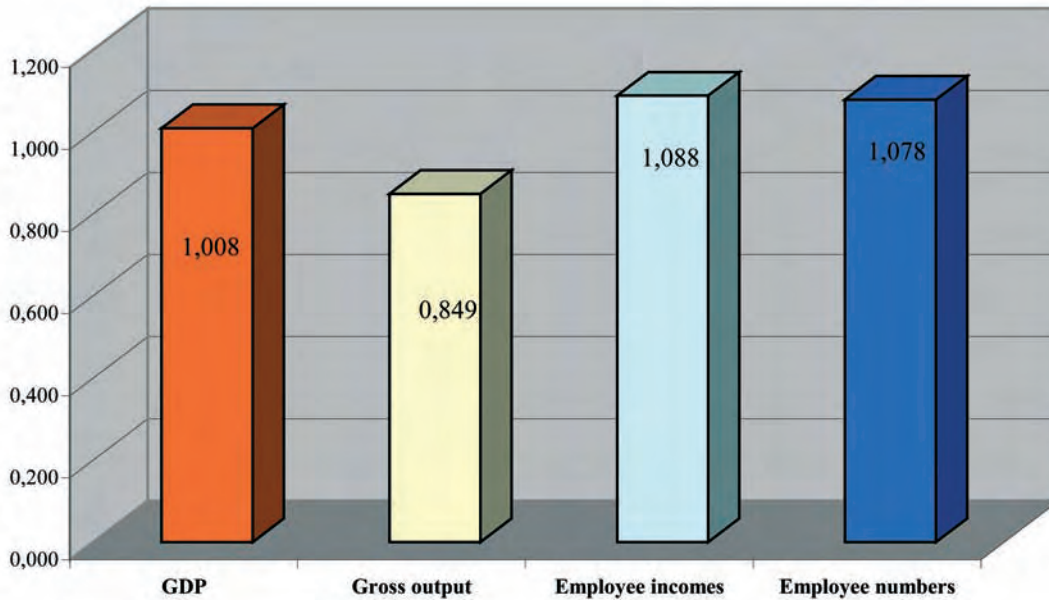
## 6. The economic contribution of non-dedicated support industries

The non-dedicated support industries make a contribution to the broadcasting, communication, distribution, and sale of copyrighted works and products. In the calculations we relied on the simplifying presumption that the copyright-related activities of general wholesale and retail, general transportation, storage, and communication are identical to the contribution of copyright based industries to GDP.<sup>53</sup>

The economic contribution of non-dedicated support industries/activities is about 1%. In 2002 the non-dedicated support activities relating to copyright based industries contributed HUF 299 billion to national economic gross output (0.85%). The gross added value of non-dedicated support industries was HUF 149 billion – 1.01% of GDP. The estimated number of employees engaged in non-dedicated support industries related to copyright based areas was 42,000, making up 1.08% of total employment. Employee incomes thus came to HUF 84 billion, which was 1.09% of the aggregate national employee incomes.

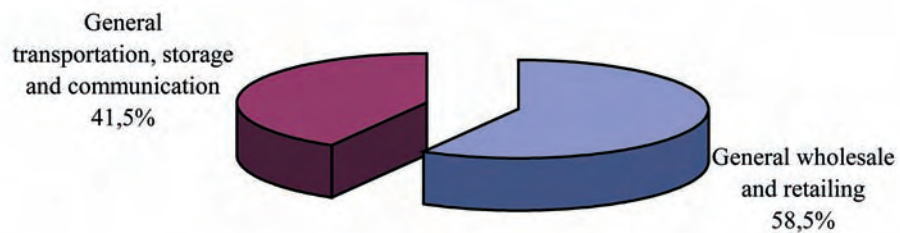
<sup>53</sup> This assumption is accepted by international methodology. See: Stephen E. Siwek–Harold W. Furchgott-Roth: Copyright Industries in the U.S. Economy, 1990. Appendix B-6.

**The economic contribution of non-dedicated support industries relating to copyright based industries in Hungary in 2002 (%)**

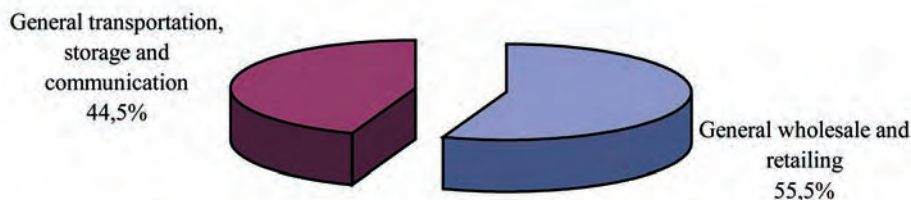


The performance of non-dedicated support industries was approximately equally shared (55-45%) between general transportation, storage, telecommunications, and general wholesale and retail.

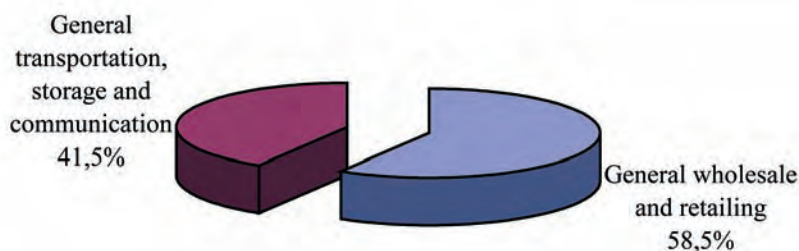
**The structure of non-dedicated support industries relating to copyright based industries on the basis of their contribution to gross output in 2002 (%)**



**The structure of non-dedicated support industries relating to copyright based industries on the basis of their contribution to gross added value in 2002 (%)**



**The structure of non-dedicated support activities related to the copyright based industries on the basis of their contribution to employment (%)**



**7. International comparisons**

We compared the economic contribution of copyright based industries in Hungary with other countries. On the one hand we had the final report on the EU countries<sup>54</sup>, the recently published Latvian<sup>55</sup> and Singapore studies<sup>56</sup>, and the latest USA report<sup>57</sup> which served as an excellent basis for comparison. Comparison with EU countries was made with respect to the aggregate weight of core copyright industries, and interdependent copyright industries because the limitations of the available European data only allowed for comparison in these two categories. Comparison of the entire scope of copyright based industries is only possible with the USA, Latvia, and Singapore by using the results of the latest studies.

The economic contribution of copyright based industries in Hungary is consistent with the values registered in the EU member states; in fact, we are ranked among the EU leaders in this respect. The contribution of copyright based industries to employment is also strong and we are again ranked among the top EU countries.

<sup>54</sup> Robert G. Picard–Timo E. Toivonen–Mikko Grönlund: The Contribution of Copyright Related Rights to the European Economy, Final Report, 20 October 2003.

<sup>55</sup> Robert G. Picard–Timo E. Toivonen: The Economic Contribution of Copyright-Based Industries in Latvia 2000.

<sup>56</sup> 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.

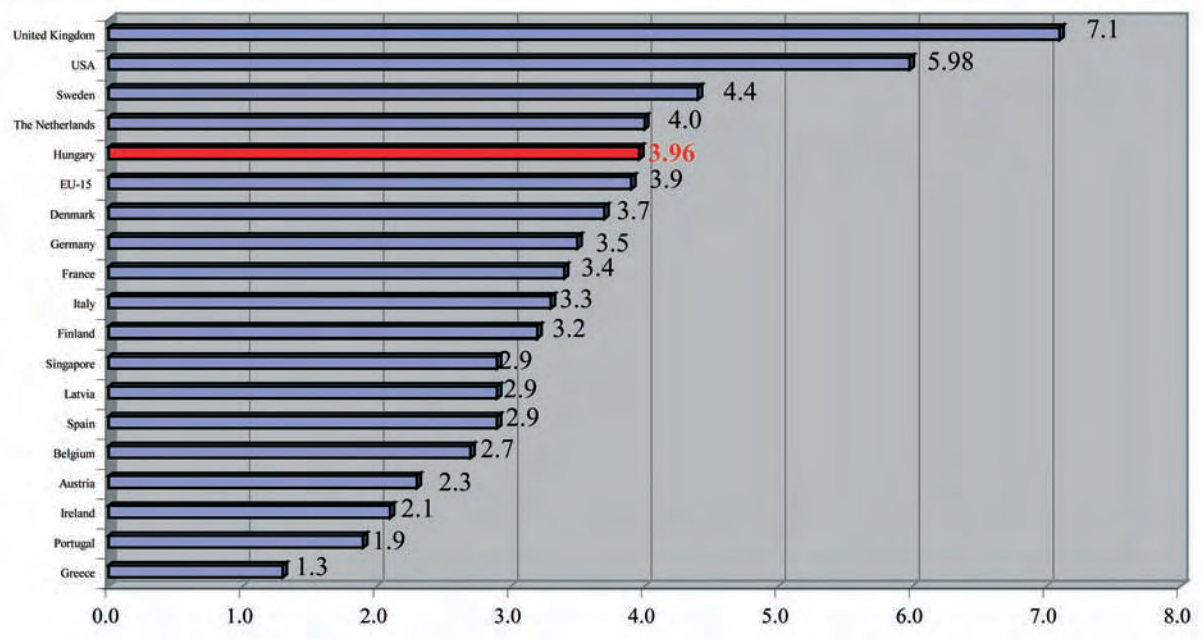
<sup>57</sup> EU data are from the year 2000, the US data are from 2002, the Latvian data are from 2000, Singapore data are from 2001, and the Hungarian data are from 2002.

The contribution of core copyright industries to gross added value was highest in the UK (7.1%) and in the USA (5.98%)<sup>58</sup>. Hungary's position on this regard was also quite impressive with 3.96% of the GDP, which is slightly higher than the EU-15 average of 3.9%. This put Hungary in front of Germany (3.5%), France (3.4%), Italy (3.3%), Finland (3.2%), Austria (2.3%), and Ireland (2.1%) just to name a few.

The proportion of employees engaged in activities within the core copyright industries against all employees in Hungary in 2002 was 4.15%, which is well above the EU-15 average of 3.1%. In this regard we were ranked ahead of countries like the UK (3.2%), the USA (4.02%), and Sweden (2.7%). The high representation of core copyright industries in employment is not a self-evident and unconditional advantage since this index is also indicative of differences in productivity. High employment numbers in an international comparison also means that the higher added value generated by the UK, USA, and Sweden is in fact generated by fewer employees than in Hungary.

The aggregate economic contribution of core copyright industries and interdependent copyright industries accounted for 5.2% of the GDP in Hungary and represented 5.4% of all employment. These results place Hungary among the European leaders.

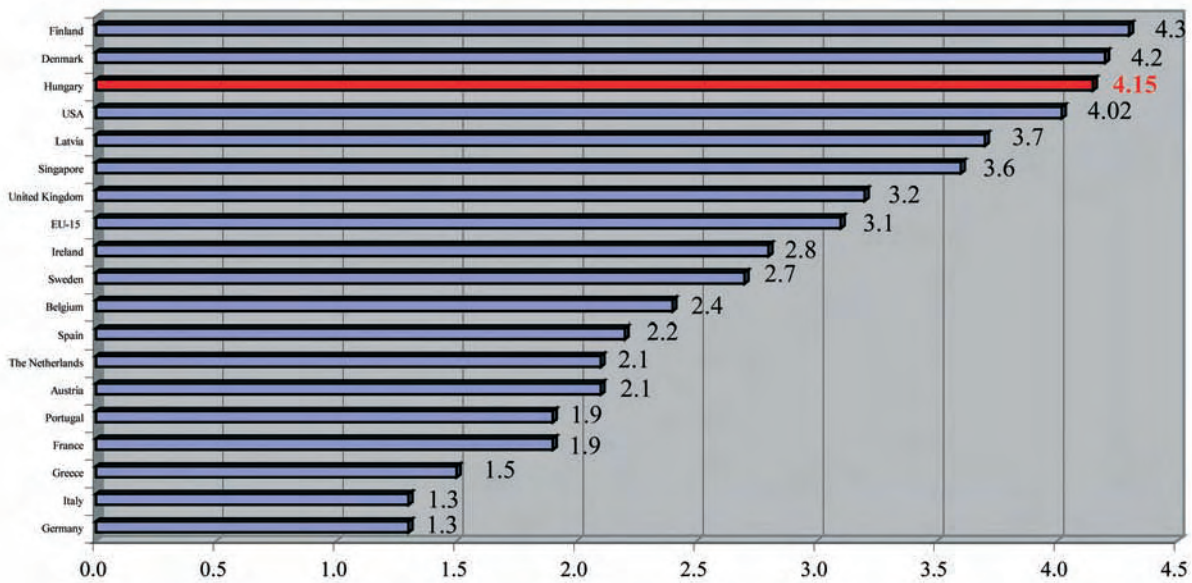
#### The contribution of core copyright industries to GDP by international comparisons (%)



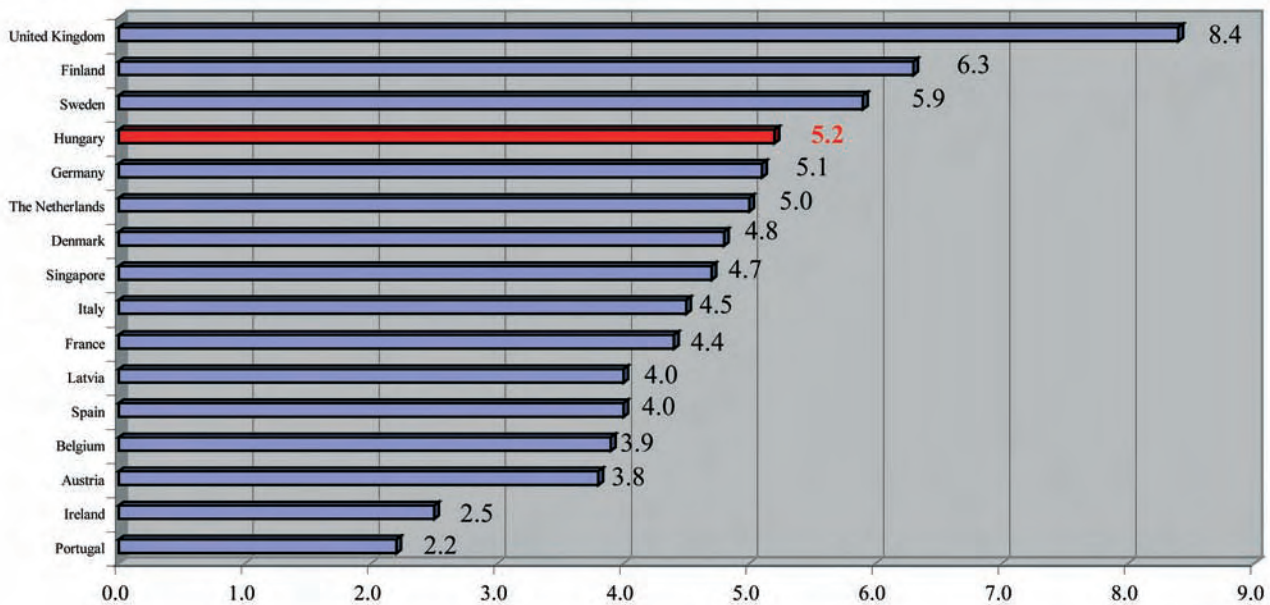
<sup>58</sup>Data of the US report. Stephen E. Siwek: Copyright Industries in the U. S. Economy. The 2004 report.



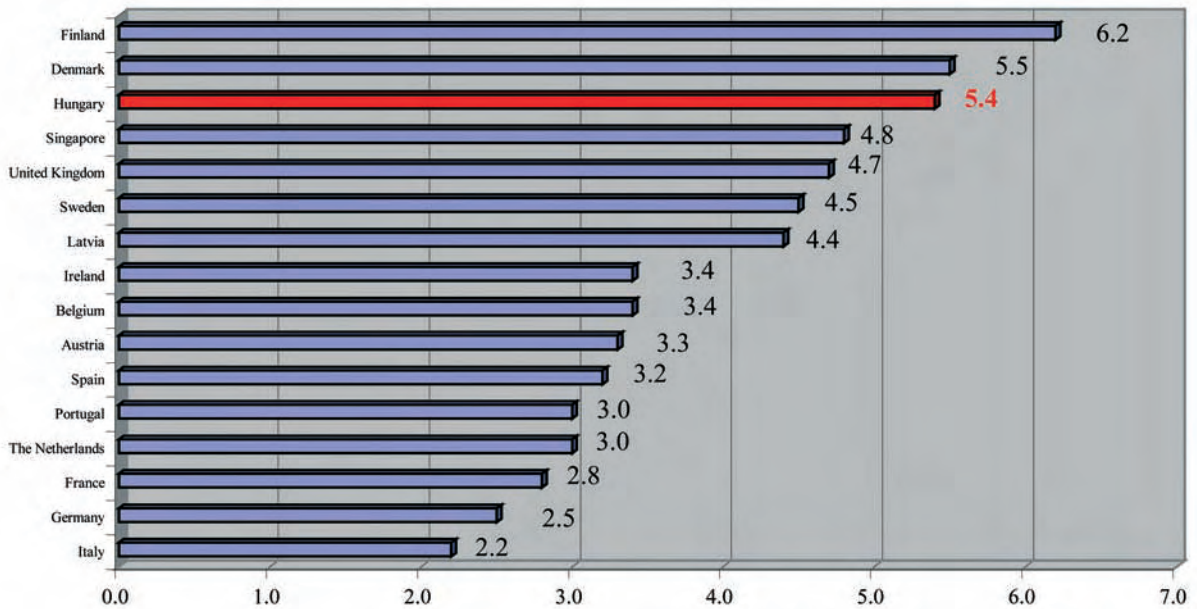
**The contribution of core copyright industries to employment by international comparisons (%)**



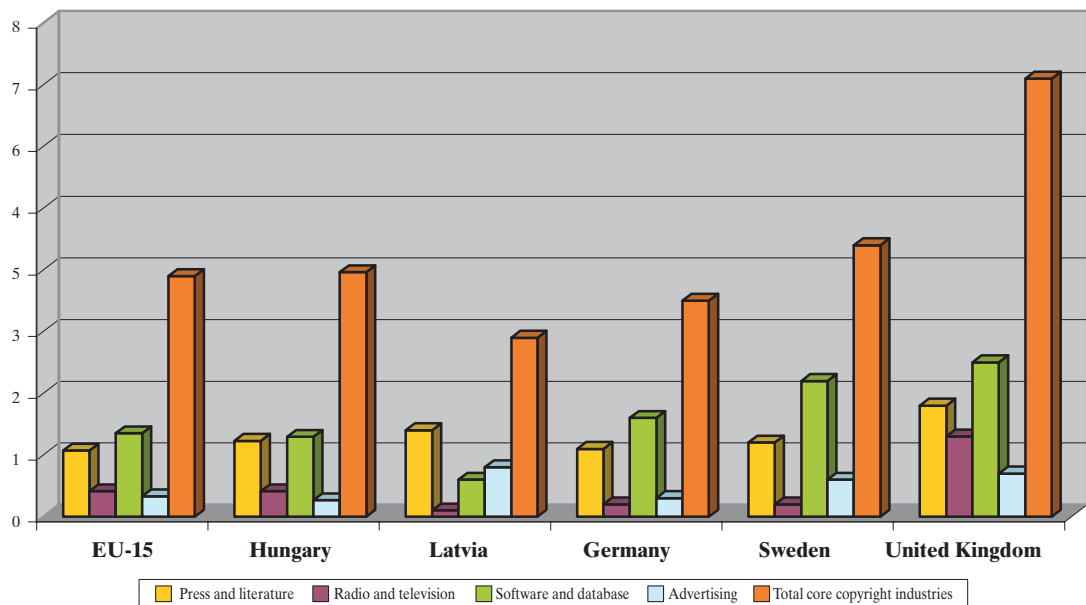
**The aggregate contribution of core copyright industries and interdependent copyright industries to GDP by international comparisons (%)**



**The aggregate contribution of core copyright industries and interdependent copyright industries to employment by international comparisons (%)**



**The contribution of core copyright industries to gross added value by international comparisons (%)**



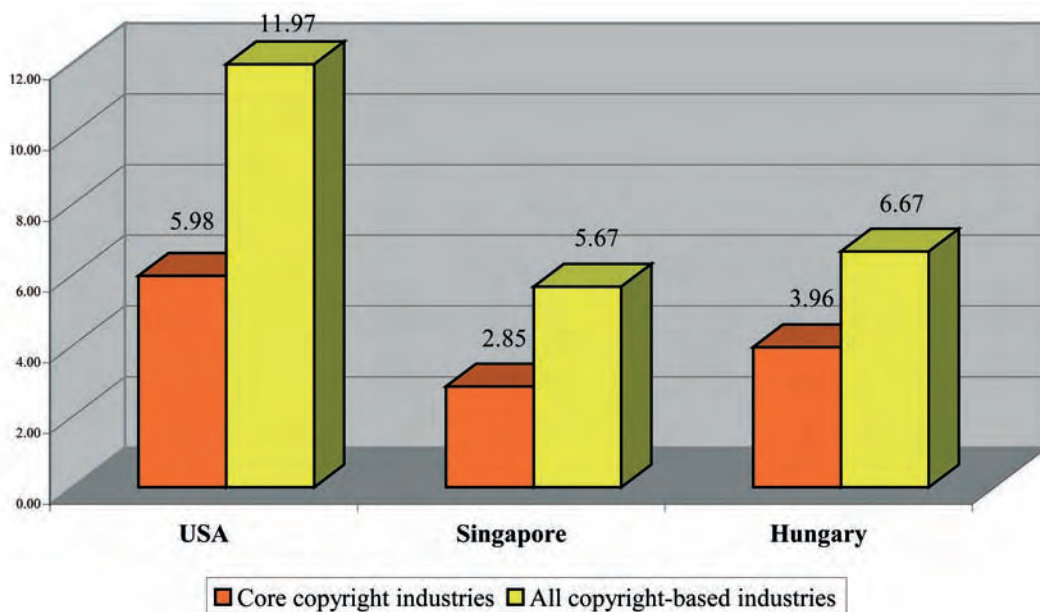
Out of the key core copyright industries in Hungary, the contribution of press and literature to gross added value was 1.23% in 2002. This value was higher than that of Austria (0.9%), France (0.8%), Germany (1.1%), and Spain (1.1%). The contribution of press and literature to GDP was higher in Finland (1.4%), Denmark (1.7%), and the United Kingdom (1.8%). In Sweden the economic contribution of the sector was the same as in Hungary (1.2%).

The 1.3% contribution of the Hungarian software and database industry in the GDP is close to the EU average of 1.35%. The economic performance of this fast-expanding industry in Hungary is higher than in Austria (0.9%), Spain (0.8%), Latvia (0.6%) and Singapore (1.08%), but lower than in Germany (1.6%), Italy (1.7%), France (1.9%), Sweden (2.2%), and the United Kingdom (2.5%).

The aggregate economic contribution of radio and television and advertising was 0.68% in 2002 in Hungary; this is higher than that of Germany (0.5%), Denmark (0.4%), Finland (0.5%) and close to that of Sweden (1.8%), Spain (0.7%) and Holland (0.7%). In Europe the United Kingdom is number one with radio and television representing 1.3% and advertising accounting for 0.7% of GDP.

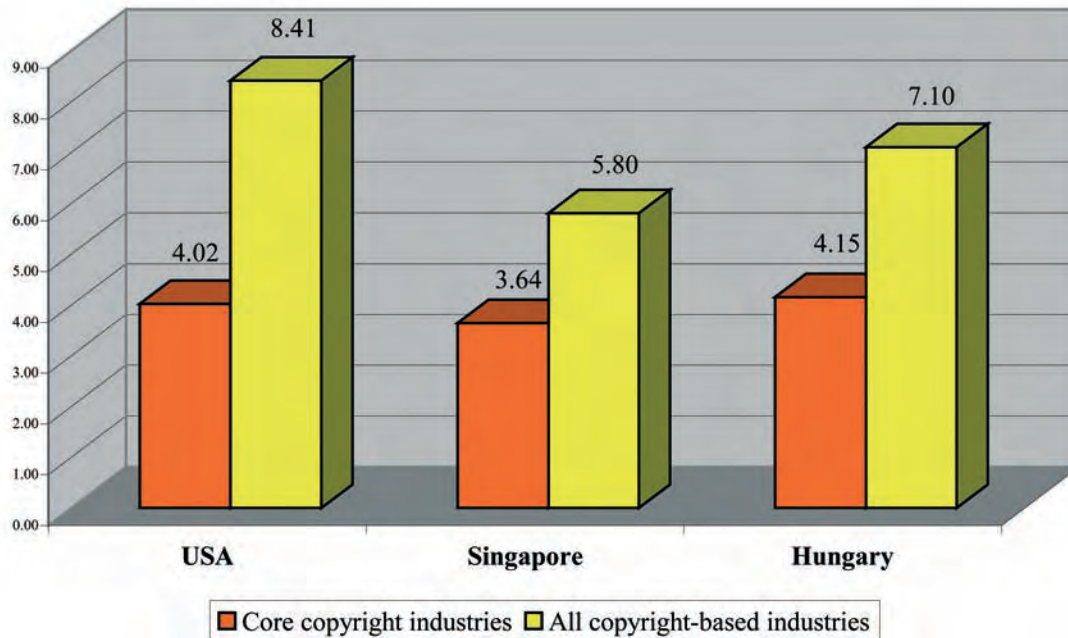
Only for the USA, Singapore and Hungary did we have sufficient data<sup>59</sup> indicating the contribution of all four categories of the copyright based sectors to national GDP, and employment.

**The contribution of core and all copyright based industries to GDP by international comparisons (%)**



<sup>59</sup>The Latvian report only provides ratios for the first two categories; the percentage figures on aggregate contributions are not available.

### The contribution of core and all copyright based industries to employment by international comparisons (%)



## 8. The foreign trade turnover of copyright based industries

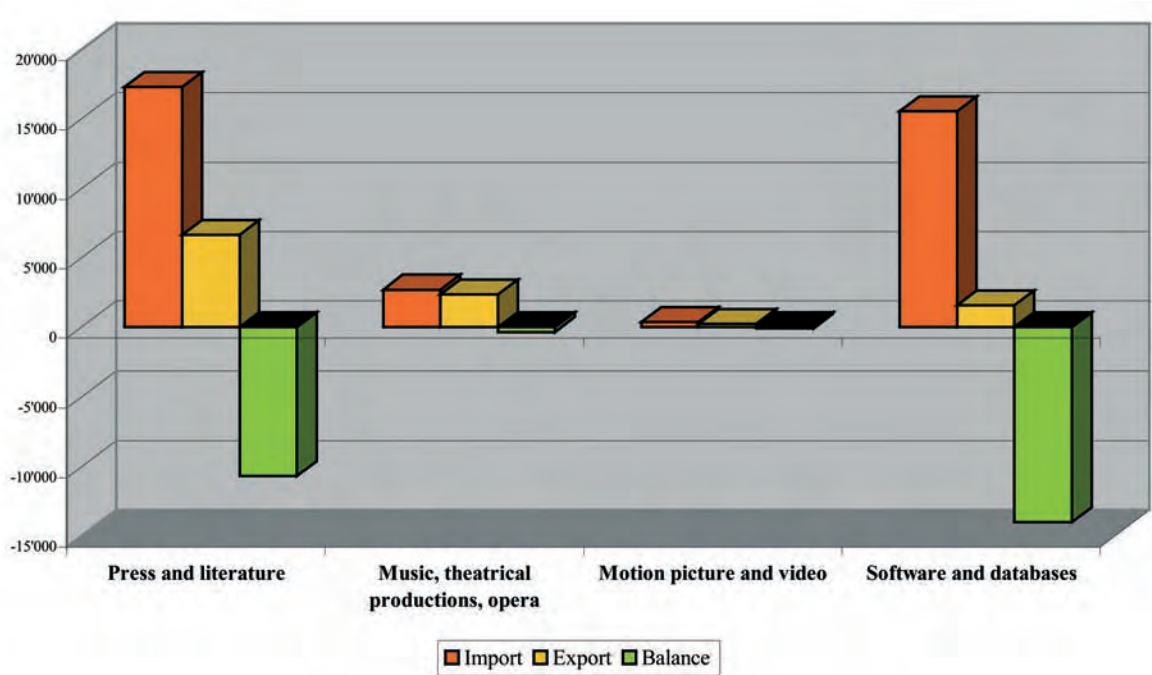
The Hungarian statistical system allows for the foreign trade turnover of copyright based industries to be studied from two different aspects: on the one hand, we have the data relating to products sold on foreign trade markets and, on the other, there is export services-related information. Copyright based industries produce tangible goods whose import and export value indices and turnover are shown by the foreign trade turnover statistics, which are based on customs records. On the other hand, as a result of copyright based activities, intangible goods (rights) are produced, whose foreign sales are shown by service export statistics.

The value of imported products<sup>60</sup> related to core copyright industries in 2002 was HUF 35.9 billion, which accounted for 0.42% of all imports. The value of exported products generated by core copyright industries came to HUF 10.7 billion, which amounted to 0.13% of total exports. The product import of core copyright industries was three times that of product export. As a consequence the foreign trade balance of core copyright industries showed a deficit of HUF 25.2 billion in 2002. The foreign trade deficit of core copyright industries indicates that the potential export opportunities should be better exploited.

<sup>60</sup>Of all core copyright industries, the sectors appear in foreign trade statistics are those engaged in that product manufacture; service sectors (e.g. radio and television, advertising) can only be studied with the help of service export statistics.



**Foreign trade turnover of core copyright industries in 2002 (HUF million)**



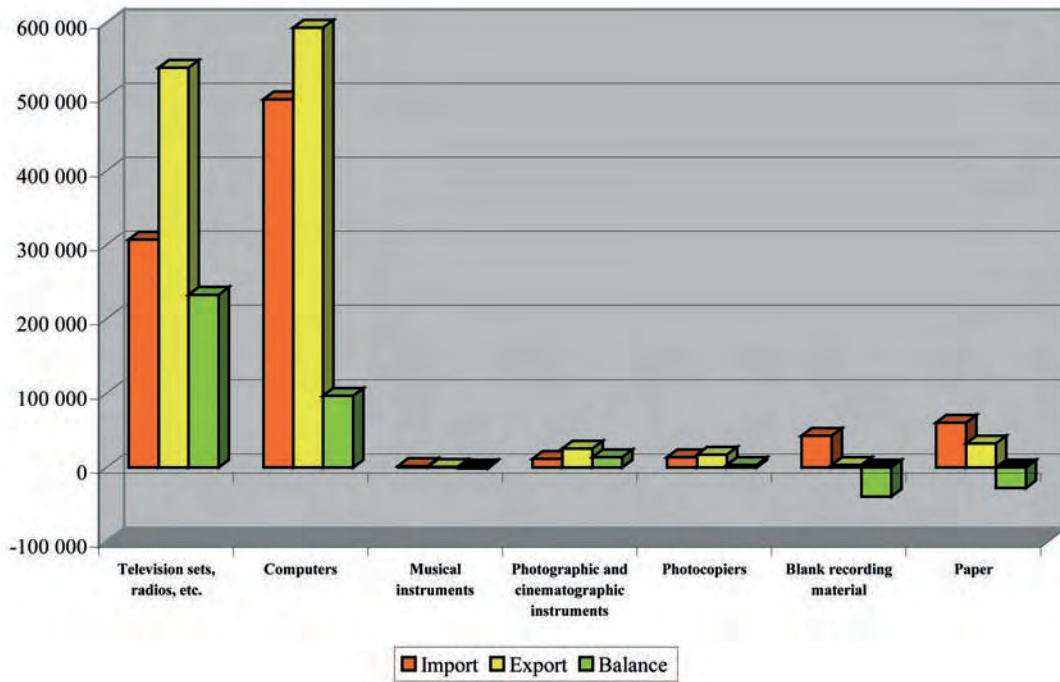
The figure shows clearly that the areas with the largest export activities are those that generate the largest foreign trade deficit. They are: press and literature, software and databases. Within core copyright industries, the import of software and databases was almost ten times that of exports in the same field, and as a result, the balance of product sales was HUF 14 billion in deficit. The value of imports of press and literature was 2.6 times that of exports and the foreign trade deficit thus came to HUF 10 billion. The only possible option for these two areas is not to reduce imports but to seek ways to increase exports.<sup>61</sup> Of all the remaining areas the low export figures for music, theatrical productions, and opera are indicative of their unexploited potentials in the domain of export of classical music and urge us to exploit our present competitive edge much more effectively<sup>62</sup>.

The value of imports of interdependent copyright industries in 2002 was HUF 934.2 billion, which is 10.8% of total imports. The value of exports of these sectors came to HUF 1,211.7 billion, which accounted for 15.1% of all exports. In interdependent copyright industries the value of exports was 30% higher than the value of imports and as a result, the balance of foreign trade was mainly positive at HUF 277.5 billion. Of all interdependent copyright industries the export of computers accounted for 7.4% of all exports and the export sales of entertainment electronics (television, radio, video, CD and DVD players, cassette players, video game consoles) made up 6.7% of all export sales. Similarly high is the share of these two domains in total imports: the import of computers amounted to 5.8% while the import of entertainment electronics (television, radio, video, CD and DVD players, cassette players, video game consoles) accounted for 3.6% of all imports.

<sup>61</sup> Making use of the greater interest shown in Hungarian literature due to the Nobel prize-winner Imre Kertész would be a good place to start.

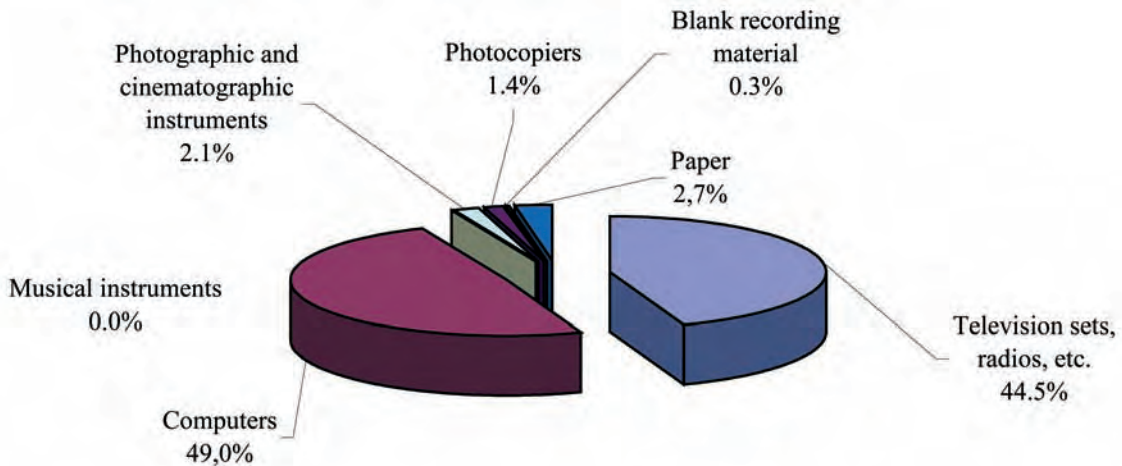
<sup>62</sup> For example, Hungarian cultural festivals held abroad provide ample opportunities for publicity

**Foreign trade turnover of interdependent copyright industries in 2002 (HUF million)**



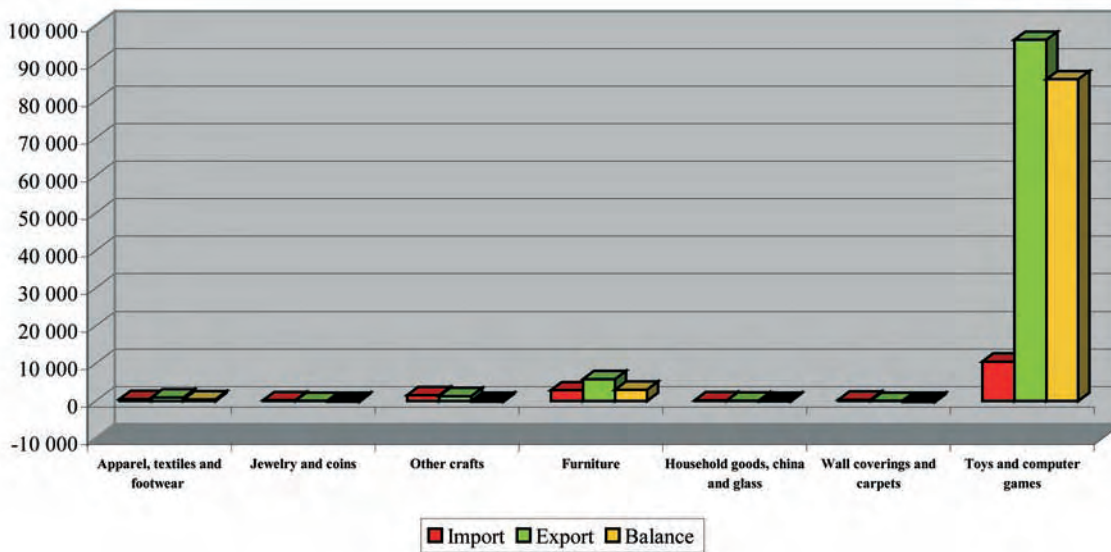
The figures clearly illustrate that interdependent copyright industries play a significant role in the foreign trade of Hungary. 93.5% of interdependent copyright industries export sales were realised in the domains of computers and equipment, entertainment electronics (television, radio, video, CD and DVD players, cassette players, video game consoles). Imports are also similarly concentrated since the import of products from these two domains accounted for 86.1% of total imports. The high representation of computers and entertainment electronic products in total imports and total exports is related to the above-mentioned Hungarian particularity in its industrial structure whereby the relocated export-oriented production sites of multinationals in Hungary perform the final assembly of their products by primarily relying on imported materials with the vast majority of end-products being sold on foreign – mostly European – markets.

**Structure of exports of interdependent copyright industries in 2002 (%)**



The value of exports relating to partial copyright industries<sup>63</sup> in 2002 was HUF 104.5 billion, which accounted for 1.3% of total foreign sales. The value of imports came to HUF 16.1 billion amounting to 0.19% of total imports. The value of exports of partial copyright industries was 6.5 times that of imports. As a result, the balance of foreign trade was positive at HUF 286 billion.

### Foreign trade in partial copyright products (HUF million)



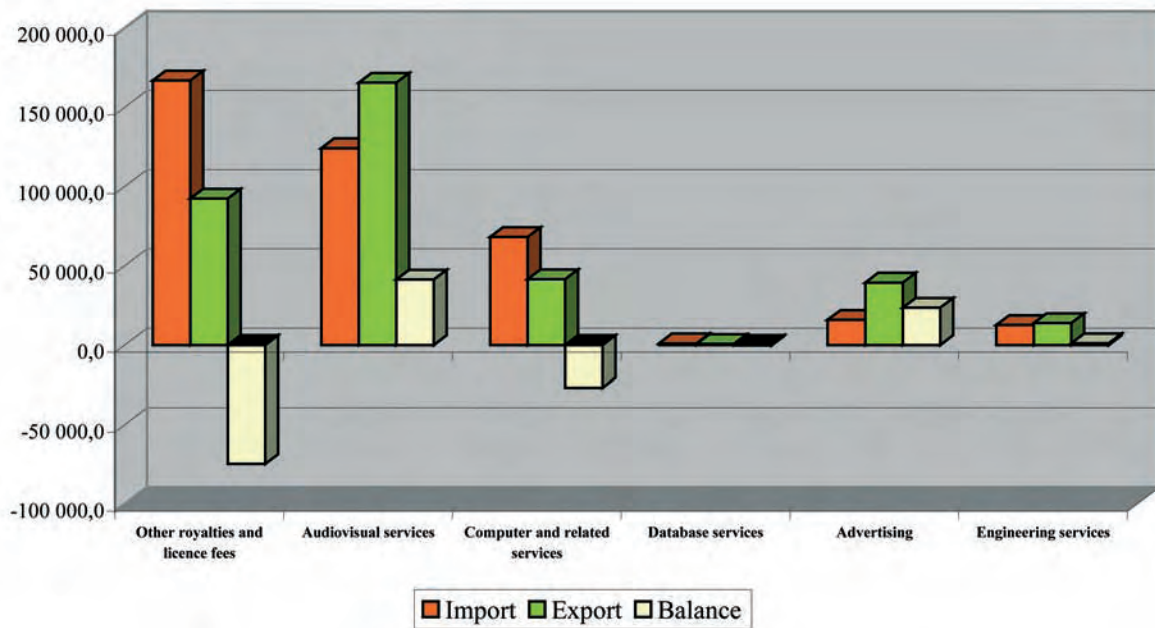
The graph shows that toys and computer games played a pivotal role in the export of partial copyright products. These products accounted for 65.1% and 92.1%<sup>64</sup> of imports and exports of partial copyright products respectively. These foreign trade figures clearly reflect the impact of export-oriented production based on the domestic labour force.

The value of imported copyright based services in 2002 was HUF 389 billion – 0.32% of total imports. The value of exported copyright based services in 2002 was HUF 353 billion, which accounted for 0.37% of total export of services. As a result, the foreign trade balance of copyright based services showed a deficit of HUF 35 billion.

<sup>63</sup>In the examination and analysis of the import and export values we relied on values adjusted by the copyright factor.

<sup>64</sup>The performance of toys and computer games was strongly affected by the fact that Flextronics manufactured Xbox products in Hungary between 2001 and the middle of 2002. Two Hungarian manufacturing plants – one in Sárvár and one in Zalaegerszeg – were producing 15 thousand Xbox products a day first for the US and later for the Western European markets. The Zalaegerszeg plant produced parts and printed circuits while the Sárvár site was responsible for assembly, testing, and logistics. Due to price competition, the Hungarian manufacturing capacities were relocated to China in 2002 because of lower production costs.

Foreign trade turnover of copyright based services in 2002 (HUF million)



Out of all copyright based services, imports significantly exceeded the value of exports in the fields of other royalties and licence fees, computing and related activities, and database activities. At the same time, the balance of foreign trade in the domain of audiovisual service activities, advertising, and engineering service activities showed a significant surplus.



## VI. The Development Trends of Some Core Copyright Industries

Going beyond the analysis method recommended by the WIPO guide, this chapter presents a picture of the main Hungarian development trends behind the significant contribution of core copyright industries in the economy and employment in the light of cultural statistics using scholarly literature<sup>65</sup> – without seeking to be exhaustive. In this pursuit we will sum up the most important questions of the following areas in a more differentiated manner: press products, the book market, the music and sound recording market, theatres, cinema and film production, and television market.

In 2003 the central budget spent HUF 163 billion on culture at current rates. This was 10% higher than in the previous year<sup>66</sup>. The nominal value of state budget expenditure on culture has been steadily rising since the end of the 1990s; as a result, the sum in 2003 was double that of 1995, however this was still much lower than the 9-fold rate of inflation registered between 1995 and 2003.

In 2002 the cultural sectors (core copyright industries without software, and museums of partial copyright activities) accounted for 2.8% of gross national added value, while the budgetary expenditure on culture in the same year only amounted to 1% of the GDP (HUF 148 billion). Looking at the same thing from a different angle we can say that in 2002 cultural expenditure accounted for 2.5% of the total budget expense sheet figure, i.e. culture received a slightly lower share of budget expenses than its contribution to GDP.

According to HCSO data, in 2002 households spent HUF 370 billion on culture, which is 2.5 times that of the budget expenditure on culture.<sup>67</sup> This means that the rate of budget and household expenditure on culture was 29/71.

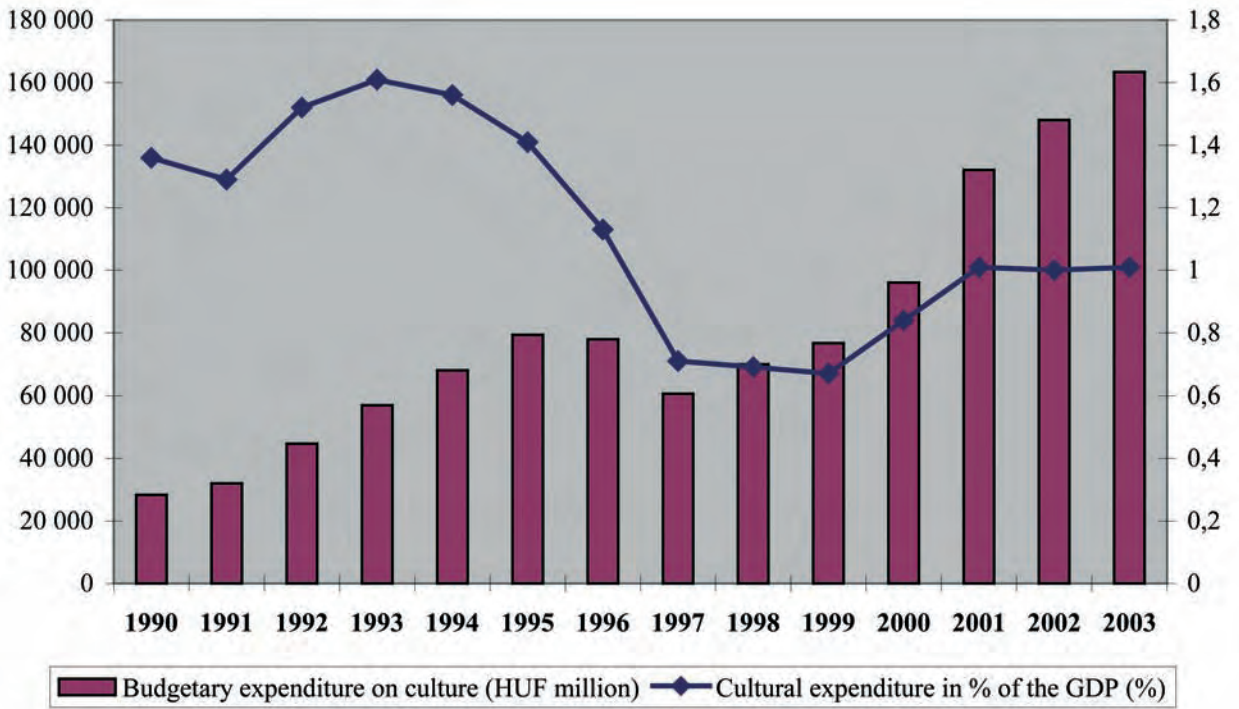
The lion's share (61%) of budgetary expenditure spent on culture was used to maintain public institutions (libraries, community centres, museums). Of the total expenditure HUF 27 billion was used to maintain libraries, HUF 25 billion was used for community centres and HUF 33 billion was used by museums. Arts facilities operating services were supported by HUF 49 billion (35% of total expenditure on culture). State contribution to the operation of theatres was HUF 26 billion, while music and dance performances received HUF 15 billion from the state budget.

<sup>65</sup> Literature used for analysis: *Kulturstatistikai adattár*, HCSO, 2002., *Magyarország*, 2003., HCSO, 2004., *Magyarország*, 2002., HCSO, 2003., Book sales in Hungary, Hungarian Association of Publishers and Booksellers website <http://www.mkke.hu/>, *A magyar társadalom kulturális állapota*, Research leaders: Iván Vitányi, Péter Hidy, László Harsányi, Institute of Sociology of HAS, Budapest, 1997., Hidy, Péter: *Magyarország kultúrájának helyzete az 1990-es évtizedben a műveődésszociológiai kutatások tükrében*, Budapest, 2000., Cserta, *Orsolya: A kulturális piac (ki)alakulása Magyarországon. Statisztikai Szemle*, Vol. 80. 2002. issue 5-6. pp. 577-597. A kilencvenes évek változásai: színház, KSH jelenti, 2002/10., *A kilencvenes évek kulturális változásai: komolyzene*, KSH jelenti 2002/11.

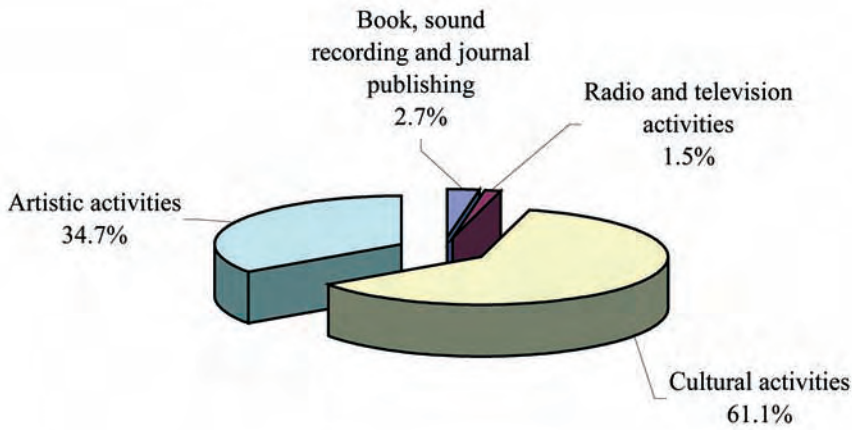
<sup>66</sup> Statistical Yearbook of Hungary. 2003. HCSO

<sup>67</sup> *Magyarország* 2003. HCSO, 2004. p.30.

**Budgetary expenditure on culture between 1990 and 2003 (HUF million, %)**



**The distribution of budgetary expenditure on culture in 2003 (%)**



## 1. Press and literature

### **Press products**

In the 1990s the Hungarian press market was formed and moulded by opposing forces from two different directions. On the one hand, the economic, political and social transformations had brought a fresh momentum to the Hungarian press market and these changes greatly impacted on the composition of press products, the corporate and ownership structure and of the press market, the activities of publishers, and journalists. On the other hand, despite the effects of the social and economic changes in the 1990s, the printed press lost its leading position in the media market due to the dynamic penetration of the electronic press.

According to a survey conducted by the Hungarian Institute for Culture<sup>68</sup>, respondents spend half an hour a day on average reading newspapers. A total of 86% of 14-70 year olds read newspapers with some regularity. This is a definite drop in comparison to a 1996 survey, which showed that 95% of respondents read newspapers. After the turn of the millennium 79% of newspaper readers (68% of the total population surveyed) read more than once a week, and 16% (14% of the population) read a newspaper or magazine once a week. Electronic press has started to take off in Hungary too: 26% of the 14-70 age group uses the Internet to read.

Due to the liberalisation of the press market at the beginning of the 1990s, the establishment of market conditions and, as a result of the penetration of private capital, a large number of business enterprises introducing many new press products had emerged on the market. The costs of entering the press market are not particularly high, and this greatly contributed to the multiplication of economic players. According to HCSO data<sup>69</sup>, in 1990 in Hungary there were 1,490 different types of press products published. The market began to get saturated and many of the new publications were rapidly withdrawn. By 2000 the number of press products had dropped to 580. Following this nadir, slow growth ensued and as a result, 806 different press products were again available on the press market in 2003.

The total number of all press products in 1990 was 1,275 million issues, which fell by 22% to 996 million by the turn of the millennium. Copies of press products issued have stabilised in the past three years to around 1,000 million; in 2003 the total figure was 1,064 million. Simultaneously, the number of copies published per 1,000 inhabitants dropped from 2,066 per annum in 1990 to 1,065 in 2000, then rose again to 2,016 in 2003, indicating that readers are no longer disappearing.

### **Number of copies of press products between 1990 and 2003**

	1990	2000	2001	2002	2003
Number of press products	1,490	580	669	713	806
Copies issued (millions)	1,275	996	1,090	1,020	1,064
Average copies issued per 1000 inhabitants	2,066	1,605	1,753	1,741	2,016

Source: *Statistical Yearbook of Hungary. 2002, 2003.*

<sup>68</sup> *Találkozások a kultúrával 5. - Olvasási szokások.* MMI. 2005.

<sup>69</sup> *Statistical Yearbook of Hungary. 2002.*

The number of published daily newspapers did not change: both in 1990 and in 2003 there were 35 dailies available for readers; however, the average number of copies has fallen: while in 1990 2.1 million copies a day were sold on average, the same figure for 2003 was only 1.74 million.

The number of copies published each day on average per one thousand inhabitants in 1990 was 245; this figure sank and then rose back up to 210 by 2003. This ranks Hungary middle among European countries. According to UNESCO data<sup>70</sup>, at the end of the 1990s Norway (588), Finland (455), Sweden (430), and Austria (402) were at the top in terms of the number of daily newspapers produced per one thousand inhabitants. Hungary in this respect produced better results than Belgium (158), Ireland (154), Spain (106), or Portugal (72).

The emergence and rapid market penetration of tabloids caused significant structural changes to the daily newspaper market<sup>71</sup>. As a result of market segmentation, three types of newspapers were now clearly discernable: tabloids, quality newspapers and special, thematic papers. In the daily market tabloids won significant ground from quality papers. Thanks to tabloids, the market positions of the printed press did not deteriorate significantly. The quick success of tabloids indicates that the reading habits of the population have undergone significant changes. At the end of 2003, the freely available "Metro", and the "Blikk" were leading the daily market pushing the long-time market leader the "Népszabadság" back into third place. In 2003 the market for quality papers was dominated by four papers: the "Népszabadság", "Magyar Nemzet", "Magyar Hírlap" and the "Népszava". In addition to the tabloids, the free newspaper, "Metro", also presented a great market challenge for these papers, while local papers presented competition for the leading four dailies to some extent in the country.

According to international experience<sup>72</sup>, the publication of daily papers is strongly dependent on economic conditions; the state of the newspaper industry practically maps out the general condition of business activities. This is closely related to the fact that advertising plays a pivotal role in the financing of dailies, which, of course, is strongly dependent on economic developments. Revenue on average is shared between advertising and sales at a ratio of 80 to 20. This also depends on the type of daily since in industrialized countries tabloids tend to finance themselves largely from sales revenue, while the major income of quality papers comes mostly from advertising. In contrast to foreign trends, the prices of quality papers and tabloids do not differ greatly while in Western European countries tabloids are generally cheaper than quality papers.

The transformations and restructuring evident in the press market are also accurately reflected in the average number of copies per issue. The average number of copies per issue dropped by 20.7% in the case of the "Népszabadság", by 50.5% in the case of the "Népszava", and by 18.6% in the case of the "Magyar Hírlap", while – for completely different reasons – the "Magyar Nemzet" doubled its average number of copies per issue in the period between 1996 and 2003. In 2003 the "Metro" was issued at 317,000 copies a day while the "Blikk" came out in 290,000 copies a day on average<sup>73</sup>; this meant a 40% increase for the "Metro" and a three-fold rise for the "Blikk" over the past five years.

<sup>70</sup> World Cultural Report 2000.

<sup>71</sup> Gulyás, Ágnes: *Bulvárlapok a rendszerváltás utáni Magyarországon. Médiakutató. 2000. 1., Juhász, Gábor: Az országos minőségi napilapok piaca, 1990-2002. Médiakutató. 2003. 1., Sikertörténet előtt a sajtópiac? Népszabadság online, 15 April 2005.*

<sup>72</sup> The Economic Contribution of Copyright Industries to the Canadian Economy ([www.pch.gc.ca/progs/ac-ca/progs/](http://www.pch.gc.ca/progs/ac-ca/progs/)),

<sup>73</sup> Average number of copies per issue. Source: Bárdossi, Mónika-Lakatos, Gyuláné-Varga, Alajosné: *A kultúra helyzete Magyarországon. MMI. 2005. p. 59.*



The market for weeklies has been dominated by a TV guide called "TVRHét"; it was issued in 363,000 copies on average in 2003. This is followed by two popular weeklies both designed for women readers: the "Kiskegyed" (304,000 copies) and the "Nök lapja" (296,000 copies). A strong fall in the average number of copies per issue characterises all weeklies. The annual average number of copies per issue fell by 42% in the case of the "TVRHét", by 36% in the case of the "Nök Lapja", by 27% in the case of the "Kiskegyed", and 48% in the case of the "Füles".

In the market of monthly journals a similar reduction in copies has been witnessed in recent years.

One of the important factors behind the falling demand for press products was the price hikes of newspapers and journals, which in recent years have exceeded average consumer price increase rates: in 2004 the price of press products was 39.4% higher than in 2000, while the consumer price index rose only by 26% in this period.

Owing to the penetration of electronic media, the printed press has been able to access smaller and smaller parts of the advertising revenues. According to data published by Medialab<sup>74</sup>, the press had a 38.9% share (HUF 60.3 billion) of the 2004 Hungarian advertising market. This is considered low in international comparisons; nonetheless, it is expected to further decline and be only around 36% in 2005. This phenomenon is contrary to European trends, since in 2003 the press in Germany and in Austria proved to be the most important sector in the advertising market with a share of 66 and 53.7% respectively.

#### Average number of copies of most important national dailies sold

	First half of 2003	Second half of 2003	First half of 2004
Népszabadság	182,485	173,272	163,535
Magyar Nemzet	79,864	80,524	77,789
Magyar Hírlap	35,435	32,756	28,438
Népszava	28,814	27,991	26,565
Blikk	226,895	252,394	254,961
Metro*	308,703	324,971	314,510

\* The figures show the number of issues distributed since the paper is free.

Source: Magyar Terjesztés-ellenőrző Szövetség ([www.matesz.hu](http://www.matesz.hu))

The Hungarian press market is renowned for the strong presence of foreign investors. Foreign media companies appeared on the market back at the beginning of the 1990s and the ownership stake in foreign publishers is constantly on the rise. At the end of the 1990s, the share of foreign capital on the national daily market had exceeded 80%.

<sup>74</sup> Világgazdaság. 13 May 2005

### **The book market**

In close relation to the transition to a market economy, the Hungarian book market also underwent major restructuring during the 1990s, and it seems today that by the second half of the 1990s the state of the Hungarian book market stabilised along the newly emerging structures.<sup>75</sup>

### **Main figures for Hungarian book publishing between 1990 and 2004**

<b>Year</b>	<b>Number of titles</b>	<b>Number of copies (thousand)</b>	<b>Average copies</b>	<b>Book sale (thousand)</b>
<b>1990</b>	7,464	113,112	15,200	n. a.
<b>1991</b>	7,210	91,406	12,700	n. a.
<b>1992</b>	7,629	80,989	10,600	n. a.
<b>1993</b>	8,458	72,076	8,500	n. a.
<b>1994</b>	9,383	70,291	7,500	n. a.
<b>1995</b>	8,749	62,984	7,200	n. a.
<b>1996</b>	8,835	51,929	5,900	n. a.
<b>1997</b>	8,941	52,125	5,900	24,434,000
<b>1998</b>	10,626	47,046	4,400	29,997,000
<b>1999</b>	9,731	44,652	4,600	33,477,000
<b>2000</b>	8,986	35,246	3,900	38,642,000
<b>2001</b>	8,837	32,615	3,690	45,742,293
<b>2002</b>	9,990	45,502	4,458	53,604,202
<b>2003</b>	9,205	32,627	3,544	56,871,989
<b>2004</b>	11,211	32,035	2,857	58,194,650

Source: Hungarian Association of Publishers and Booksellers website <http://www.mkke.hu/>

With restructuring the number of book publishers and the range of books on offer greatly expanded, while the number of copies of published works shrank and with economical considerations becoming increasingly important, the structure of supply was reshaped to suit effective demand.

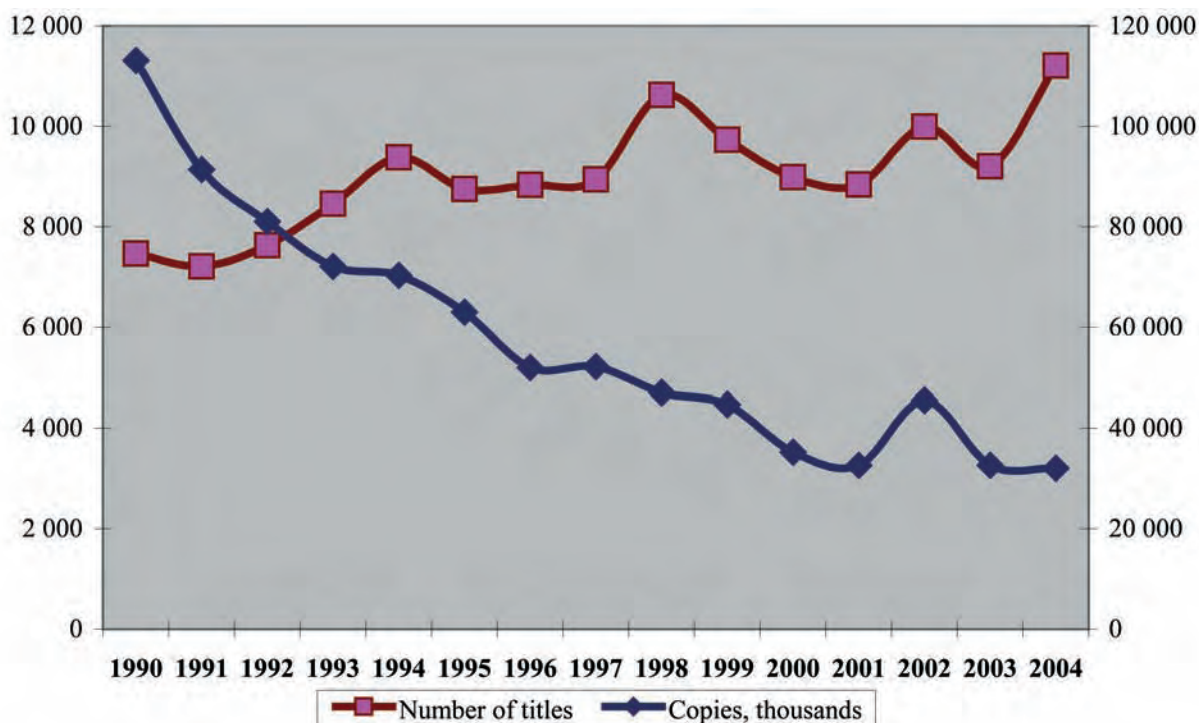
Since 1990 the number of published titles has been steadily rising. The number of published book titles increased by 150% rising to 11,211 in 2004 from 7,464 in 1990. The rise in the number of book titles was

<sup>75</sup>In the presentation of the book market we primarily relied on the information published by the Hungarian Association of Publishers and Booksellers

extremely steep in 1994, 1998, and 2002, then again in 2004. In the period between 1994 and 2003 the number of book titles was steady between 9,000 and 10,000.

The expansion of supply however, was not directly accompanied by an increase in the number of copies published; in fact, the total number of copies published had sharply declined. The total number of copies fell from 113 million a year in 1993 to 32 million in 2004. There have been better years than this though when, for example, in 2002 the number of copies published was 45 million or in 1999 it was 44 million. The average number of copies fell from 15,000 in 1990 to 2,857 in 2004, which is only 18% of the 1990 figure. It now became quite common to publish works in only a few thousand copies.

### The number of book titles and copies between 1990 and 2003



Source: Hungarian Association of Publishers and Booksellers.

The diversity and multitude of published books was necessarily accompanied by a fall in the number of average copies; the number dropped from an average of 15,000 in 1990 to 3.5,000 in 2003.

It follows from the statistical data that in 2002 the narrowing of the Hungarian book market – characteristic of the second half of the 1990s – had stopped. The soaring sale figures of 2002 were followed by a record in 2004 when the number of published book titles reached 11,000 and the number of copies was also 32 million – a figure identical with that of 2001 and 2003. The expansion of book sales continued in 2004. Total sales revenues amounted to HUF 58 billion – a 2% rise on the previous year.

The number of books (book titles) per one hundred thousand inhabitants also showed a welcome rise and came to a steady figure of around 90 by the middle of the 1990s (91 in 2003) against the figure of 72 in 1990. According to UNESCO data<sup>76</sup>, the number of published books (book titles) per one hundred thousand

<sup>76</sup>World Culture Report 2000 ([www.uis.unesco.org](http://www.uis.unesco.org))



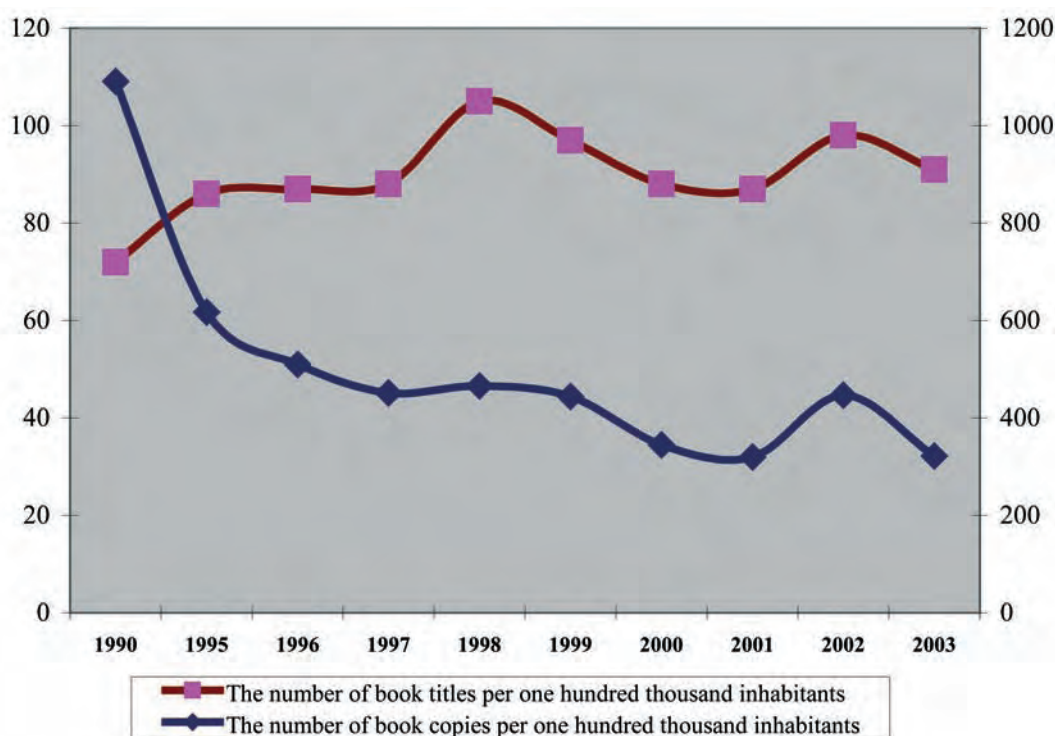
inhabitants was the highest in the following EU countries at the turn of the millennium: Finland (252), Denmark (233), and Holland (217); it was lowest in Greece (40), and Belgium (37). In this regard Hungary is middle-ranked with the figure of around 90 books per one hundred thousand inhabitants. This index is similar in Germany (87), Austria (99), Portugal (80), and the majority of Central and Eastern European countries. Of the new EU-entrants, Estonia (188) and Slovenia (172) are in the lead.

### The number of books per one hundred thousand inhabitants

Year	Number of books per one hundred thousand inhabitants	Copies (thousands)
1990	72	1,091
1995	86	617
1996	87	510
1997	88	451
1998	105	466
1999	97	444
2000	88	345
2001	87	320
2002	98	447
2003	91	322

Source: Cultural Statistical Database, 2002. HCSO, Statistical Yearbook of Hungary, 2003. HCSO

### The number of book titles and copies of published books per one hundred thousand inhabitants in the 1990s



Source: HCSO data



The number of copies sold per one hundred thousand inhabitants has plummeted in Hungary falling to about one-third. At the beginning of the 1990s there were more than one million books per one hundred thousand inhabitants, and this figure had dropped to 345,000 by the turn of the millennium and further to only 322,000 by 2003. This is closely related to the soaring book prices, the high sales taxes imposed on books, and falling demand. VAT on books was high in European comparisons, as well; up 12% in 2004. Finally the civil profession succeeded in reducing the value of VAT to the 5% band, which is consistent with the EU average.

In the past decade the structure of books on offer has changed dramatically. At the beginning of the 1990s 37.7% of all published books and booklets (titles) were made up of technical literature with fiction and educational books coming next with 18% each. School course books accounted for 14.8% of published works. The share of technical literature dropped (31.3%) while that of fiction and school course books increased (22.8% and 21.1% respectively).

The state and condition of schoolbook publishing has always greatly impacted on the development of the Hungarian book market, both with respect to titles and number of copies.

With regard to copies, fiction was in the lead at the beginning of the 1990s with a share of nearly 40%; one-quarter of published works consisted of educational books and nearly 17% were school learning materials. Concurrently with the heavy drop in the number of published copies, by 2003 the share of fiction and educational literature had declined (to 29.4% and 14.6%), while that of school books rose to nearly 34%, which is now higher than the share of fiction. The figures show that in the past 15 years it was unfortunately fiction that suffered the greatest decline in terms of number of published copies plummeting in 2003 to a mere 20% of the 1990 figure, while specialized literature also fell to 40%.

### Number of titles and copies of books and booklets by type

Year	Scientific	Educational	Special literature	Fiction	Juvenile and children's literature	Schoolbooks	Other	Total
<b>Number of book titles</b>								
1990	137	1,555	3,136	1,560	476	1,230	228	8,322
2000	79	1,778	2,968	2,122	546	1,595	504	9,592
2002	75	1,675	3,182	2,249	472	2,299	255	10,207
2003	115	1,387	2,977	2,165	531	2,001	321	9,497
<b>Number of copies (thousands)</b>								
1990	129	31,352	7,133	47,009	15,294	22,219	2,605	125,741
2000	41	7,044	3,991	11,220	2,354	11,090	1,255	36,995
2002	97	5,750	4,797	12,238	2,022	21,198	578	46,680
2003	71	4,919	4,354	9,874	2,303	11,440	649	33,610

Source: Cultural Statistical Database, 2002. HCSO, Statistical Yearbook of Hungary, 2003. HCSO

In the first half of the 1990s the liberalisation of publishing and the opening of the market increased the market share of foreign books. The 80.8% presence of Hungarian authors on the Hungarian market up to 1990 had dropped to 74.1% by 1995 and further to 70.4% by 2003. Within the category of foreign books the share of American authors had dramatically increased: in 1990 26.7% of foreign works, then 37% in 1995 and 47.9% in 2003 were written by American authors. This also means that every seventh book published in Hungary was written by an American.

With respect to the total number of copies published, Hungarian authors have preserved their rate of 60% in recent years; however, the percentage of American copies sold rose from 15.1% in 1990 to 23.9% in 2003.

### Number of books and copies by authors' nationality

Author's nationality	1990	1995	2000	2003
<b>Number</b>				
Hungarian	6,734	6,900	6,815	6,688
Foreign	1,588	2,414	2,777	2,809
of these: American	424	894	1,015	1,348
<b>Total</b>	<b>8,322</b>	<b>9,314</b>	<b>9,592</b>	<b>9,497</b>
<b>Number of copies (thousand)</b>				
Hungarian	79,238	38,855	22,444	20,811
Foreign	46,503	28,068	14,551	12,799
of these: American	19,044	15,016	8,211	8,021
<b>Total</b>	<b>125,741</b>	<b>66,923</b>	<b>36,995</b>	<b>33,610</b>

Source: HCSO database

The corporate structure of the book market has – similar to the production sectors of the economy – undergone some fundamental changes since the 1990s. The transformation was first characterised by the dramatic expansion in the number of publishers which was fuelled by low market-entry costs. Later, heavy concentration took place. According to statistical data of the Hungarian Association of Publishers and Booksellers, in 2004 only 13 companies made 54.4% of the total book sales, 25 companies were responsible for 69.3% of total sales and 149 publishers accounted for 89.9% of total book sales.

## 2. Music, theatrical productions, opera

### *The music and sound recording market*

Classical music concerts up to the last third of the 1990s were also in decline; gaining fresh momentum from the turn of the millennium, which was clearly evident in the soaring number of concerts and concert-goers. The number of concerts organised by the National Philharmonic has been on the rise again since the turn of the millennium and was over 1,400 in 2002-2003. At the end of the 1990s the concert audience also began to increase, reaching a total of 470,000 by 2003. The proportion of concert-goers was 4.7% of the total population. Findings of cultural researchers indicated that a small segment of the population attends concerts regularly. The previous audience of intellectuals and youth have gradually left the scene for different reasons and a narrow clientele remain.<sup>77</sup> According to researchers, the audience is primarily made up of music lovers and well-to-do people.

<sup>77</sup> See: Research by Iván Vitányi and Péter Hidy: Cultural state of Hungarian society, Research leaders: Iván Vitányi, Péter Hidy, László Harsányi, the Institute of Sociology of the HAS, Budapest. 1997., Péter Hidy: Culture in Hungary in the 1990s in light of cultural-sociological research findings, Budapest, 2000.

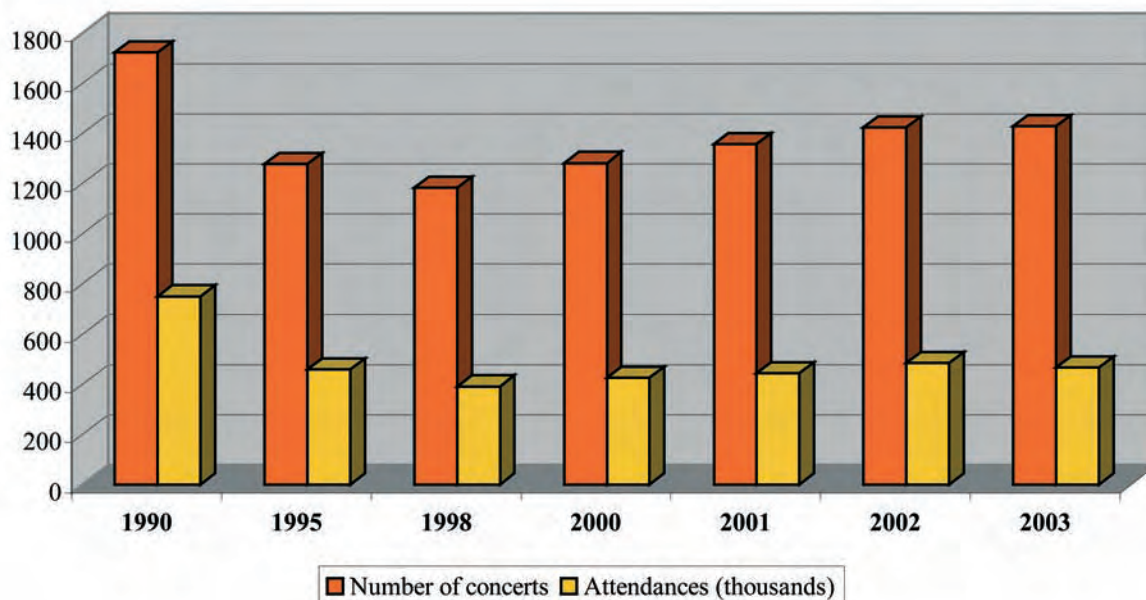
Changes in government support mechanisms, economic considerations, rising ticket prices, changes in living standards, the penetration of good quality sound carriers and music playing devices and the wide availability of music CDs for home listening have all had a strong impact on concert-going habits.

### Changes in the number of concerts and attendances between 1990 and 2003

Year	Number of concerts	Number of concert-goers (thousand attendances)
1990	1,723	749
1995	1,277	459
1998	1,182	391
2000	1,281	426
2001	1,356	444
2002	1,423	485
2003	1,428	466

Note: inclusive of events held by the National Philharmonic.  
Source: HCSO

### Number of concerts and concert-goers (thousand attendances)

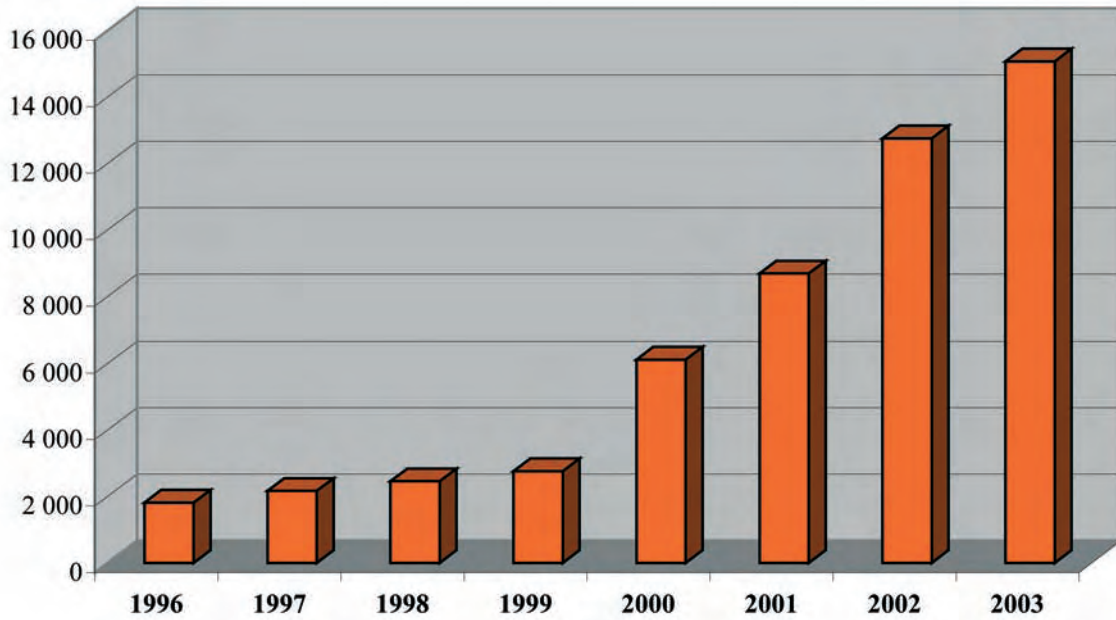


Source: Cultural Database, 2002. Statistical Yearbook of Hungary, 2003. HCSO.

Budgetary expenditure on music and dance performances has soared in recent years; the nominal value of 2003 is eight times that of the 1996 figure.



### Budget expenditure on music and dance performances between 1996 and 2003 (at current prices, HUF millions)



Source: *Statistical Yearbook of Hungary, HCSO.*

In the past decade the market for sound recording media has also undergone some structural reforms. The organisational structure of sound carrier publication has been restructured; the number of record production companies has soared. Although there has been significant development in the availability of sound recording media of households we still lag behind in comparison with the rest of Europe. Statistics published by EUROSTAT compared the proportion of families owning CD players within the member states. Seventy-two percent of households within the EU-15 owned a CD player in 2001, while the same figure in Hungary was only 31%. Top ranked in this respect were taken by Holland (93), Denmark (89), France (85), and Germany (82). Of the EU countries the bottom ranks are occupied by Portugal (58), and Spain (50), while the situation in Central and Eastern European countries is very similar to that of Hungary with the Czech Republic and Poland having a score of 31 and 37 respectively.<sup>78</sup>

According to data from the Association of Hungarian Record Companies (MAHASZ), Hungarian sales of sound recording media (CDs, cassettes, vinyls, singles, music videos, DVDs) were dramatically expanding in the first half of the 1990s to be followed by a period of stagnation when the number of sound recording media was around 7 million. The decline of the Hungarian music record market began in 2000 with a 5% fall in sales. This was followed by further negative figures in the next two years with 16% and 15% fewer sound recording media sold in Hungary than in the previous year. In 2003 a total of 6.04 million sound recording media were sold on the Hungarian market for a total of about HUF 16.67 billion (retail price). In 2004 the shrinking of the market was apparently stopped: although the volume of sales rose to 7.64 million sound recording media – 26.5% higher than in the previous year, the unit growth was the result of free products, i.e. articles which were attached to products for promotional reasons.

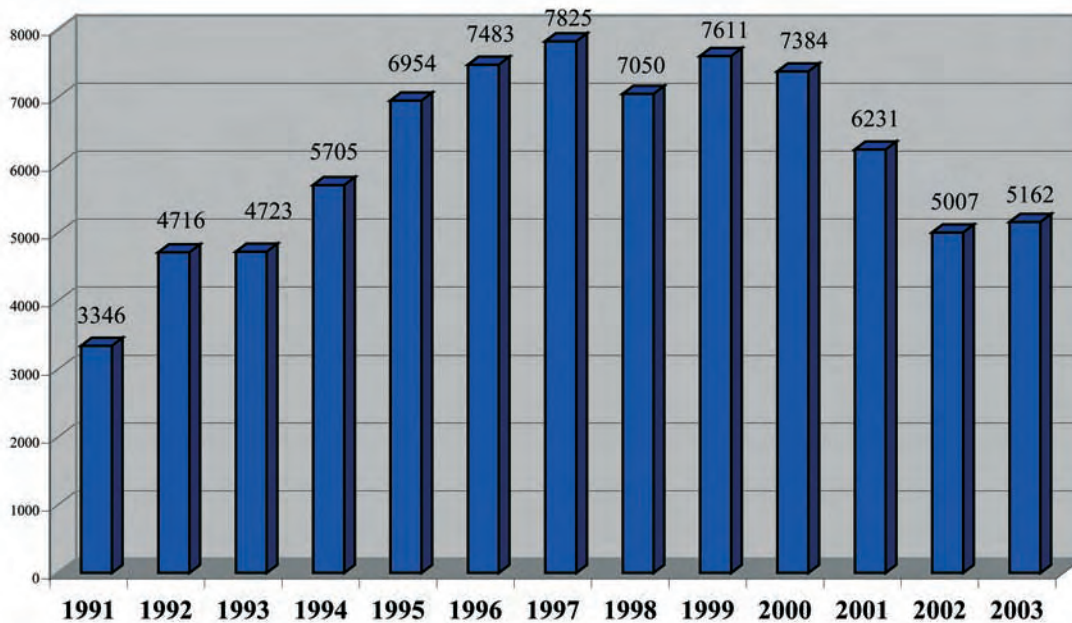
<sup>78</sup>Statistical Yearbook of Hungary 2003., World Culture Report 2000. UNESCO.



The value of receipts on sound recording media dropped by 16.2%, which was due to the increase in sales at artificially low prices or dumping by hypermarkets and the reduction of sales by record shops. According to MAHASZ's analysis, hypermarkets sell-back catalogue records (CDs with deceptive appearance) in great numbers and cheap classical CDs of dubious origins. Consumers can now buy low quality sound recording products with a limited service life at exceptionally low prices.

With regard to the sale of music CDs per capita, the United Kingdom is in the lead in the EU with 3.7 CDs/capita/year. The UK is followed by Sweden (3.0 CDs/capita/year), then France, Denmark, and Germany with 2.2 CDs/capita sold a year. In Hungary the same figure is 0.29 CD/capita/year calculated on a sale of 3 million CDs in total per year, which is even weaker than the score of the EU tail enders Greece (0.8) and Italy (0.7).<sup>79</sup>

### Number of sound recording media sold between 1991 and 2003 (thousands)



Source: MAHASZ

According to the MAHASZ analysis, in recent years the conventional record market has been characterised by a general decline worldwide, which is presumably due to the popularity of CD duplication. (The sales index of CDs had first shown an absolute decline in 2001 (-5.1 %), then a further drop of 5% in 2002.)

According to UNESCO's statistical publication, the share of illegal publications in total sales amounts to 3% in North America and 12% in Europe. By the end of the 1990s UNESCO estimated the share of illegal publications to be as high as 25% in Hungary. This figure is quite high even in international comparisons since the share of illegal publications in Germany, France and Portugal is only 3%, in Ireland 5%, and in Spain 2%. Of the EU member states only Italy and Greece have produced figures similar to Hungary; while the situation is worse in the majority of Central and Eastern European countries (Poland (40%), Romania (80%) and Latvia (50%).<sup>80</sup>

<sup>79</sup> Cinema, TV and radio in the EU, op.cit. p. 110.

<sup>80</sup> World Culture Report 2000. UNESCO

According to the EU-15 study<sup>81</sup>, illegal activities are encouraged by the availability of cheap technology required for duplication, by insufficient countermeasures by governments, and the popularity of music downloads from the Internet. According to the IFPI<sup>82</sup>, in 2001 the number of pirated CD products reached 500 million throughout the world – 5% higher than the year before. They estimate that in June 2002 file sharing programs like Kazaa, iMesh, and Gnutella were used by as many as 3 million people bringing the total number of music files accessible via one of these programs to 500 million. Measuring the actual number of file exchanges is not, however, very difficult.

According to the EU-15 study piracy is most widely practised in four countries: China, Russia, Brazil, and Indonesia. The largest manufacturers and exporters of pirate copies are the Eastern European countries with the Ukraine being at the forefront.<sup>83</sup>

In recent years the Hungarian black market also started undergoing some changes. While earlier most losses to record companies were caused by Romanian, Bulgarian, and Ukrainian pirated CDs, today the greatest threat is posed by digital duplication. According to an estimate by MAHASZ, there are three duplicate copies for each musical CD purchase today in Hungary.<sup>84</sup>

The sale of writable CDs quintupled in Hungary in a single year. The number of blank CDs grew from annual sales of 5 million in 2001 to 25 million in 2002. The expansion in writable CDs can partly be attributed to the expansion of illegal copying.<sup>85</sup>

It is an international trend that on the sound recording market the sale of domestic music increased. The proportion of domestic music record sales against foreign sales is highest in the USA (93%) with Japan next (76%), while in Europe France (59%) and Greece are in the lead (54%). According to EUROSTAT, this rate in Hungary was 44% in 2001<sup>86</sup>, which ranks Hungary in the middle. However, if we only look at classical music from this angle, Hungary is in the top rank – second only to Spain's 11%.

The Hungarian classical music sales figures are encouraging: in 2003, 699,000 classical music audio carriers, showing a modest increase on the figure of the previous year.

In line with technological developments the market for sound carriers also underwent a significant structural transformation. At the beginning of the 1990s the market share for cassettes was still 80%, but by 2003 it had plummeted to 32%. Conventional LPs have practically vanished from the market. In contrast, the market share of CDs rose from an annual rate of 8% in 1991 to 66% in 2003.

The main players in the Hungarian musical record market are the multinationals. About 36% of all sales are realised by four large multinational companies: SonyBMG, EMI, Universal, and Warner.

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<sup>81</sup> Cinema, TV and radio in the EU, *op.cit.* p. 108.

<sup>82</sup> International Federation of the Phonographic Industry

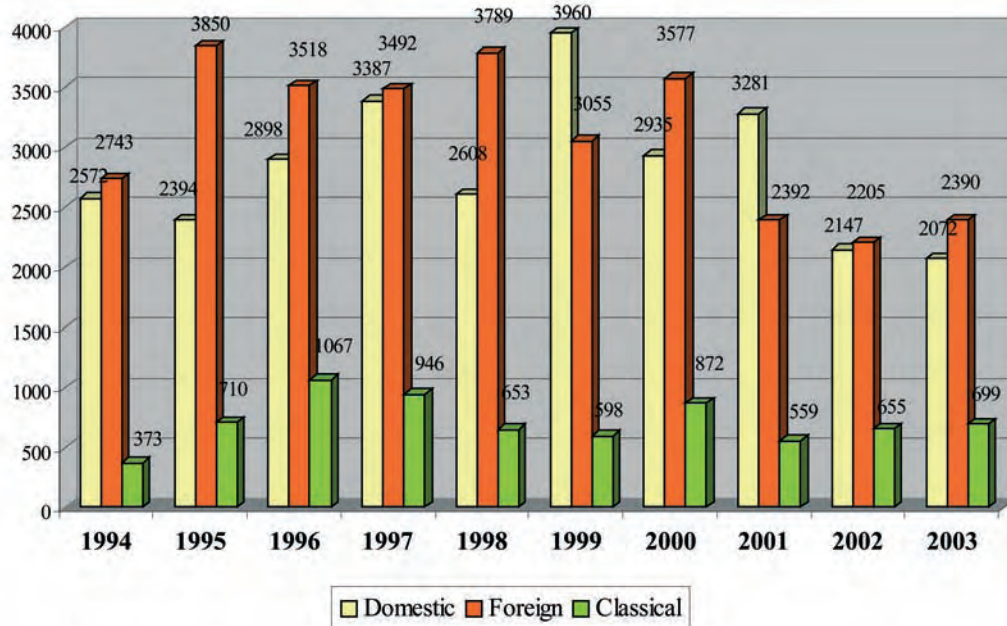
<sup>83</sup> Cinema, TV and radio in the EU, *op.cit.* p. 108.

<sup>84</sup> This estimate corresponds with UNESCO data.

<sup>85</sup> Writable CDs replaced floppy disks in data storage. Today almost all computers are equipped with CD writing hardware.

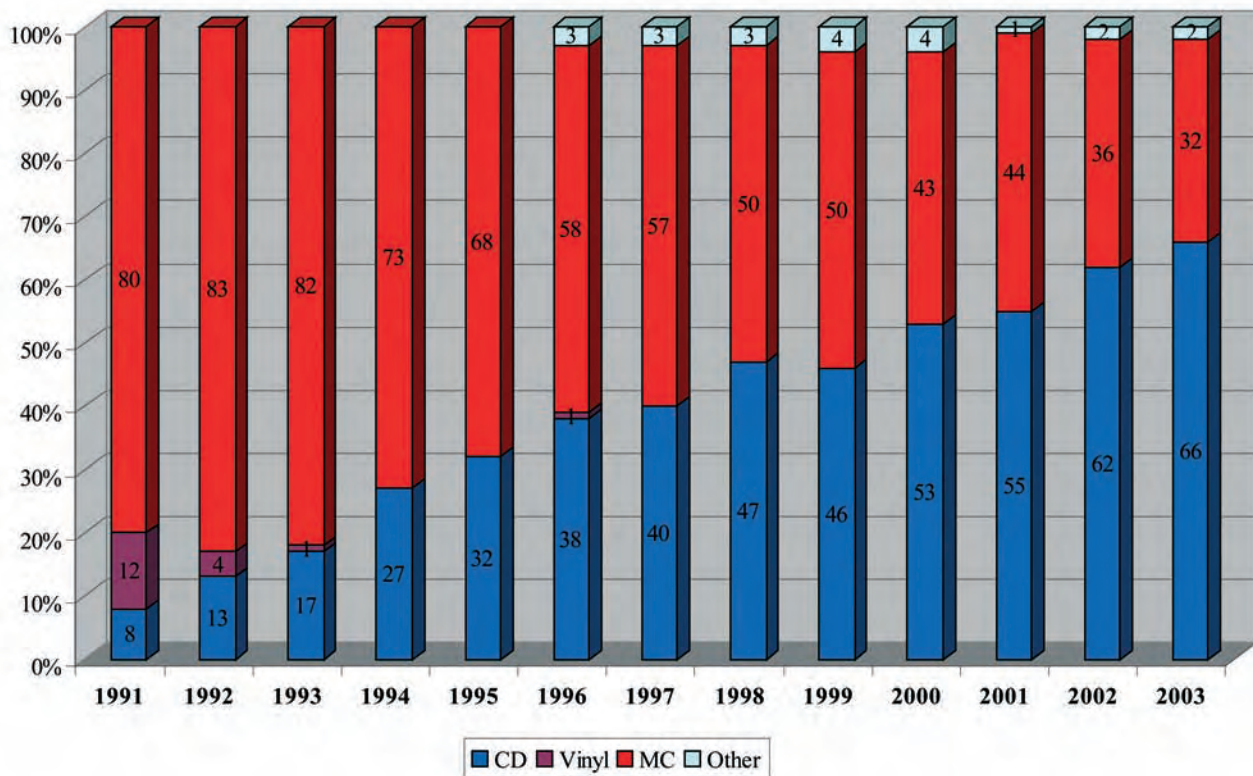
<sup>86</sup> Cinema, TV and radio in the EU, *op.cit.* pp. 111. The MAHASZ data shows the number of Hungarian audio carriers sold; expressed in percentages it totalled 52% in 2002.

**Sale of audio carriers between 1994 and 2003 in the breakdown of classification (thousands)**



Source: MAHASZ

**The market share of various audio carrier types based on the numbers sold between 1991 and 2003 (%)**



Source: MAHASZ



### Theatres

In the past 15 years the developing network of theatrical institutions, and the increasing number and diversity of performances offered a contracting theatre audience a steadily expanding range of shows.

The theatrical institution system did not show drastic changes; yet it expanded and developed in the 1990s. According to statistical data from HCSO, the number of theatres increased from 43 in 1990 to 54 in 2003. Cultural research projects<sup>87</sup> show that a stone theatre was funded in Sopron, new theatres were opened (e.g. Merlin), and opera and dance faculties were set up (Miskolc, Szeged Veszprém), puppet theatres (e.g. Kecskemét, Győr, Miskolc, Debrecen, Szeged, Szombathely), and open air theatres were opened, and established (e.g. Kőszeg, Zsámbék). The emergence of so-called alternative theatres – however tentative they may be – is a new and welcome development. Between 1990 and 2003 the seating capacity of theatres increased by 7,000 according to HCSO.<sup>88</sup>

In the past 15 years, the number of theatrical performances has also grown on aggregate while ticket sales have dropped slightly. The number of performances in the capital has stabilised at around 6,000-6,400, while it has significantly increased in country towns from 5,000 performances a year at the beginning of the 1990s to 6,700 in 2003. A slow decline in interest toward plays is indicated by a drop in the number of theatre-goers; while in 1990 the number of attendances was nearly 5 million, it fell by 16% by 2003 to around 4.2 million. The number of attendances seems to be stabilising at around 4 million, which may mean 3.8-3.9 million visitors in one year and 4.1-4.2 million the next. Decline in interest mostly affects country theatres while in the capital there has been a rise in interest in recent years. Between 2000 and 2003, attendances at Budapest theatres rose from 2,086,000 to 2,345,000 in 2003 while it fell from 1,851,000 to 1,795.

### Main statistics for the theatre in Hungary

	1990	2000	2002	2003
Number of theatres	43	52	54	52
Number of performances	11,534	12,680	13,176	14,097
Number of visitors (thousand attendances)	4,991	3,938	4,152	4,217
Number of theatre visits (per one hundred inhabitants)	48	39	39	42

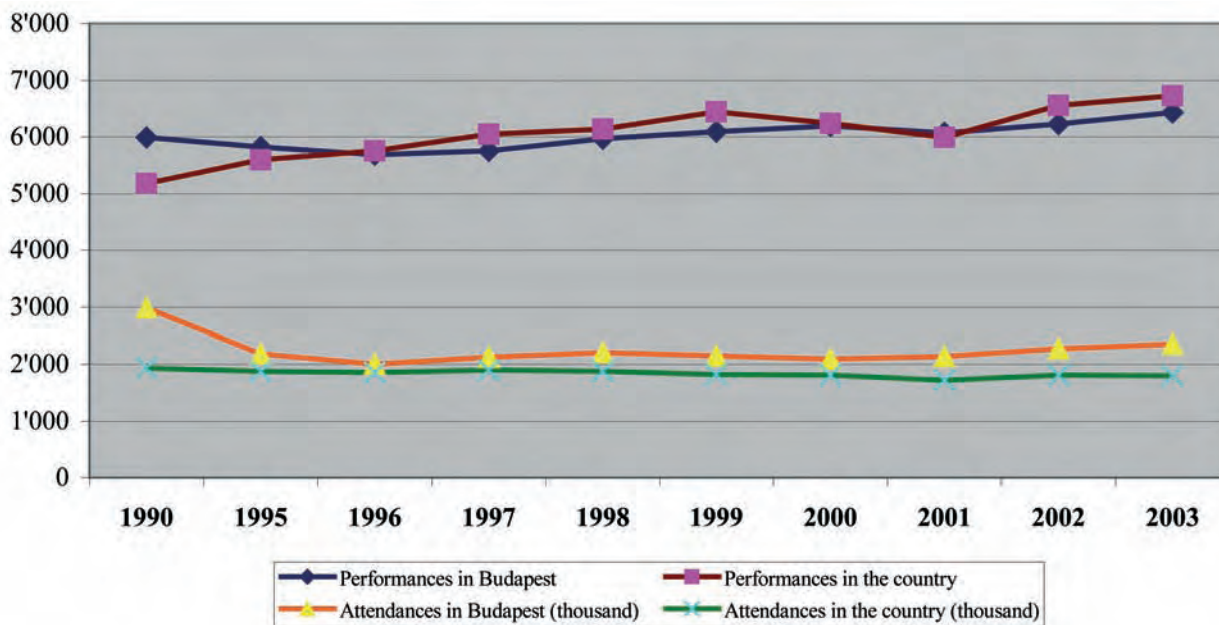
Source: HCSO, HCSO database

<sup>87</sup> The State of Culture in Hungarian Society, research co-ordinators: Iván Vitányi, Péter Hidy, László Harsányi, the Institute of Sociology of the Hungarian Academy of Sciences, Budapest. 1997.

<sup>88</sup> Statistical Yearbook of Hungary; 2002., 2003. KSH.



### Number of theatrical performances and attendances in Budapest and outside



Source: HCSO

The slight drop in interest in theatres is attributable to a number of factors. On the one hand, there is the change in cultural trends, which is closely related to the penetration of television and videos. At the turn of the millennium, the population devoted only one tenth of the time spent on culture and entertainment to theatres, concerts, and cinema.<sup>89</sup> On the other hand programme policies and increasing ticket prices also played a significant role. Ticket prices in theatres and concert halls rose by 58.4% between 2000 and 2004; i.e. they not only exceeded the consumer price index but were also higher than the average price increase in cultural services. In addition to this, country audiences had also to deal with the other increased costs (e.g. rising travel expenses).

According to HCSO data, only 10-12% of the 15 and above age group – nearly 900,000 people – are regular theatre-goers, which is a very small segment of the population. A relatively stable theatre-going audience seems to have established itself. This regular audience goes to the theatre on average four times a year. The regular theatre audience is made up mainly of city-dwellers under the age of 30 engaged in intellectual occupations.<sup>90</sup> Season tickets are still very popular among regular theatre-goers. In 2003 310,000 season tickets were sold; 26% of theatre visitors had season tickets in 2003.

The data from HCSO and the results of cultural research projects indicate that programme policies have tended to favour lighter, more entertaining plays in recent years. The audience for straight plays steadily increased throughout the 1990s and amounted to 36% in 2001. The number of concert-goers or attendees at musical performances increased (30%), while the number of opera, ballet, and dance performances steadily dropped.

<sup>89</sup> Bárdosi, Mónika-Lakatos, Gyuláné-Varga, Alajosné, *op.cit.* p. 74.

<sup>90</sup> HCSO report 2002/10.

### Theatre-related expenditure between 1996 and 2003 (at current prices, HUF millions)

	1990	2000	2002	2003
Number of theatres	43	52	54	52
Number of performances	11,534	12,680	13,176	14,097
Number of visitors (thousand attendances)	4,991	3,938	4,152	4,217
Number of theatre visits (per one hundred inhabitants)	48	39	39	42

It is considered a fundamental change, a real structure-forming force that in the past decade the role of government subsidies – in comparison with previous periods – has diminished and, parallel with this, economical considerations and market factors have become an important priority. It is not known though how much this may have helped or hindered the profession.

It is worthy of attention that in the past fifteen years the number of theatres has increased by 11 and the number of performances has also risen by 16.8%, while the number of full-time employees in theatres has dropped from 6,345 in 1990 to 5,117 in 2003. The figures reflecting staff cuts are not only explicable by the penetration of new theatre technology that helps to reduce staff, but also by the cost effective approaches that have recently been adopted. Freelance actors playing on a commission basis as one-man entrepreneurs are quite common today.

The operations of theatrical institutions are still primarily funded by public money. In 2003 16.0% (a total of HUF 26.1 billion) of budgetary expenditure on culture was used to finance theatres. Although the nominal value of budget funding devoted to financing theatres increased by a spectacular 55.6%, the consumer price increase in the same period was 19.2%, and thus the increased funding was insufficient to solve the financial problems of theatrical institutions.<sup>91</sup>

### 3. Film production and videos

#### ***Cinemas, cinematography***

The general public's 'desertion of the cinema is a world phenomenon that lasted from the mid fifties until the 1990s in the EU member states. The appearance and dominance of television and later the spread of cable TV, videos, then the appearance of the Internet have all contributed and played major roles in this phenomenon. These on-going processes all led to a decrease in traditional cinema screenings and a fall in

<sup>91</sup>Statistical Yearbook of Hungary. 2002., Statistical Yearbook of Hungary. 2003. HCSO.

attendance by the general public. In European countries, with the modernisation of cinemas and the introduction, spread and dominance of the multi-theatre cinema complexes in the 1990s we have been able to experience a revival of cinema. The number of cinema-goers stopped falling and, even if not steady, interest towards cinema began to grow. Between 1990 and 2002, the number of cinema attendees grew by 62% in the EU; this translates to an increase from 577 million to 934 million people in the 15 member states. This growing tendency seemed to lose momentum in 2002.<sup>92</sup>

Following international tendencies, the multiplex cinema has been introduced in Hungary as well, where such a revival process started to evolve.

Over the last couple of decades, the technical basis of the cinema networks with regard to organisation and ownership went through transformations and the institutional network has reduced in size. In Hungary almost 4,000 movie theatres were operational in the 1960s and 1970s. In the early 1990s the number of cinemas was halved to approximately 2000 cinemas. In the late 1990s the number of cinemas was around 600. In 2003 a total of 580 cinemas were operating in the country. As a result of the decrease in the number of cinemas, the number of seats was also reduced from 344,000 in 1990 to 124,000 in 2003<sup>93</sup>, which was primarily a result of the large-scale closure of rural cinemas. In 2003 almost two-thirds of the cinemas were operated privately, while the rest were run by community centres or municipal budgetary institutions, whose numbers are not to be neglected. As a result of the above, economic operation is of crucial importance in this sector as well.

Following international trends, according to data from HCSO, approximately 70% of the traditional cinemas ceased their operations. As a result of this, the largest fall in the number of cinemas took place in villages, as there were only 125 cinemas operating in 2003. With the introduction of multiplex cinemas, providing more movie theatres, modern picture and sound technology, Hungary has also witnessed the revival of cinema. The spread of multiplex cinemas meant this cinema revival was primarily in Budapest. However, over the last few years, more and more multiplex cinemas have opened in larger rural cities. This is reflected by the increase in movie theatres between 2000 and 2003 from 564 to 580 in Budapest and from 296 to 321 in rural cities.<sup>94</sup>

According to data from EUROSTAT<sup>95</sup> there were a total of 10,000 cinemas operating in the 15 EU member states at the turn of the millennium. The average number of cinemas per 100,000 inhabitants was 2.8, which is roughly half of Hungary's value. Sweden has the highest cinema density (9 cinemas per 100,000 inhabitants), while this value is the lowest in the Netherlands, Belgium and the UK. (1.2, 1.3). In the USA there are 2.5 cinemas per 100,000 inhabitants. These national figures suggest that the transformation of the cinema network in Hungary may not yet be completed.

Parallel with the restructuring of the Hungarian cinema network, the number of performances and attendances continued to drop in the 1990s. In the late 1990s there was a continuous increase in numbers in these areas, due to the emerging trends of multiplex cinemas. As a result of this, the number of performances in 2003 was 442,000, which is a 6.3% increase compared to 1990. Due to the introduction of multiplex cinemas, the number of performances increased greatly, primarily in Budapest; the number of performances increased from 71,000 in 1996 to 227,000 in 2003. The number of attendances, however, which was 13.6 million in 2003, did not even reach the 40% level of attendances registered in 1990 and

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<sup>92</sup> Cinema, TV and radio in the EU, *op.cit.* p. 38.

<sup>93</sup> Statistical Yearbook of Hungary. 2003. KSH.

<sup>94</sup> Statistical Yearbook of Hungary. 2003. KSH.

<sup>95</sup> Richard Deiss: *Kinostatistiken. Starke Zunahme der Besucherzahlen. Statistik kurz gefasst. Thema 4.* 2001/2.

remained at the level of the mid-nineties, mainly due to an increase of attendances registered in Budapest. The majority of people who regularly go to cinemas come from the 20-29 year age group.<sup>96</sup>

In 2002, people living in the 15 member states of the EU attended cinemas 2.5 times a year on average, while in the US this number is 5.7 times a year. Hungarians are left behind in this matter, by going to the cinema 1.5 times a year. Amongst the newly-joined EU member-states, Hungary is ranked second after Malta, where this is 2.7 times a year. In EU countries, Ireland has the highest value (4.5 times a year), followed by Spain (3.5), Luxembourg (3.2), France (3.1). Finland, and the Netherlands are next, attaining the same value as Hungary (1.5).

### Cinema, performances, and attendances

Year	Cinemas	Performances (thousands)	Attendances (thousands)	Attendances per 1000 inhabitants
1980	3,624	703	60,718	5,668
1990	1,960	416	36,220	3,495
1995	597	194	14,040	1,373
1996	558	189	13,291	1,304
1997	594	235	16,572	1,632
1998	628	242	14,578	1,438
1998	628	296	14,421	1,432
2000	564	372	14,294	1,426
2001	622	426	15,704	1,543
2002	605	448	15,278	1,504
2003	580	442	13,630	1,348

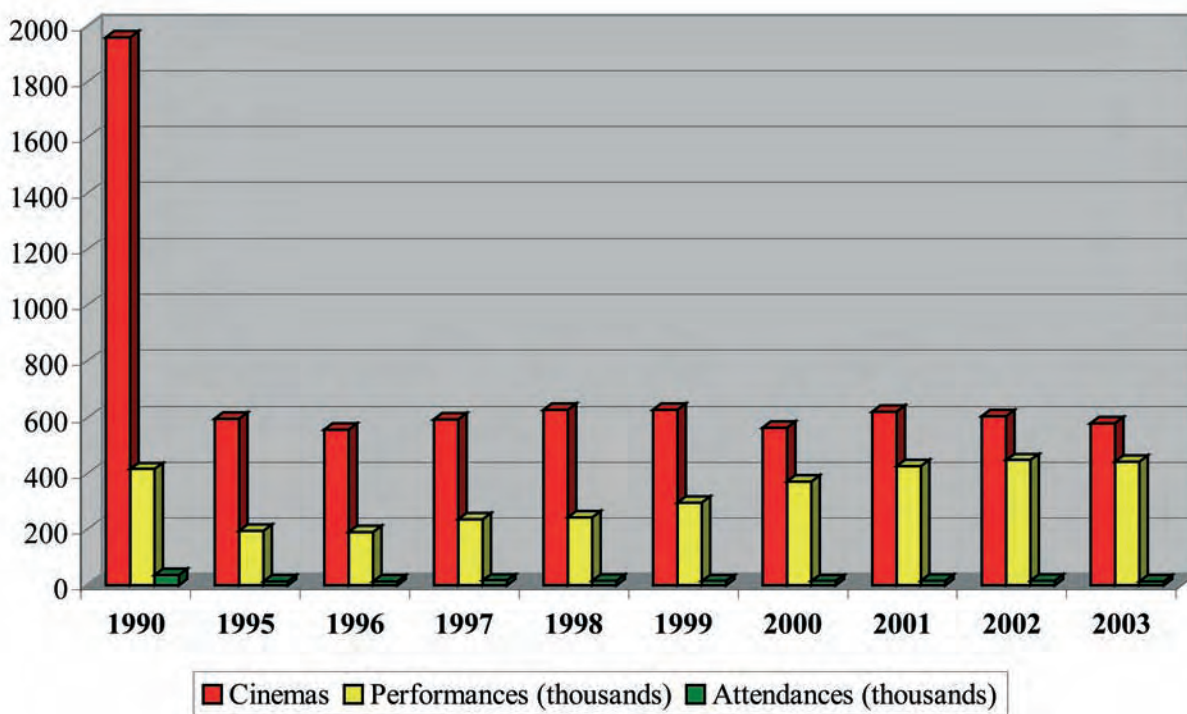
Source: Culture Statistical Database, 2002, Statistical Yearbook of Hungary 2003.

Andreas Dollt: *Kinostatistik. 2002 kein weiterer Anstieg der Besucherzahlen. Statistik kurz gefasst. Thema 4. 2003/8.*

<sup>96</sup> Statistical Yearbook of Hungary. 2002., 2003. HCSO., Bárdosi, Mónika-Lakatos, Gyuláné-Varga, Alajosné, *op.cit.* p.70.



**Cinema, performances, and attendances between 1990 and 2003**



In 2001 people in the 15 EU member states spent on average 13.7 Euros on cinema tickets per year (the respective value for the USA was 32.9 Euros). Amongst the member states, Ireland leads this chart with 21.7 Euros/person/year, followed by the United Kingdom (17.2 Euros/person/year). Hungary is way behind with 3.8 Euros/person/year and even so this is more than double the average value in the newly-joined EU countries (1.4 Euros/person/year)<sup>97</sup>.

The market share of European films in the 15 EU member states was on average 31% in 2001 and 27.5% in 2002. In all member states, in France, Denmark and Sweden locally produced films play an important role. In 2001 the revenue from tickets sold for local films was 22.5-41.7% in the three countries mentioned above. This figure was 30% in the Czech Republic, while in Hungary this percentage was a mere 5.1%. Even so, in 2001 from the 20 most popular films in the EU 17 were produced in the US. More than 80% of revenue from tickets sold comes from American films in Ireland, Germany, Luxembourg and Greece.<sup>98</sup>

Throughout the 1990s, the number of newly-produced feature films screened showed a continuous drop in Hungary. In 1990, on average 4.8 new feature films were screened weekly. By 2001, this number fell to three a week. After 2001, there was an increase in the weekly premieres and by 2003 this figure reached four new feature films a week. At the end of the 1990s, in the 15 member states of the EU, an average of five feature films were screened weekly. Half of the new films were US productions. This phenomenon applied to Hungary as well.

<sup>97</sup> Cinema, TV and radio in the EU, *op.cit.* p. 42.

<sup>98</sup> Cinema, TV and radio in the EU, *op.cit.* p.53

### The breakdown of new feature films per country of production

Country	1995	1995	2000	2001	2002	2003
Total number of feature films screened	258	143	199	164	182	212
Breakdown						
Hungary	31	9	22	23	19	21
France	17	11	14	21	20	30
USA	126	98	125	93	108	109

Source: Culture Statistical Database, 2002., Statistical Yearbook of Hungary, 2003. HCSO.

In 2002, according to data from NKÖM (The Ministry of National Cultural Heritage), 9.9% of the newly screened films were Hungarian productions and 56.25% were produced in the US. Considering the total number of screenings, the American films' dominance is even more depressing: 80.3% of screenings were US-produced films, while the Hungarian share was 6.2%. 81.9% of cinema-goers watched American films and only 7.7% watched Hungarian films.

Over the last few years, approximately 20 newly-produced Hungarian films have been screened yearly. In 2003, 21 locally-produced films were premiered on Hungarian screens. The 10% ratio for newly-produced Hungarian films is not considered bad compared to international figures. According to EUROSTAT's analysis, the share of locally-produced films in European countries is the highest in the following countries: France (38%), Italy (27%) and the UK (21%).<sup>99</sup> The boost in locally-produced films (wide-screen films) began in the mid-1990s in the European Union. Between 1995 and 2002 this dynamic growth was registered in the following countries: Spain (116%), France (68%) and Italy (60%).<sup>100</sup>

Even in an international context, Hungarian film-making is well respected. Movie makers produce films for the big screen and television alike. According to data from HCSO<sup>101</sup>, the number of films produced for the big screen was 95 in 2003, from which 19 were all-evening feature or documentary films. The number of films produced for television was a mere 42, which represented only 10-15% of the films produced in the previous two years. In earlier years, television was an important client for the local film industry, but over the last few years, Hungarian television companies favour easy-to-obtain foreign serials to locally made films. Section 7 of the 1996 Act I on Radio and Television Broadcasting does not seem to have helped the situation of the Hungarian movie industry, since the proportion of obligatory locally-made productions to be broadcast is set at a very low level.<sup>102</sup>

<sup>99</sup> Richard Deiss: *Kinostatistiken. Starke Zunahme der Besucherzahlen. Statistik kurz gefasst. Thema 4. 2001/2.*

Andreas Dollt: *Kinostatistik. 2002 kein weiterer Anstieg der Besucherzahlen. Statistik kurz gefasst. Thema 4. 2003/8.*

<sup>100</sup> Cinema, TV and radio in the EU, *op.cit.* p. 36.

<sup>101</sup> Statistical Yearbook of Hungary 2003. KSH

<sup>102</sup> Paragraph 1 of Section 7 states that broadcasters shall devote over one-third of their transmission time to works that were originally made in the Hungarian language. The second paragraph states that broadcasters shall reserve at least 7% of their transmission time for works originally made in the Hungarian language that were created by or purchased from producers who are independent of broadcasters. Paragraph 4 indicates that broadcasters shall reserve at least 12% of their programming budget for works created by independent producers, which are to be made in the Hungarian language.

Act II of 2004 on Motion Pictures came into force on 1 April, 2004. This Act outlines the legal framework in which the film industry will be supported, the organizational arrangement of the state institutions operating within it and the introduction of the tax-allowance system, which could benefit those helping the film industry and those companies which invest in it. The new public Act entrusts the Motion Picture Public Foundation of Hungary, made up of representatives of the film industry, with the responsibility for the allocation of the state-supported funds. By offering tax benefits, the Act encourages the making of co-produced works, as well as trying to attract more foreign films to be produced in Hungary. The current plan is to increase the state-supported fiscal funds to an acceptable level and to gradually increase this support to 10 billion HUF by 2006.

The revenue of the film industry is reduced by those who obtain films illegally. According to data from ASVA<sup>103</sup> (a public-service organization to protect the rights of audiovisual works), with the appearance of the Internet, illegal film downloads<sup>104</sup> and distribution began to enjoy growing popularity. Consequently, the film industry loses around 6 billion HUF in cinema ticket sales, video and DVD hire and sales, and cable fees, which represents about 20% of the film industry's revenue totalling around net 29 billion HUF.

## 4. Radio and television

### ***The television market***<sup>105</sup>

Over the last fifteen years, Hungary has developed its new television structure, based on the multi-channel model existing in more advanced countries. The number of television stations has multiplied and apart from land-based broadcasting, new technologies evolved – cable and satellite. In contrast to advanced countries, the development of the new television structure was not the result of a long process, but a relatively fast transformation. The consumer structure and the program structure of the Hungarian television market, after the changes in the program supply, is more and more similar to international television market tendencies.<sup>106</sup>

According to HCSO data, in 2001 there were 2.6 million television subscribers. With respect to television, the degree of supply is good in Hungary; 92% of households had colour televisions, 11% had black and white ones, usually as a second or third TV. One-third of households had two or more televisions.<sup>107</sup>

Regarding leisure time spent watching television, Hungary is the leader amongst EU countries. In 2001, the average daily time spent watching television – according to EUROSTAT – in the 15 member states of the EU was 3 hours 30 minutes, while in Hungary it was 4 hours and 10 minutes.<sup>108</sup> Hungarian statistics show a lower value than the ones used by the EU and refer to a smaller section of the population, but even so they show this leisure-time activity to be constantly growing. Men aged 15-74 spent on average two hours and

<sup>103</sup> *Világ gazdaság*, 28 October 2004

<sup>104</sup> Film downloads are tied to technical requirements, a field in which Hungary is not very advanced. Only 7.3% of Hungarians have subscriptions to the Internet, while only 3.8% have access to broadband Internet. Although this number exceeds the average of the newly-joined EU countries (average 1.6%), it is still far from the rates of the industrialized countries. In 2004, the average for EU member states was 8.5%. *Napi Gazdaság*. 2005. 05. 23., Origo, 2005. 06. 09.

<sup>105</sup> When presenting the television market, we relied on the research paper of Ágnes Urbán: *A magyarországi televíziós piac stabilizálódása.. Médiakutató. 2004. tavasz*, and the research paper *A televíziós piac áttrendeződése. Médiakutató. 2000. I. szám. (www.mediakutato.hu)*

<sup>106</sup> This has not always benefited the television market.

<sup>107</sup> Statistical Yearbook of Hungary 2003. KSH.

<sup>108</sup> Cinema, TV and radio in the EU, Statistics on Audiovisual Services. European Commission. 2003.

40 minutes a day in front of the television, while women an average of 2 hours and 30 minutes. Listening to the radio is considered more of a background noise activity.<sup>109</sup>

On the television market, there is competition between the various types of broadcasting technologies. Cable, satellite and land-based broadcasting technologies compete with one another, while they complement one another at the same time. In 2000, 3.7 million households had televisions, almost half of which, 1.8 million, had cable television; 400,000 had satellite and 300,000 had AM-micro (land-based) television access.<sup>110</sup> The competition is much fiercer amongst television stations, which represent various types of contents.

In a multi-channel model there are many market players at the same time, in other words the number of available stations has multiplied over the last decade. Apart from MTV and Duna TV, two commercial market-leading networks made their appearance (RTL Klub, TV2). Other stations (i.e.: Msat, Viasat) offering general viewing began operations as well, and the market for thematic stations began to take shape. Apart from thematic stations owned by global broadcasters (i.e.: Discovery, National Geographic), Hungarian stations (Spektrum, Hír TV) commenced their broadcasts. In parallel with this, regional television started to develop as well.

In television broadcasting, cable television became more and more widespread in Hungary. In 2002, more than 1700 households had cable television and the length of the established cable network was 94,000 kilometres.<sup>111</sup> Regarding reception, Hungary is amongst those few countries – such as Switzerland, Luxembourg, Ireland and Germany -, where cable reception exceeds 50% of the percentage of reception. In Hungary satellite reception was 18% and land-based reception was 26% in 2001.<sup>112</sup>

After the development of the multi-channel television model, MTV lost a considerable section of its share. This follows international tendencies, however, in other countries, the loss of market-shares by public television networks was not as important as in Hungary. In 2002, the market-share of the two MTV stations was 15%, while in other countries they were as follows: the BBC in the UK (39%), YLE in Finland (45%), ARD, ZDF and other public networks in Germany (43%) and SVT in Sweden (43%).

It is a Hungarian characteristic to have a lower national content. Public television networks in other European countries rely more on national content (products of the sports or film industries) than in Hungary. The Media Act of Hungary does not seem to provide enough incentive for this situation to change.

Television competition does not only affect the viewers, but also advertisers. With the ever-growing number of television stations, more players need to share the advertising market, which increases competition. In 2004, televisions' share of the Hungarian advertising market was 41.2% (63.8 billion HUF) from the total of a net amount of 154.7 billion HUF.<sup>113</sup> The slowly-expanding advertising market has to support an increasing number of television stations.

<sup>109</sup> Bárdosi Mónika-Lakatos Gyuláné-Varga Alajosné. op.cit. p.51.

<sup>110</sup> Urbán Ágnes: *A magyarországi televíziós piac stabilizálódása.*

<sup>111</sup> Bárdosi, Mónika-Lakatos, Gyuláné-Varga, Alajosné, op.cit. p.53.

<sup>112</sup> *Cinema, TV and radio in the EU.* op.cit. p. 93.

<sup>113</sup> *Világgazdaság.* 13 May 2005 Net expenditure



According to data from the 15 EU member states, in 2000, 50.6% of the revenue of public and privately-owned television stations was from advertising, which was their major source of income. Another important source of income is represented by state funds (30.1%) and subscription fees (19.4). Two-thirds of advertising expenditures was spent with privately-owned TV stations. In financing public television stations, license fees play a major role (59.9%), followed by commercial earnings (7.8%), donations and other earnings.<sup>114</sup>

Experts say that in order to operate a commercial station successfully, 3-5 million viewers are required. According to this, a maximum of three stations could be operated effectively in Hungary.

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<sup>114</sup> *Cinema, TV and radio in the EU. op.cit. p.89.*

## VII. Summary of Findings

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This survey is the first analysis in Hungary to outline and numerically support the importance of the copyright based sector in the economy regarding performance and rate of employment. According to these findings, copyright based industries are of vital importance in the overall national economy, both when compared to other sectors of the economy and when compared to other countries in the EU. The total contribution to the national economy by copyright based industries was 6.67% of the national economy's gross added value, 9.68% of the gross output and 7.17% of the employee's income and 7.1% of the employment rate was from this sector. The contribution by core copyright industries was 3.96% to the national economy's gross added value, 3.95% to its gross output, 4.22% to employee income and 4.15% of the employment rate was from this sector.

Even in an international context, the weight of the copyright based industries in the economy regarding performance and rate of employment is high and this fact allows Hungary to be at the forefront of the EU countries.

In the Hungarian copyright based industries there is a typical tendency for the rate of employment to outweigh the performance rate in the economy, which means it requires a higher degree of employment, while it performs less well compared other industrialized countries. This inefficiency can be reduced by technical developments in the copyright based industry, however, this requires investment.

From the perspective of future structuring of Hungarian economic policy decision-making, it must be noted that the copyright based sector is the strongest amongst all traditional economic sectors. The total economic weight of all copyright based industries almost equals the whole of the engineering industry and is larger than the education and the construction industries. On the other hand, the economic weight of the core copyright industries can be compared to such sectors as the textile industry, metallurgy, the food-processing industry and the electricity industry.

Considering their economic weight, copyright based industries do not receive the consideration deserved from economic policies; a situation which in the future ought to be changed. Economic policy decision-makers and other players in the copyright based industries must be made aware of the importance and weight of this sector. The socio-economic power of copyright based industries is not in proportion to its economic weight, while treatment and regulation of certain copyright based industries can differ. The copyright based sector is made up of many different types of activities and fields. Such diversity may result in the copyright based industry's interest representation ability to be weaker than its economic weight. This situation can only be resolved through coalition of forces driven by a common interest and by finding common goals and objectives.

The economic weight of the copyright based industries puts great emphasis on the importance of copyright awareness, which has been somewhat neglected in Hungary. In respect of copyright related issues, Hungary is low on the list of the EU countries. Raising awareness in individual and institutional users regarding copyright related issues cannot be achieved in the short-term. Motivational and disciplinary measures, as well as long-term awareness-raising programs must be prepared and introduced in order to help develop such awareness towards copyright related issues, which would need a coalition of forces from the government and civil spheres.

The copyright based industry can be regarded as a considerable foreign-trade factor. The foreign trade deficit of the core copyright industries could be better exploited considering the present potential export possibilities. In both export and import, the press and literature, as well as software and databases play a role of crucial importance amongst core copyright industries. The low number of exports in music, theatrical plays and the opera indicate an export possibility which, so far, has not been thoroughly exploited and increases the need to capitalize on our competitive edge.

Hungary – concentrating on the manufacture of certain recreational electrical goods – also takes part in the international labour division of copyright based industries and in this way contributes to the shaping of the balance of foreign trade. In the area of services, audiovisual and associated services are significant balance sheet stimulators in foreign trade.

In international comparisons, the importance of the copyright based industries in the economy regarding performance and rate of employment is high and it goes hand-in-hand with a large structural deficit, which can be attributed to the cultural sphere's developing trends and derived through international comparisons. In the cultural sphere, Hungary is left behind in many respects. In an international context, the degree of supply of cultural consumer durables and recreational electronic goods is relatively low. The general public's regular use of the facilities of the cultural institution system – i.e.: cinema, theatre, concerts - is confined. The expenditure level for cultural purposes by the public shows a low euro value. The number of CDs sold per capita puts Hungary far down the list in the EU countries. Screenings of newly-produced films are also at a low level. The share of national/local content-based programs on television is minute.

Considering the spreading negative phenomena of the copyright based industries even at an international level, Hungary is amongst the top countries in the EU. We are amongst the leaders in distribution, utilization of pirated copies, audio carriers, software, as well as in the amount of time spent watching television.

The rate of price increases for cultural services has exceeded the rate of the consumer price index, which is an unfavourable tendency. At the same time, the rate of growth of cultural expenditures from the budget is lower than the growth of inflation. The concentration and centralisation of the cultural institution network has continued to grow in favour of the capital and larger regional cities. In book publishing, the steepest decline in the number of copies printed was experienced in the area of fiction.

Even in international comparisons, the cultural sector was able to show impressive results. It has the second highest rate of sales of classical music devices in Europe. Hungary is amongst the few countries, where national film production plays an important role and where the percentage of premiered local productions is relatively high, compared to the total of newly-produced international films. (At the same time, the revenue from ticket sales from locally-produced films is low in comparison with other EU countries – around 5%). Hungary's performance, compared to EU countries, is average regarding the sales rate of locally-produced sound media devices, the number of copies printed of daily newspapers per capita, the number of book titles per capita, as well as the number of cinemas. We are amongst the leaders in the rate of cable television reception.

The political transformation, similar to all other economic sectors, brought radical changes in the cultural sphere, to which the majority of the core copyright industries belong. Over the last fifteen years, the cultural institutional system has gone through a restructuring process. Many new players have appeared on the market, the organizational structure of ownership has been transformed, the media and the culture-consuming public has changed.

According to cultural statistics, in the last fifteen years since the political transformation, Hungary's cultural production has grown and developed tremendously, however, the direct culture consumption (the number of book or newspaper readers, the number of theatre and cinema goers) has dropped. The ownership structure of the cultural institutions has changed; a colourful new multi-player, institutional structure has been developed. Private capital plays an increasing role in the sector, while foreign capital has appeared in some of the more profitable segments. Certain goods that were previously only available directly from the cultural institutions are now widely available for consumption - as a result of the wide-spread use of computers and the Internet - without having to go through cultural institutions at all. (i.e.: reading newspapers, books or listening to music via the Internet). Consequently, cultural products have become available even to those people who are not close to the cultural hubs. As a result of this trend, a simultaneous growth and reduction in culture consumers has been experienced.

The statistical data indicates that the collapse of previous structures – before the political transformation and the developmental process of the new structures shown in the statistical data for the decline as well –has ended. The stabilization process of the cultural sphere has started and must continue for years to come.

Following international trends in many areas, the structure of the cultural supply has shifted towards a less intellectually-demanding type of product and light entertainment genre. At the same time the leisure activities of the Hungarian public have been transformed, but this change is not necessarily for the better.



## Appendices

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### Appendix No. 1

#### Copyright-Based activities in the Hungarian system of classification of economic activities (TEÁOR (Standard Sectoral Classification of Economic Activities))

Code	Description
2211	<i>Books</i>
2212	<i>Newspapers, journals and periodicals, appearing at least four times a week</i>
2213	<i>Newspapers, journals and periodicals, appearing less than four times a week</i>
2221	<i>Newspaper printing services</i>
2222	<i>Printing services n.e.c.</i>
2223	<i>Bookbinding</i>
2224	<i>Composition and plate-making services</i>
2225	<i>Other services related to printing</i>
9240	<i>News agency services</i>
9251	<i>Library and archive services</i>
5247	<i>Retail trade services of books, newspapers and stationery</i>
	<b>Press and literature</b>
2214	<i>Sound recordings</i>
2231	<i>Reproduction services of sound recordings</i>
9231	<i>Artistic and literary creation and interpretation services</i>
9232	<i>Arts facilities operation services</i>
9233	<i>Fair and amusement park services</i>
9234	<i>Other entertainment services n.e.c.</i>
	<b>Music, theatrical productions, opera</b>
2232	<i>Reproduction services of video recordings</i>
9211	<i>Motion picture and video production services</i>
9212	<i>Motion picture or video tape distribution services</i>
9213	<i>Motion picture projection services</i>
	<b>Motion pictures and video</b>
6420	<i>Telecommunications services</i>
9220	<i>Radio and television services</i>
	<b>Radio and television</b>
7481	<i>Photographic services</i>
	<b>Photography</b>
2233	<i>Reproduction services of software</i>
7221	<i>Software supply services</i>
7222	<i>Software consultancy and other supply services</i>
7230	<i>Data processing services</i>

7240 *Database services, on-line data retrieval or accessibility*

7260 *Other computer-related services*

**Software and databases**

7440 *Advertising services*

**Advertising**

9112 **Services furnished by professional organisations**

***I. Core copyright industries***

3230 *Television and radio receivers, other radio receivers, sound or video recording or reproduction apparatus and associated goods*

**Manufacture of televisions, radios, videos, CD players, etc.**

3002 *Computers*

**Manufacture of computers and equipment**

3630 *Musical instruments*

**Manufacture of musical instruments**

3340 *Optical instruments and photographic equipment*

**Manufacture of photographic and cinematographic instruments**

3001 *Office machinery and spare parts*

**Manufacture of photocopiers**

2464 **Chemical photographic material**

2465 *Prepared unrecorded media*

**Manufacture of blank recording material**

2112 *Paper and cardboard*

2123 *Office paper supplies*

2215 *Postcards, greeting cards, pictures and similar printed matter*

**Manufacture of paper**

7133 **Rental services of office machinery and equipment including computers**

7140 *Rental of consumer goods*

**Rental**

***II. Interdependent copyright industries***

1740 *Made-up textile articles*

1753 *Non-wovens and articles made from non-wovens*

1754 *Other textiles n.e.c.*

1810 *Leather clothes*

1822	<i>Outerwear</i>
1823	<i>Underwear</i>
1824	<i>Other wearing apparel and accessories n.e.c.</i>
1830	<i>Furs</i>
1930	<i>Footwear</i>
	<b>Apparel, textiles and footwear</b>
3621	<i>Coins</i>
3622	<i>Jewelry</i>
3661	<i>Imitation jewelry</i>
	<b>Jewelry and coins</b>
2051	<i>Other wooden goods</i>
2875	<i>Other metallic goods</i>
	<b>Other crafts</b>
3611	<i>Chairs and benches</i>
3612	<i>Office furniture</i>
3613	<i>Kitchen furniture</i>
3614	<i>Other furniture</i>
	<b>Furniture</b>
2613	<i>Hollow glass</i>
2621	<i>Ceramic household and ornamental articles</i>
2630	<i>Ceramic tiles</i>
	<b>Household goods, china and glass</b>
1751	<i>Carpets and rugs</i>
2124	<i>Manufacture of wall coverings</i>
	<b>Wall coverings and carpets</b>
3650	<i>Games and toys</i>
	<b>Toys and computer games</b>
7420	<i>Software consultancy and supply services</i>
7487	<i>Other economic services n .e. c.</i>
	<b>Architecture, engineering, surveying</b>
9252	<i>Museum services and preservation of the cultural heritage</i>
	<b>Museums</b>
5147	<i>Wholesale trade services of other household goods</i>
5143	<i>Wholesale trade services of electrical appliances</i>
5145	<i>Retail trade services of electrical appliances</i>
5248	<i>Other retail trade services in specialized stores</i>
5116	<i>Wholesale trade services of apparel, footwear and leather garments</i>
5242	<i>Retail trade services of apparel</i>
5243	<i>Retail trade services of footwear and leather garments</i>
5244	<i>Retail trade services of furniture and household appliances</i>

**Trade**

***III: Partial copyright industries***

**G** *Trade, repair services*  
**I** *Transportation, storage, communication*

***IV. Non-dedicated support industries***

**TOTAL OF NATIONAL ECONOMY**



## Appendix No. 2

### **Statistical definitions**

**Gross output:** the aggregate total of products and services produced by a given economic association for the purposes of other economic associations and for end use by an economic association. Output is assessed on the basis of the Hungarian National Accounts.

**Intermediate consumption:** the value of products and services purchased during production from other producers in the period of account clearing and used for the production of new products and services. The depreciation of fixed assets is not part of intermediate consumption. Intermediate consumption is valued at market purchase prices.

**Gross domestic product (GDP):** the balance of the total value of gross added value produced by industries or sectors assessed on basic prices and the indirectly-measured commodity taxes reduced by product subsidies minus the cost of financial intermediation services indirectly measured. The GDP is thus an index assessed at market value. GDP can be defined from three different aspects:

- in terms of production:**
  - + sum of gross added value calculated on basic cost
  - + commodity taxes
  - product subsidies
  - the cost of financial intermediation services indirectly measured (internationally used acronym: FISIM)
  
- in terms of consumption:**
  - + final household consumption expenditure
  - + final government consumption expenditure
  - + final consumption expenditure of non-profit organisations
  - + gross accumulation of fixed assets
  - + inventory changes
  - + export costs
  - import costs
  
- in terms of incomes:**
  - + wages and earnings
  - + social security contributions
  - production subsidies
  - + production taxes
  - + gross operating profit, and miscellaneous income
  - + commodity taxes
  - product subsidies
  - the fee of financial intermediation services indirectly measured (internationally used acronym: FISIM)

Some of the fundamental principles of production:

- Gross added value** of basic cost:
- + gross output (on basic cost)
  - intermediate consumption (at market purchase price)

**Employee income:** part of macroeconomic calculations. This includes all remuneration given by the employer both in money and in kind in consideration for the work performed by the employee. It consists of two main components: wages and earnings, and the social security contribution paid by the employer.

**Social security contributions paid by employer:** employee incomes over and above wages and earnings are used to ensure that employee can have access to social services. Two main types:

- Real contributions paid by the employer into social security systems or other mandatory insurance systems;
- Imputed social security contributions including: benefits provided by the employer through means other than the social security system and for which the employers do not allocate a separate fund. This may be, for example, sick leave benefit paid for the period set out by the law.

**Economic sectors:** the organisational units of the economy may be classified in five separate sectors:

- companies
- financial companies
- households
- government
- non-profit organisations assisting households.

**Corporate sector:** all enterprises with a legal person status and all economic associations without legal person status, with the exception of companies engaged in financial activities as their main activity. This sector includes non-profit institutions that are engaged in market production and cover their expenses mainly from sales revenue. For example, employer interest representatives.

**Government sector:** central and local government-funded institutions, allocated government funds, and social security funds used in activities in accordance with the budget directives.

**Households:** households can be classified in this category on two grounds. They may either be consuming or productive organisations. This latter includes small enterprises falling under the scope of the personal income tax law. The National Accounts therefore account for the performance and employee incomes of one-man enterprises under the household sector.

**Non-profit organisations assisting households:** this includes non-profit institutions that are not directly controlled by the government and whose operations are primarily funded by private support.

**Occupied:** any person who in the week observed performed at least one hour of paid work or had a job where he/she did not temporarily perform any work (e.g. sick leave, holiday).

**Employee:** an employee performing a regular income earning job for an enterprise, budgetary or non-profit organisation (including seasonal workers).

## Appendix No. 3

### The economic contribution of copyright based sectors in 2002 in Hungary (wholesale and retail shown separately)

	HUF M		%		HUF M		%		incomes		employees	
									HUF M	%	people	%
<b>Press and literature</b>	182 019	1,229	512 077	1,453	111 233	1,443	61 039	1,559				
Music, theatrical productions, opera	78 579	0,531	147 609	0,419	36 816	0,478	25 182	0,643				
Motion pictures and video	18 770	0,127	67 715	0,192	10 922	0,142	6 156	0,157				
Radio and television	60 912	0,411	175 595	0,498	25 970	0,337	9 139	0,233				
Photography	7 639	0,052	16 005	0,045	2 830	0,037	3 578	0,091				
Software and databases	191 727	1,295	346 359	0,983	109 170	1,416	45 196	1,155				
Advertising	39 193	0,265	101 641	0,288	21 036	0,273	12 270	0,313				
Professional organisations	7 732	0,052	24 891	0,071	7 231	0,094	15	0,000				
<b>I. CORE COPYRIGHT INDUSTRIES</b>	<b>586 571</b>	<b>3,961</b>	<b>1 391 892</b>	<b>3,950</b>	<b>325 208</b>	<b>4,218</b>	<b>162 575</b>	<b>4,154</b>				
Manufacture of televisions, radios, etc.	91 031	0,615	965 388	2,740	46 976	0,609	16 579	0,424				
Manufacture of computers and equipment	28 896	0,195	454 743	1,290	29 388	0,381	13 797	0,352				
Manufacture of musical instruments	1 097	0,007	1 931	0,005	458	0,006	468	0,012				
Manufacture of photographic and cinematographic instruments	2 213	0,015	5094	0,014	1 367	0,018	807	0,021				
Manufacture of photocopyers	1384	0,009	3930	0,011	1 402	0,018	406	0,010				
Manufacture of blank recording material	669	0,005	2038	0,006	268	0,003	380	0,010				
Manufacture of paper	16 654	0,112	66 451	0,189	8 284	0,107	3 896	0,100				
Rental	20 561	0,139	28088	0,080	4 605	0,060	3 447	0,088				
Wholesale and retail of interdependent copyright industries	22 336	0,151	55 875	0,159	12 643	0,164	9 249	0,236				
<b>II. INTERDEPENDENT COPYRIGHT INDUSTRIES</b>	<b>184 841</b>	<b>1,248</b>	<b>1 583 538</b>	<b>4,494</b>	<b>105 391</b>	<b>1,367</b>	<b>49 029</b>	<b>1,253</b>				



Apparel, textiles and footwear	717	0,005	2 813	0,008	583	0,008	506	0,013
Jewelry and coins	1 024	0,007	2 017	0,006	404	0,005	539	0,014
Other crafts	8 860	0,060	25 039	0,071	5 375	0,070	4 780	0,122
Furniture	2 283	0,015	7 136	0,020	1 586	0,021	1 264	0,032
Household goods, china and glass	112	0,001	233	0,001	51	0,001	48	0,001
Wall coverings and carpets	25	0,000	123	0,000	18	0,000	20	0,001
Toys and computer games	1 797	0,012	4 718	0,013	1 365	0,018	1 427	0,036
Architecture, engineering, surveying	33 578	0,227	61 921	0,176	16 487	0,214	9 510	0,243
Museums	12 028	0,081	21 500	0,061	9 264	0,120	2 680	0,068
Wholesale and retail of partial copyright industries	6 263	0,042	12 577	0,036	3 118	0,040	3 394	0,087
<b>III. PARTIAL COPYRIGHT INDUSTRIES</b>	<b>66 687</b>	<b>0,450</b>	<b>138 077</b>	<b>0,392</b>	<b>38 251</b>	<b>0,496</b>	<b>24 168</b>	<b>0,617</b>
General trade	82 946	0,560	174 853	0,496	45 250	0,587	24 700	0,631
Transportation, storage, communication	66 388	0,448	124 186	0,352	38 622	0,501	17 500	0,447
<b>IV. NON-DEDICATED SUPPORT INDUSTRIES</b>	<b>149 334</b>	<b>1,008</b>	<b>299 039</b>	<b>0,849</b>	<b>83 872</b>	<b>1,088</b>	<b>42 200</b>	<b>1,078</b>
<b>COPYRIGHT-BASED INDUSTRIES (I-II-III-IV)</b>	<b>987 433</b>	<b>6,668</b>	<b>3 412 546</b>	<b>9,684</b>	<b>552 722</b>	<b>7,169</b>	<b>277 972</b>	<b>7,102</b>
<b>TOTAL OF NATIONAL ECONOMY</b>	<b>14 807 634</b>	<b>100,000</b>	<b>35 239 550</b>	<b>100,000</b>	<b>7 710 098</b>	<b>100,000</b>	<b>3 914 163</b>	<b>100,000</b>

\* Data on trade and rental activities are shown separately.



## Appendix No. 4

### The economic contribution of copyright based industries in Hungary in 2002 (including wholesale and retail)

	GDP		Gross output		Employee incomes		Number of employees	
	Mft	%	Mft	%	Mft	%	fő	%
<b>Press and literature</b>	182 019	1,229	512 077	1,453	111 233	1,443	61 039	1,559
<b>Music, theatrical productions, opera</b>	78 579	0,531	147 609	0,419	36 816	0,478	25 182	0,643
<b>Motion pictures and video</b>	18 770	0,127	67 715	0,192	10 922	0,142	6 156	0,157
<b>Radio and television</b>	60 912	0,411	175 595	0,498	25 970	0,337	9 139	0,233
<b>Photography</b>	7 639	0,052	16 005	0,045	2 830	0,037	3 578	0,091
<b>Software and databases</b>	191 727	1,295	346 359	0,983	109 170	1,416	45 196	1,155
<b>Advertising</b>	39 193	0,265	101 641	0,288	21 036	0,273	12 270	0,313
<b>Professional organisations</b>	7 732	0,052	24 891	0,071	7 231	0,094	15	0,000
<b>I. CORE COPYRIGHT INDUSTRIES</b>	<b>586 571</b>	<b>3,961</b>	<b>1 391 892</b>	<b>3,950</b>	<b>325 208</b>	<b>4,218</b>	<b>162 575</b>	<b>4,154</b>
Televitions, radios, etc.	123 290	0,833	1 028 528	2,919	59 947	0,778	26 126	0,667
Computers	39 148	0,264	474 810	1,347	33 511	0,435	16 832	0,430
Musical instruments	1 483	0,010	2 687	0,008	612	0,008	582	0,015
Photographic and cinematographic instruments	2 213	0,015	5094	0,014	1 367	0,018	807	0,021
Photocopiers	1384	0,009	3930	0,011	1 402	0,018	406	0,010
Blank recording material	669	0,005	2038	0,006	268	0,003	380	0,010
Paper	16 654	0,112	66 451	0,189	8 284	0,107	3 896	0,100
<b>II. INTERDEPENDENT COPYRIGHT INDUSTRIES</b>	<b>184 841</b>	<b>1,248</b>	<b>1 583 538</b>	<b>4,494</b>	<b>105 391</b>	<b>1,367</b>	<b>49 029</b>	<b>1,253</b>
Apparel, textiles and footwear	4 025	0,027	9 370	0,027	2 045	0,027	2 539	0,065
Jewelry and coins	1 201	0,008	2 366	0,007	496	0,006	617	0,016
Other crafts	10 382	0,070	28 043	0,080	6 168	0,080	5 454	0,139
Furniture	3 209	0,022	9 150	0,026	2 184	0,028	1 727	0,044

Household goods, china and glass	130	0,001	269	0,001	61	0,001	56	0,001
Wall coverings and carpets	29	0,000	131	0,000	20	0,000	21	0,001
Toys and computer games	2 105	0,014	5 327	0,015	1 526	0,020	1 564	0,040
Architecture, engineering, surveying	33 578	0,227	61 921	0,176	16 487	0,214	9 510	0,243
Museums	12 028	0,081	21 500	0,061	9 264	0,120	2 680	0,068
<b>III. PARTIAL COPYRIGHT INDUSTRIES</b>	<b>66 687</b>	<b>0,450</b>	<b>138 077</b>	<b>0,392</b>	<b>38 251</b>	<b>0,496</b>	<b>24 168</b>	<b>0,617</b>
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<b>COPYRIGHT-BASED INDUSTRIES (I.-II.-III.-IV.)</b>	<b>987 433</b>	<b>6,668</b>	<b>3 412 546</b>	<b>9,684</b>	<b>552 722</b>	<b>7,169</b>	<b>277 972</b>	<b>7,102</b>
<b>TOTAL OF NATIONAL ECONOMY</b>	<b>14 807 634</b>	<b>100,000</b>	<b>35 239 550</b>	<b>100,000</b>	<b>7 710 098</b>	<b>100,000</b>	<b>3 914 163</b>	<b>100,000</b>

\* Data relating to retail and wholesale rental are not shown separately, but have been distributed in proportion to production and employment.



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