

COPYRIGHT INDUSTRIES IN THE U.S. ECONOMY

T H E 2 0 0 2 R E P O R T



By
Stephen E. Siwek
Economists Incorporated

Prepared for the
International Intellectual Property Alliance®

COPYRIGHT INDUSTRIES IN THE U.S. ECONOMY THE 2002 REPORT

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Copyright Industries in the U.S. Economy: The 2002 Report updates and supplements eight previous reports produced by Economists Incorporated for the International Intellectual Property Alliance:

Siwek and Furchtgott-Roth, *Copyright Industries in the U.S. Economy* (released in November 1990)

Siwek and Furchtgott-Roth, *Copyright Industries in the U.S. Economy: 1977-1990* (released in September 1992)

Siwek and Furchtgott-Roth, *Copyright Industries in the U.S. Economy: 1993 Perspective* (released in October 1993)

Siwek and Furchtgott-Roth, *Copyright Industries in the U.S. Economy: 1977-1993* (released in January 1995)

Siwek and Mosteller, *Copyright Industries in the U.S. Economy: The 1996 Report* (released in October 1996)

Siwek and Mosteller, *Copyright Industries in the U.S. Economy: The 1998 Report* (released in May 1998)

Siwek, *Copyright Industries in the U.S. Economy: The 1999 Report* (released in December 1999)

Siwek, *Copyright Industries in the U.S. Economy: The 2000 Report* (released in December 2000)

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About the Author

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Economists Incorporated is grateful to the International Intellectual Property Alliance (IIPA) and its member associations for their support and assistance in the drafting of this report. In particular, we would like to thank the staff of the IIPA, including Eric H. Smith, Steven J. Metalitz, Maria Strong, Eric J. Schwartz, and Michael N. Schlesinger, for their comments. Formed in 1984, the IIPA is a private sector coalition comprised of six trade associations with the objective of representing the U.S. copyright-based industries in bilateral and multilateral efforts to improve international protection of copyrighted materials. IIPA's member associations represent over 1,100 U.S. companies 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).

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Our research associate, Sharon Su, performed much of the underlying research and computer work that was used throughout this 2002 report.



Foreword

from Eric H. Smith, President of the
Intellectual International Property Alliance (IIPA)

In 1990, IIPA commissioned Economists Incorporated to issue a report seeking, for the first time, to measure the economic impact and trade role of a collection of otherwise disparate industries whose principal connection with each other was their reliance on copyright protection. Prior to that time, only a very few countries — Sweden (1978) and Germany and Austria (1986) — had sought to assess their own “copyright industries” as a whole. Our 1990 report was the first to group together the various elements of the U.S. copyright-based industries, to rigorously define them, and to provide comprehensive statistics on their contribution to gross domestic product (GDP), employment and trade. Since that time, as the perception of the importance of intellectual property has grown, other countries have also begun to evaluate the role of these and other intellectual property-based industries to their own economies, through studies based on the pioneering work of Economists Incorporated.¹ What our 1990 study found has proven true around the globe — the copyright-based industries comprise one of the fastest growing sectors of the economy, and make significant contributions to domestic job and revenue growth as well as to international trade. Both in developed and developing countries, these studies have generally reported contributions to GDP in the 3-6% range of their total national economies.

In the U.S., the 2001 statistics presented in this report tell us that this remarkable story continues. These industries continue to have a major impact on growth and productivity in a time of otherwise slow global growth rates. While in 1990 this collective economic impact was a surprising discovery to us all, today — as we look optimistically forward at the great potential of a world of e-commerce — the importance of the creative industries in the U.S. is almost taken for granted. Intellectual property and its proper protection on a global level have entered the consciousness of all global economic policy makers. We like to think that the Economists Incorporated studies over the past dozen years, of which this is the ninth, have contributed to this remarkable development.

The U.S. copyright-based industries include those represented in the IIPA, namely the producers of all types of computer software, including business software and entertainment software (such as videogame CD-ROMs and cartridges, personal computer CD-ROMs, and multimedia products); theatrical films, television programs, DVDs and home video and digital representations of audiovisual works; music; records, CDs and audiocassettes; and textbooks, trade books, reference and professional publications and journals (in electronic and print media). They all have one critical common element — they all depend on strong copyright laws and effective enforcement of those laws for their livelihood, indeed survival. In 1984, the U.S. trade associations representing these industries, now consisting of over 1,100 U.S. companies, came together in the International Intellectual Property Alliance (IIPA) to speak with one voice on the importance of strong copyright protection and enforcement to the growth of creative industries, not only in the U.S., but in virtually every country in the world.

The 2002 edition of Economists Incorporated’s far-reaching report (covering data through 2001) shows once again how significantly the U.S. copyright industries contribute to U.S. job and revenue growth and to U.S. international trade. The facts about the “core” copyright industries speak for themselves:

- In 2001, the U.S. copyright industries accounted for 5.24% of U.S. Gross Domestic Product (GDP), or \$535.1 billion — an increase of over \$75 billion from 1999 and exceeding 5.0% of the economy and one-half trillion dollars for the first time;
- Over the last 24 years (1977-2001), the U.S. copyright industries’ share of the GDP grew more than twice as fast as the remainder of the U.S. economy (7.0% vs. 3.0%);
- Between 1977 and 2001, employment in the U.S. copyright industries more than doubled to 4.7 million workers, which is now 3.5% of total U.S. employment;
- Between 1977 and 2001, the U.S. copyright industries’ average annual employment grew more than three times as fast as the remainder of the U.S. economy (5.0% vs. 1.5%);
- In 2001, the U.S. copyright industries achieved estimated foreign sales and exports of \$88.97 billion, again leading all major industry sectors including: chemicals and allied products; motor vehicles; equipment and parts; aircraft and aircraft parts; and the agricultural sector.

But the contributions of these “core” copyright industries — a term coined by the 1990 study — do not tell the whole story. When upstream and downstream revenue and employment are factored in to create figures reflecting the “total” copyright industries, the results are even more striking. For example, employment in the “total” copyright industries in 2001 was 8 million people, close to 6% of all U.S. employment.

U.S. copyright-based companies continue to be the leading edge of the world’s high technology, entertainment, and publishing industries. As we look forward to the great potential offered by on-line commerce, these industries are even more committed to the conviction that robust copyright protection and enforcement, in traditional markets and in the world of the Internet, will remain indispensable to strong economic growth, both here and abroad.

¹ For example: in the copyright area, the United Kingdom (1993), India (2000), Netherlands (2000), Finland (2000), Australia (2001), Japan (2001), and Mercosur (Argentina, Brazil, Chile, Paraguay and Uruguay, forthcoming 2002).



Executive Summary

This 2002 study by Economists Incorporated for the International Intellectual Property Alliance (IIPA) demonstrates, for the eleventh straight year, that the U.S. copyright industries continue to be one of the fastest growing segments of the U.S. economy. This study details the importance of the copyright industries to the U.S. economy based on three economic indicators: (1) value added to gross domestic product (GDP); (2) share of national employment; and (3) revenues generated from foreign sales and exports.

This study updates eight prior studies and extends the earlier analyses to include 2000 and 2001 data for employment measures, copyright industry value added, and foreign sales for the core copyright industries.

Contribution to the U.S. Economy

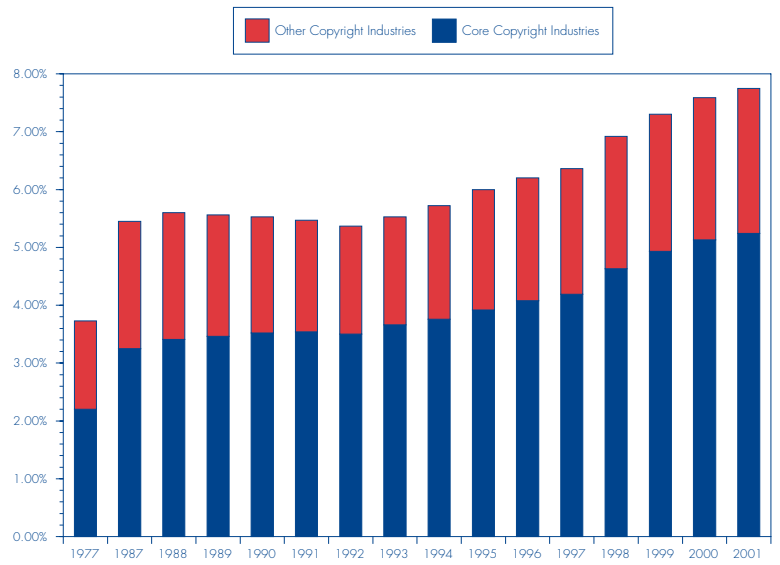
The U.S. copyright industries contribute a significant share to the U.S. economy, measured by value added, and reflected in their share of GDP (Gross Domestic Product). These industries also continue to grow at a rate higher than the U.S. economy as a whole.

In 2001, the core copyright industries¹ contributed an estimated \$535.1 billion to the

U.S. economy, accounting for approximately 5.24% of GDP (Chart 1). This contribution represents an average annual increase of 5.82% for the period 1999-2001. Between 1977 and 2001, the value added to GDP by the core copyright industries increased by an average annual rate of 7.01%.

In 2001, the total copyright industries² contributed an estimated \$791.2 billion to the U.S. economy, account-

CHART 1: Copyright Industries: Value Added Contribution to GDP as Share of GDP

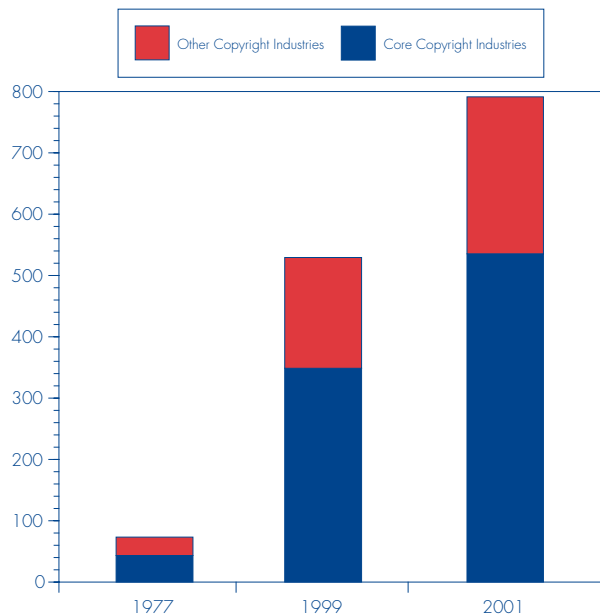


¹ The "core" copyright industries encompass those industries that create copyrighted materials as their primary product. These industries include the motion picture industry (television, theatrical, and home video), the recording industry (records, tapes and CDs), the music publishing industry, the book, journal and newspaper publishing industry, the computer software industry (including data processing, business applications and interactive entertainment software on all platforms), legitimate theater, advertising, and the radio, television and cable broadcasting industries.

² The "total" copyright industries encompass the "core" industries and portions of many other industries which either create, distribute, or depend upon copyrighted materials. Examples include retail trade (a portion of which is sales of video, audio, software, and books, for example), the doll and toy industry, and computer manufacturing.

CHART 2: Copyright Industries: Value Added Contribution to GDP Real Values

(in billions of 2001 dollars)



ing for approximately 7.75% of GDP. This 2001 value represented an annual increase of 5.75% from 1999 when these industries accounted for \$707.5 billion in value added (in real 2001 dollars), or approximately 7.30% of GDP (Chart 2). The value added to GDP by the total copyright industries between 1977 and 2001 increased by 6.9% per year.

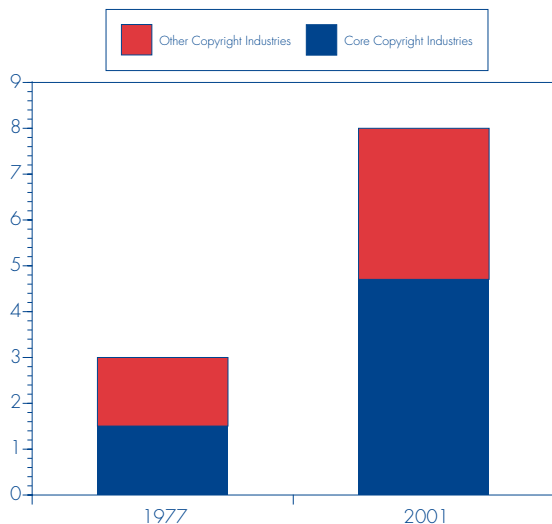
The real annual growth rate of the core copyright industries (adjusted for inflation) has been more than double the growth rate of the economy as a whole. Over the last 24 years (1977-2001), the core copyright industries grew at an estimated compound annual growth rate of 7.0% while the rest of the U.S. economy grew at an annual rate of 3.0%.

Employment

The copyright industries have created jobs at a much faster rate than many leading sectors of the economy. Moreover, more U.S. workers are employed in the copyright industries than in many leading industries such as aircraft manufacturing, motor vehicle manufacturing, steel mills, pharmaceuticals, or textiles and apparel.

CHART 3: Copyright Industries: Employment

(in thousands)



Employment in the core copyright industries grew from 1.6% (1.5 million workers) of the U.S. workforce in 1977 to 3.5% (4.7 million workers) in 2001 (Chart 3). Total copyright employment grew from 3.3% (3 million workers) of the U.S. workforce in 1977 to 5.9% (8 million workers) in 2001 (See charts 3 and 4).

Foreign Sales and Exports

Foreign sales and exports of the core copyright industries, for the most part, continue to grow rapidly. Preliminary estimates conservatively measure exports and foreign sales of the core copyright industries to be at least \$88.97 billion in 2001 (Chart 5). This represents a 9.4% annual gain over the revised 1999 foreign sales and exports figure of \$79.41 billion.

For example, exports and foreign sales in the computer software and motion picture sectors have continued to rise in recent years. However, certain copyright industries, most notably pre-recorded records and tapes, have experienced slower growth in legitimate foreign sales (below historical norms), and even declines, due, in part, to the proliferation

Estimated Average Annual Real Growth Rate

	1977-01	1987-01	1997-01
Core Copyright Industries	7.0	7.0	9.4
Remainder of the U.S. Economy	3.0	3.2	3.0

of new technologies that facilitate the distribution of pirated music.

The copyright industries' foreign sales and exports are larger than the U.S.

Commerce Department's International Trade Administration estimates of the exports of almost all other leading industry sectors. For 2001, they exceeded the chemicals and allied products, motor vehicles,

equipment, and parts, aircraft and aircraft parts, agricultural sector, electronic components and accessories, and computer and peripherals sectors (Chart 6).

Annual Growth Rate of Foreign Sales and Exports

Year	1991	1995	1996	1997	1998	1999	2000	2001
Growth Rate	6.4%	9.9%	13.3%	11.1%	3.5%	14.7%	7.6%	4.1%

CHART 4: Copyright Industries: Share of National Employment

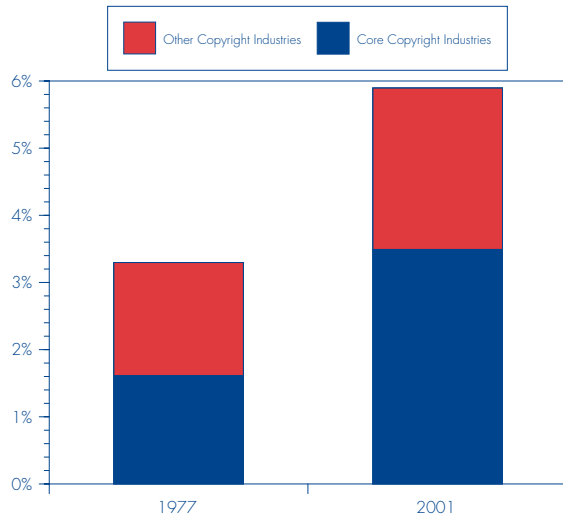


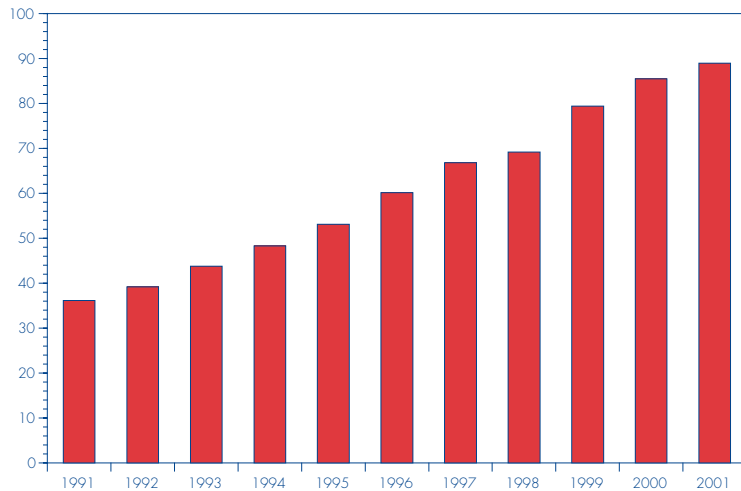
CHART 6: Foreign Sales/Exports for Selected Industries 2000 and 2001

(in billions of dollars)

INDUSTRY	FOREIGN SALES/EXPORTS	
	2000	2001
Core Copyright Industries	85.46	88.97
Chemicals and Allied Products	74.43	74.68
Motor Vehicles, Equipment, and Parts	59.81	56.52
Aircraft and Aircraft Parts	51.52	55.31
Agricultural Sector	50.90	53.00
Electronic Components & Accessories	63.34	48.26
Computer & Peripherals	44.19	36.99

CHART 5: Foreign Sales and Exports

(in billions of dollars)





I. Introduction

A series of reports issued over the last eleven years show that the U.S. copyright industries have far outpaced the rest of the economy in growth of contribution to gross domestic product, and in growth of jobs.³ This report demonstrates that this trend continues.

The U.S. economy grew rapidly in 2000, but the rate of growth declined sharply in 2001, with GDP growth attaining rates of 4.1% and 1.2% respectively. Once again, the U.S. copyright industries were able to outperform the economy as a whole during these years, generating higher growth rates in both value added and employment.

As in previous years, this study is presented in five sections:

- The copyright industries

- Value added by the copyright industries
- Employment in the copyright industries
- U.S. copyrighted material in the world market
- Conclusion

Appendix A presents data tables for the study. Appendix B is the list of references for the report. Appendix C explains the U.S. government's new industrial classification system, the North American Industry Classification System (NAICS), which will be used in future studies.⁴ This 2002 report also reflects revisions in published GDP figures for past years by Bureau of Economic Analysis ("BEA") as part of publishing of current figures.

³ In 1990, Siwek and Furchtgott-Roth reported that value added and employment in the copyright industries had been growing more rapidly than the remainder of the U.S. economy since 1977. In September 1992, they supplemented their initial study and concluded that the copyright industries had grown more rapidly than the remainder of the economy during the years 1987-1990. In October 1993, they found the same pattern of growth in the copyright industries for the period 1987-1991. In January 1995, the fourth study found that these trends continued in the 1987-1992 period, and included analysis based on 1993 estimates. In October 1996, Siwek and Mosteller reported a continuation of these trends for the periods 1987-1993 and 1987-1994. In the 1998 Report, Siwek and Mosteller updated previous studies to include actual data for 1995 and 1996 as well as revisions of data for 1993 and 1994. In addition, Siwek and Mosteller reported certain 1996 figures for foreign sales and exports of core copyright industries. Three subsequent reports by Economists Incorporated in 1998, 1999 and 2000 confirmed that these trends continued through 1999.

⁴ In our previous report, *Copyright Industries in the U.S. Economy: The 2000 Report*, we anticipated that future reports would rely on data classified according to the North American Industry Classification System ("NAICS"). Contrary to our expectations, the reorganization of the underlining data used in this report under the NAICS system was not completed in the time frame that we had forecasted. For this reason, this 2002 report retains use of our prior industry classification, the Standard Industrial Classification System ("SIC"). For further details, see Appendix C.



II. The Copyright Industries

For many years, the U.S. federal government has collected and maintained economic information on U.S. firms within a classification system known as the Standard Industrial Classification (SIC) systems.⁵ The system organizes more than one thousand industries into broader groups and divisions such as construction, manufacturing and services. The U.S. government data are organized in a manner that makes it easy to measure the size and growth of industries that conform exactly to SIC codes (such as drug manufacturing, SIC Industry Group 283).

The aggregate U.S. industry that depends on copyright protection, however, does not conform to these SIC classifications. Some portions of this industry are classified as manufacturing, such as book publishing and recorded music. Other parts of the industry, such as computer software and motion pictures, are classified as services. The products of portions of some industries, such as architectural services, are covered by copyright protection, while other portions of the industry are not. Consequently, measurement of the size and growth of the copyright industries with U.S. government data is not a straightforward task.

As described in more detail in Appendix C, the U.S. Government is in the midst of converting its industrial reporting statistics from SIC categories to a new system known as the North American Industrial Classification System (NAICS). For the writing of this 2002 Report, NAICS

statistics are available for certain industrial categories reported in the 1997 Census by the U.S. Census Bureau. However, the U.S. Bureau of Labor Statistics has not yet published industrial employment in NAICS. For this reason, this report still relies on SIC categories to define the copyright industries.

We divide the copyright industries into four groups, as we have done in prior reports.⁶ The first group is the core copyright industries, those industries that primarily create copyrighted works or produce copyright-protected materials.

The **core** industries include newspapers and periodicals, book publishing and related industries, music publishing, radio and television broadcasting, cable television, records and tapes, motion pictures, theatrical productions, advertising and computer software and data processing.⁷ Most of these industries are engaged primarily in the generation, production and dissemination of new copyrighted material. Some, such as software (including business, education and entertainment applications) and data processing, include both the generation of copyrighted material and its application.

The second group comprises the **partial** copyright industries, a disparate collection of industries, only part of whose products are copyrighted materials. These

⁵ See Executive Office of the President, Office of Management and Budget, *Standard Industrial Classification Manual*, 1987.

⁶ The "copyright industries" have traditionally been defined to include only the producers and a portion of the industries engaged in the physical production and distribution of books, newspapers, advertising, records, CDs, and pre-recorded tapes, music, motion pictures, television and radio programs and computer software. As we discuss in this report, this definition understates the importance of these industries to the U.S. economy as a whole.

⁷ Consistent with a prior amendment in our methodology, we report cable television system operators as part of the core copyright industries.

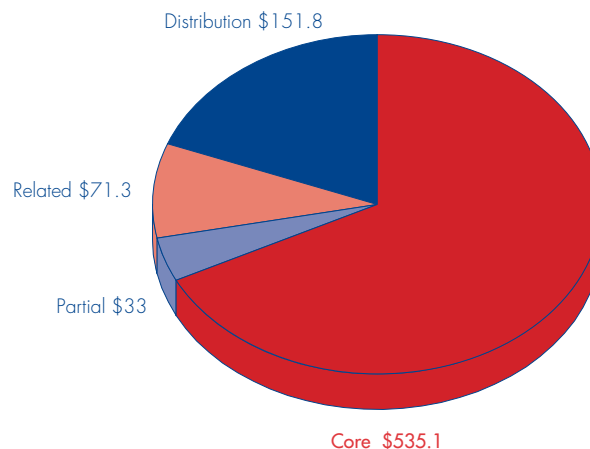
industries range from fabric to business forms to architecture. The third group, **distribution**, includes the industries that distribute copyrighted materials to businesses and consumers. Examples include transportation services, libraries, and wholesale and retail trade involved in the distribution of copyrighted products. The fourth group involves the **copyright-related** industries, those that produce and distribute products that are used wholly or principally in conjunction with copyrighted materials,⁸ such as computers, radios, televisions, and consumer recording and listening devices. We refer to the four groups together — core, partial, distribution, and related — as the **total** copyright industries.⁹

The copyright industry definitions used in this report reflect conservative assumptions. Many large and important industries with copyright activities have not been included because copyright activities were considered to be too diffuse within the industry to be measured. For example, schools, colleges, and universities are primary consumers of books and publications and are also a source of much copyrighted material. Yet, educational institutions have not been included among the list of copyright industries because copyright materials are diffused throughout the education establishment. Similarly, establishments that repair the computers and television sets that are consumed jointly with copyright products have not been included as a copyright industry in this study. Indeed, most industries in the U.S. economy either produce some copyrighted material, distribute some copyrighted material, or provide goods and services that are consumed principally in combination with copyrighted material.

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Copyright Industries in the U.S. Economy, 2001

(value added in billions of 2001 dollars)



Total: \$791.2 billion

Many firms manufacture equipment with embedded copyrighted material.¹⁰ Many firms also have internal activities, such as publishing and software development, which create and apply copyrighted works. Unless these firms have separate establishments that receive revenue directly for copyrighted works such as software, the contribution of the copyrighted material will not be captured in the measures of the copyright industries. Many firms in these industries do not have separate establishments that sell outside the firm. Consequently, in this study the measures of the economic importance of copyright industries — particularly for the partial, distribution, and related sectors — consistently **understate** the importance of copyrights in the economy.

⁸ For a detailed list of industries in each category, see Siwek and Furchtgott-Roth, 1990, Table 1.

⁹ Most of the charts in the text of this report focus on the core copyright industries, and the total for all four groups. More detailed data, including results for the other three groups, may be found in Appendix A.

¹⁰ For example, the following industries manufacture equipment substantially controlled by software: calculating and accounting equipment, office machines, telephone equipment, communications equipment, navigation equipment, electromedical equipment and photographic equipment.

III. Value Added by the Copyright Industries

The most appropriate way to measure an industry's contribution to the national economy, in our view, 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

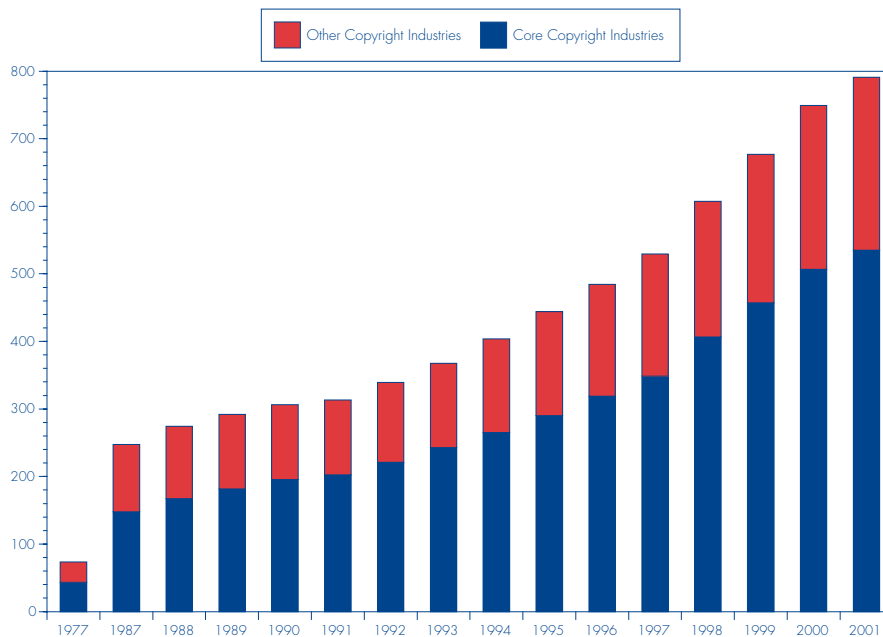
used to draw comparisons of the relative size and growth rates of different industries in a way that is consistent with the federal government's national income and product accounting data. Unfortunately, the underlying government data needed to derive industry specific value added figures has not been updated since 2000. In particular, industry-specific output measures for 2000 and 2001 are not available from government sources as of this writing. Accordingly, the

industry specific value added figures in this report reflect trends from prior years adjusted for recent developments in industry employment and likely output per employee.

Estimated value added by the copyright industries has continued to increase steadily since 1977. Chart 7 displays nominal value added for the copyright industries, broken down by copyright industry group, in 1977 and annually from 1987 to 2001.¹¹ Nominal value added by the core copyright industries has risen from \$43.4 billion in 1977 to \$506.8 billion in 2000 and to \$535.1 billion in 2001.¹² Total

CHART 7: Copyright Industries: Value Added Contribution to GDP

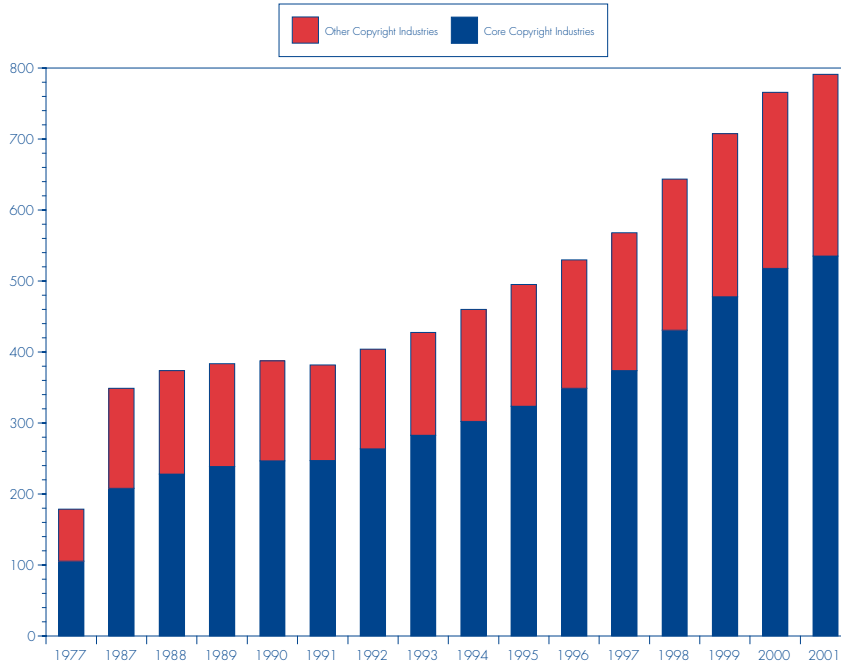
(nominal values, in billions of dollars)



¹¹ Nominal value added for a year is measured in dollars for that year and is not adjusted for inflation.

¹² Figures in Chart 7 and Table 1 have been updated to reflect revisions of government data.

**CHART 8: Copyright Industries:
Value Added Contribution to GDP**
(real values, in billions of dollars)



nominal value added for the copyright industries as a whole has increased from \$73.6 billion in 1977 to \$749.3 billion in 2000 and to \$791.2 billion in 2001.

The copyright industries have grown dramatically in real as well as nominal terms since 1977.¹³ Chart 8 presents value added for the copyright industry segments in 2001 dollars. The core copyright industries have grown from \$105.4 billion in 1977 to \$517.8 billion in 2000 and to \$535.1 billion in 2001. Total real value added for the four copyright categories combined rose from \$178.8 billion in 1977 to \$765.6 billion in 2000 and to \$791.2 billion in 2001.

**CHART 9: Copyright Industries:
Value Added Contribution to GDP**
(share of GDP)

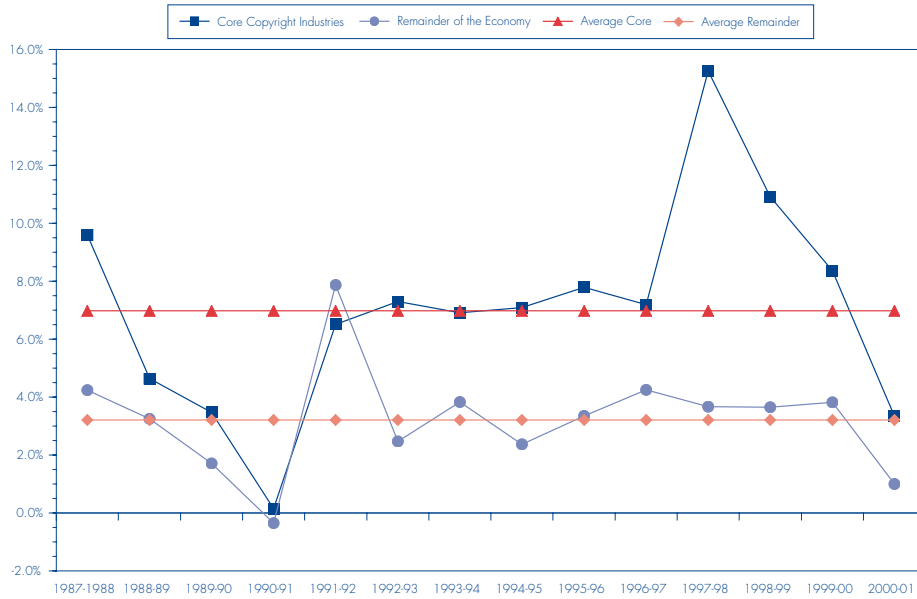


In addition to the improvements in absolute terms described in the previous paragraphs, the copyright industries have expanded their economic importance relative to the national economy. Chart 9 demonstrates the growing share of GDP attributable to the copyright industries. The share of the core copyright industries has increased steadily from 2.20% of GDP in 1977 to 3.25% of GDP in 1987 and to 5.24% of GDP in 2001. The combined share of all copyright industries has grown from 3.73% of GDP in 1977 to 5.45% of GDP in 1987 and to 7.75 percent of GDP in 2001.

As noted above, the growth rate in real U.S. GDP declined dramatically in 2001, falling from 4.14% (for the period 1999-2000) to

¹³ Real value added for a year is adjusted for inflation and is measured in dollar equivalents for a base year (in this case, 2001).

**CHART 10: Copyright Industries:
Value Added Contribution to GDP**
(real annual growth rate)



Indeed, the copyright industries have consistently grown at a faster rate than the remainder of the economy over the past 24 years. Chart 10 compares annual growth rates for the copyright industries with those for the remainder of the economy and the economy as a whole. As detailed in Appendix A, Table 4, during all the various periods surveyed, over the past quarter century, the core copyright industries have grown at least twice as fast, and since 1996 have grown nearly five times as fast, as the economy as a whole.

1.18% (for the period 2000-2001). Despite this reduction in U.S. economic activity, however, value added by the copyright industries continued to grow at rates well in excess of the economy as a whole. Real GDP for the core copyright industries rose by 8.36% (for the period 1999-2000) and by 3.34% (for the period 2000-2001).

In the period 1977-2001, the core copyright industries grew at an average annual rate of 7.0% (see Appendix A, Table 4). These rates are more than double the 3.0% average annual growth rate attained by the remainder of the economy and the 3.2% average annual rate of GDP growth for the whole economy during the same period.

The economic importance of the copyright industries relative to other sectors of the U.S. economy has been growing consistently over the years. In 2001, the core copyright industries alone were larger than any individual industry in the manufacturing sector, including chemicals, fabricated metals, plastic and rubber products, and electrical equipment, industrial machinery and equipment. In addition, the core copyright industries were, by themselves, larger than the food and beverage, textile, instruments, paper, aircraft, leather, tobacco, furniture, petroleum, coal, wood products, and primary metal manufacturing industries combined.



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 (BLS).

Chart 11 displays employment in the copyright industries, broken down by copyright industry group in 1977 and in the period 1987-2001. Employment in the four copyright industry groups combined has more than doubled from 3

million in 1977 to nearly 8.0 million in 2001. In core copyright industries, employment has grown even faster, from less than 1.5 million in 1977 to 4.7 million in 2001. Employment in the copyright industries has increased not only in absolute terms but also relative to the economy as a whole. As shown in Chart 12, employment in the copyright industries has grown from 3.30% of national employment in 1977 to 5.90% in 2001.

In terms of job growth, the copyright industries continue to outperform the remainder of the economy. Chart 13 compares the employment growth rates in the period

1977-2001 for the copyright industries and those for the remainder of the economy. Employment in the core copyright industries grew at a healthy average annual rate of 3.98% for the period 1999-2001, far surpassing the average annual rate for 0.44% attained by the remainder of the economy for the same period. In the period 1977-2001, jobs in the core copyright industries grew at an average annual rate of 4.93%, while the average annual rate for the four copyright industry groups combined was 4.10%. These growth rates are substantially higher than the 1.50% average annual growth rate attained by the remainder of the economy in those years.

CHART 11: Copyright Industries: Employment
(in thousands)

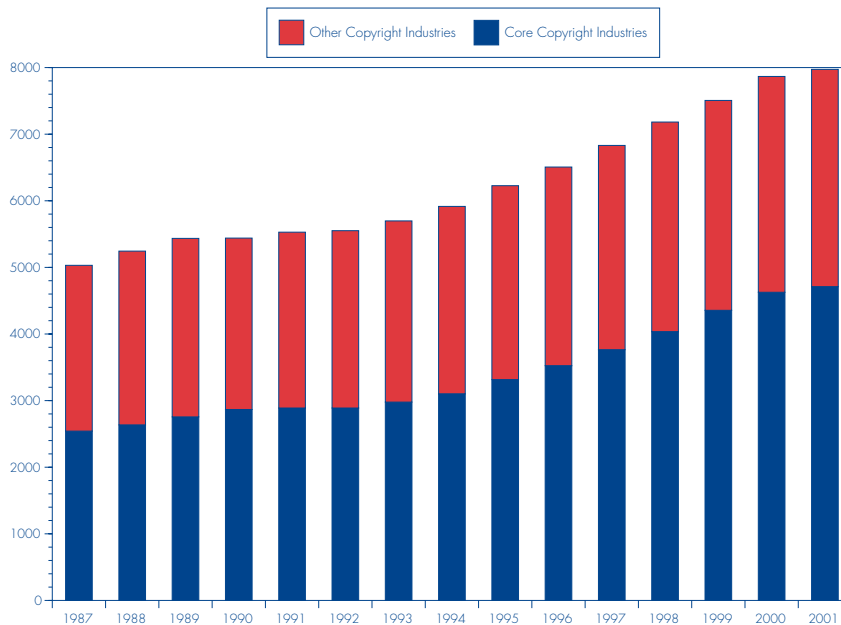
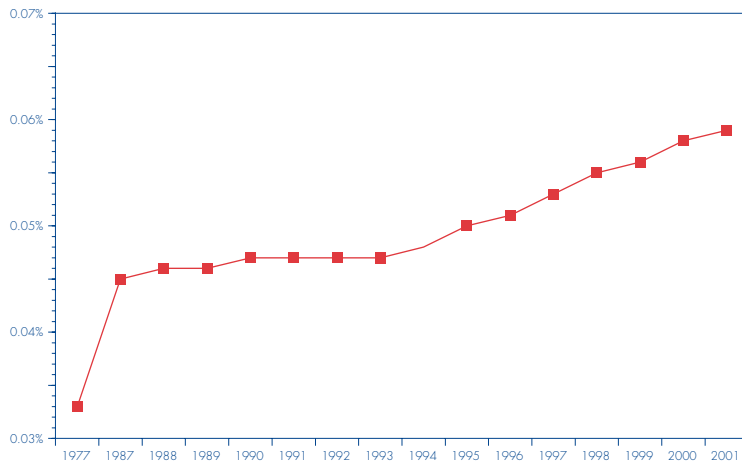


CHART 12: Copyright Industries: Employment
(share of national employment)



The copyright industries provide more jobs than many other sectors of the economy. Table 8 (in Appendix A) compares employment in the copyright industries, broken down by copyright industry group, to employment in non-copyright manufacturing industries. In 2001, the core copyright industries employed, by themselves, more workers than many non-copyright manufacturing sectors, including food and kindred products, industrial machinery, electronic equipment, and fabricated metal products. In addition, employment in the core copyright industries alone was higher than employment in the chemicals, textile, wood, paper, furniture, aircraft and aircraft parts, petroleum and coal industries combined.

CHART 13: Copyright Industries: Employment
(real annual growth rate)



V. U.S. Copyrighted Material in World Markets

A vast and growing number of products that embody American creativity are sold throughout the world every year.¹⁴ However, U.S. export statistics generally fail to accurately measure the value of American copyrighted works sold in foreign markets. As an example, a single master version of a copyrighted work, such as 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 may generate millions of dollars in sales. Consequently, the number in the export statistics may grossly underestimate the true value attributable to that product. These sales and the royalties they generate are a significant source of revenue for U.S. companies.

We have analyzed estimates of foreign sales and exports for the following groups of selected core copyright industries:

- ▶ pre-recorded records and tapes
- ▶ motion pictures, television and home videos
- ▶ computer software; and
- ▶ newspapers, books and periodicals.

CHART 14: Estimated Revenues Generated by Foreign Sales/Exports of Selected U.S. Core Copyright Industries
(in billions of dollars)

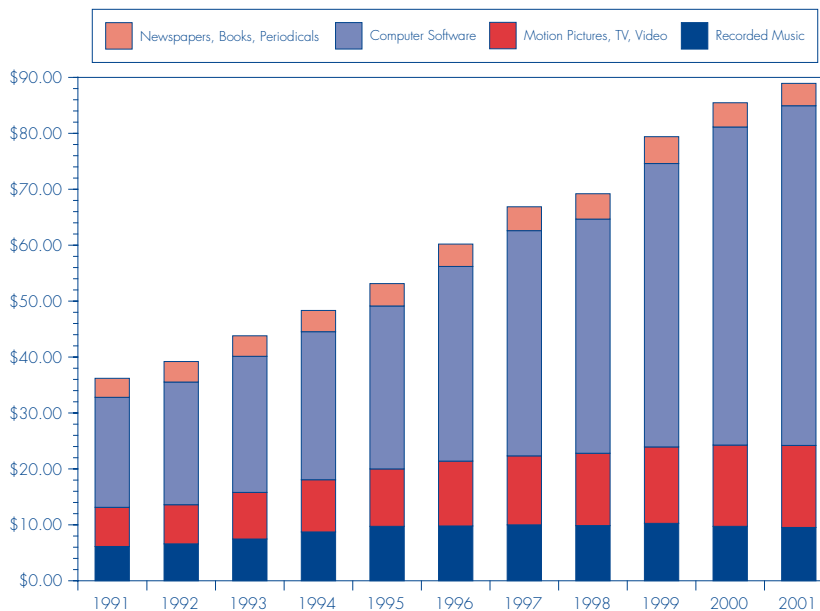


Chart 14 displays estimated foreign revenue for these four industry groups. Foreign sales and exports of computer software have consistently generated the highest dollar value and fastest growth, rising from \$19.65 billion in 1991 to \$60.74 billion in 2001. The growth rate of the motion picture industry over those years is not far behind; its foreign revenue rose from \$7.02 billion in 1991 to \$14.69 billion in 2001. Foreign sales for the pre-recorded record and tape industry were \$9.51 billion in 2001, which

¹⁴ Whether copyrighted products sold abroad are manufactured in the United States or overseas, the creative component emanates from the U.S., where it was nurtured by American copyright laws and protection.

represents a decline from the revised 1999 estimate of foreign sales of recorded music, which was \$10.27 billion. Nevertheless, total revenues generated in foreign markets by these four industry groups combined have grown from

\$36.19 billion in 1991 to \$88.97 billion in 2001, an average annual increase of 9.41% in the period from 1991 to 2001. From 2000 to 2001, foreign sales of these four U.S. core copyright industries increased 4.1%.

VI. Conclusion

For nearly a quarter of a century, the copyright industries have consistently outperformed the rest of the economy, in terms of contribution to GDP and employment levels, and have played an increasingly prominent role in the growth of U.S. exports. The results of this study demonstrate that these trends continued in 2000 and in 2001.

Value added in these industries has increased without interruption since 1977. The \$791.2 billion in value added accounted by the copyright industries in 2001 now represents 7.75% of U.S. GDP. And the copyright industries continue to grow far faster than the economy as a whole: indeed, at 6.4% annually over the last twenty-four years, almost twice as fast.

The same picture applies with regard to employment, with the core copyright industries alone accounting for 4.71 million U.S. jobs in 2001, nearly 3.5% of the entire labor

force. Job growth in the core copyright industries between 1999-2001 has far surpassed the rate for the non-copyright sectors of the economy, mirroring a trend that has been observed for the past two decades. Core copyright industry employment continues to dwarf that of many non-copyright manufacturing sectors.

Finally, while the U.S. continues to experience large and growing trade deficits, the copyright industries continue to thrive in overseas sales and exports. Four sectors within the core copyright industries alone accounted for nearly \$88.97 billion in foreign sales and exports in 2001, an annual increase of 9.41% from the period 1991 to 2001.

These consistent positive trends in value added, employment levels, and foreign sales and exports solidify the status of the copyright industries as a leading agent of U.S. economic growth over the past twenty-four years, and as a driving force of the information economy in the 21st century.



Appendix A: Tables of Statistics

TABLE 1: Copyright Industries Value Added Contribution to GDP: Nominal Values

(in billions of 2001 dollars)

Year	Core	Partial	Distribution	Related	Total	GDP
1977	43.4	5.2	15.1	10.0	73.6	1,974.1
1987	147.6	15.6	50.5	34.0	247.6	4,539.9
1988	167.3	17.1	55.8	34.2	274.3	4,900.4
1989	181.7	18.1	58.7	33.5	292.0	5,250.8
1990	195.3	19.0	60.0	32.2	306.5	5,546.1
1991	202.7	20.0	61.3	29.2	313.2	5,724.8
1992	221.2	21.2	66.3	30.5	339.2	6,318.9
1993	243.0	22.2	69.6	32.8	367.6	6,642.3
1994	265.2	23.8	76.4	38.3	403.8	7,054.3
1995	290.2	25.2	83.9	44.8	444.2	7,400.5
1996	318.9	26.3	88.6	50.6	484.4	7,813.2
1997	348.5	27.7	98.3	54.9	529.4	8,318.4
1998	406.6	29.0	112.3	59.4	607.3	8,781.5
1999	457.3	30.4	124.9	64.5	677.0	9,268.6
2000	506.8	32.0	141.0	69.5	749.3	9,872.9
2001	535.1	33.0	151.8	71.3	791.2	10,205.6

TABLE 2: Copyright Industries Value Added Contribution to GDP: Real Values

(in billions of 2001 dollars)

Year	Core	Partial	Distribution	Related	Total	Remainder	GDP
1977	105.4	12.5	36.6	24.2	178.8	4,616.6	4,795.4
1987	208.1	21.9	71.1	47.9	349.0	6,050.6	6,399.6
1988	228.0	23.3	76.0	46.6	374.0	6,307.3	6,681.3
1989	238.6	23.8	77.0	44.0	383.5	6,512.5	6,896.0
1990	246.9	24.0	75.8	40.8	387.5	6,623.5	7,011.0
1991	247.3	24.4	74.8	35.6	382.0	6,600.7	6,982.6
1992	263.4	25.3	79.0	36.3	403.9	7,120.4	7,524.3
1993	282.6	25.8	81.0	38.1	427.5	7,296.1	7,723.6
1994	302.1	27.1	87.1	43.7	460.0	7,575.2	8,035.2
1995	323.6	28.1	93.6	50.0	495.2	7,754.8	8,249.9
1996	348.8	28.8	96.9	55.3	529.8	8,014.8	8,544.5
1997	373.8	29.7	105.5	58.9	567.9	8,355.1	8,923.0
1998	430.8	30.7	119.1	63.0	643.6	8,662.1	9,305.7
1999	477.9	31.7	130.5	67.4	707.5	8,978.2	9,685.8
2000	517.8	32.7	144.1	71.0	765.6	9,321.3	10,086.9
2001	535.1	33.0	151.8	71.3	791.2	9,414.4	10,205.6

TABLE 3: Copyright Industries Value Added Contribution to GDP Share of GDP

Year	Core	Partial	Distribution	Related	Total	Remainder
1977	2.20%	0.26%	0.76%	0.51%	3.73%	96.27%
1987	3.25%	0.34%	1.11%	0.75%	5.45%	94.55%
1988	3.41%	0.35%	1.14%	0.70%	5.60%	94.40%
1989	3.46%	0.35%	1.12%	0.64%	5.56%	94.44%
1990	3.52%	0.34%	1.08%	0.58%	5.53%	94.47%
1991	3.54%	0.35%	1.07%	0.51%	5.47%	94.53%
1992	3.50%	0.34%	1.05%	0.48%	5.37%	94.63%
1993	3.66%	0.33%	1.05%	0.49%	5.53%	94.47%
1994	3.76%	0.34%	1.08%	0.54%	5.72%	94.28%
1995	3.92%	0.34%	1.13%	0.61%	6.00%	94.00%
1996	4.08%	0.34%	1.13%	0.65%	6.20%	93.80%
1997	4.19%	0.33%	1.18%	0.66%	6.36%	93.64%
1998	4.63%	0.33%	1.28%	0.68%	6.92%	93.08%
1999	4.93%	0.33%	1.35%	0.70%	7.30%	92.70%
2000	5.13%	0.32%	1.43%	0.70%	7.59%	92.41%
2001	5.24%	0.32%	1.49%	0.70%	7.75%	92.25%

TABLE 4: Copyright Industries Value Added Contribution to GDP: Real Annual Growth Rate

Year	Core	Partial	Distribution	Related	Total	Remainder	GDP
1987-1988	9.60%	6.22%	6.91%	-2.58%	7.17%	4.24%	4.40%
1988-1989	4.64%	2.19%	1.33%	-5.58%	2.54%	3.25%	3.21%
1989-1990	3.47%	0.94%	-1.63%	-7.41%	1.04%	1.71%	1.67%
1990-1991	0.15%	1.40%	-1.36%	-12.70%	-1.42%	-0.35%	-0.40%
1991-1992	6.51%	3.67%	5.62%	2.07%	5.74%	7.87%	7.76%
1992-1993	7.30%	2.08%	2.52%	5.03%	5.83%	2.47%	2.65%
1993-1994	6.91%	5.16%	7.57%	14.44%	7.60%	3.83%	4.03%
1994-1995	7.09%	3.44%	7.47%	14.47%	7.65%	2.37%	2.67%
1995-1996	7.79%	2.46%	3.57%	10.71%	6.99%	3.35%	3.57%
1996-1997	7.19%	3.32%	8.81%	6.41%	7.19%	4.25%	4.43%
1997-1998	15.26%	3.33%	12.88%	7.00%	13.34%	3.67%	4.29%
1998-1999	10.92%	3.33%	9.62%	7.00%	9.93%	3.65%	4.08%
1999-2000	8.36%	3.01%	10.41%	5.33%	8.21%	3.82%	4.14%
2000-2001	3.34%	0.85%	5.35%	0.44%	3.35%	1.00%	1.18%
Average 1977-2001	7.01%	4.11%	6.10%	4.60%	6.39%	3.01%	3.20%
Average 1977-2000	7.17%	4.25%	6.13%	4.79%	6.53%	3.10%	3.29%
Average 1996-2001	8.94%	2.76%	9.39%	2.57%	4.09%	1.62%	1.79%
Average 1987-2001	6.98%	2.95%	5.57%	2.89%	6.02%	3.21%	3.39%
Average 1996-2000	10.39%	3.25%	10.42%	6.43%	9.64%	3.85%	4.24%
Average 1997-2000	11.47%	3.22%	10.96%	6.44%	10.47%	3.71%	4.17%
Average 1997-1999	13.07%	3.33%	11.24%	7.00%	11.62%	3.66%	4.19%
Average 1997-2001	9.38%	2.63%	9.53%	4.91%	8.64%	3.03%	3.41%
Average 1999-2001	5.82%	1.92%	7.85%	2.85%	5.75%	2.40%	2.65%

TABLE 5: Copyright Industries: Employment
(in thousands)

Year	Core	Partial	Distribution	Related	Total	Remainder	Total Economy
1977	1,484.0	476.0	745.0	335.0	3,040.0	88,977.0	92,017.0
1987	2,541.8	611.9	1,298.3	581.0	5,033.0	107,407.0	112,440.0
1988	2,634.5	634.4	1,393.3	581.0	5,243.2	109,724.8	114,968.0
1989	2,757.1	670.1	1,427.3	582.9	5,437.4	111,904.6	117,342.0
1990	2,865.1	693.7	1,425.3	558.1	5,542.2	113,250.8	118,793.0
1991	2,890.6	711.4	1,393.5	535.3	5,530.7	112,187.3	117,718.0
1992	2,888.1	739.8	1,416.1	507.4	5,551.5	112,940.5	118,492.0
1993	2,978.2	785.4	1,448.2	484.4	5,696.1	114,562.9	120,259.0
1994	3,102.8	829.8	1,501.3	481.5	5,915.5	117,144.5	123,060.0
1995	3,316.9	878.2	1,559.0	473.9	6,228.0	118,672.0	124,900.0
1996	3,524.9	906.5	1,595.5	479.6	6,506.5	120,201.5	126,708.0
1997	3,762.8	943.9	1,639.3	487.1	6,833.1	122,724.9	129,558.0
1998	4,036.1	971.4	1,682.0	492.3	7,181.8	124,281.2	131,463.0
1999	4,357.3	1,001.7	1,741.3	405.4	7,505.7	125,982.3	133,488.0
2000	4,628.7	1,038.3	1,799.1	399.0	7,865.0	127,343.0	135,208.0
2001	4,711.2	1,056.1	1,825.4	379.5	7,972.2	127,100.8	135,073.0

**TABLE 6: Copyright Industries:
Share of National Employment**

Year	Core	Partial	Distribution	Related	Total	Remainder
1977	1.61%	0.52%	0.81%	0.36%	3.30%	96.70%
1987	2.26%	0.54%	1.15%	0.52%	4.48%	95.52%
1988	2.29%	0.55%	1.21%	0.51%	4.56%	95.44%
1989	2.35%	0.57%	1.22%	0.50%	4.63%	95.37%
1990	2.41%	0.58%	1.20%	0.47%	4.67%	95.33%
1991	2.46%	0.60%	1.18%	0.45%	4.70%	95.30%
1992	2.44%	0.62%	1.20%	0.43%	4.69%	95.31%
1993	2.48%	0.65%	1.20%	0.40%	4.74%	95.26%
1994	2.52%	0.67%	1.22%	0.39%	4.81%	95.19%
1995	2.66%	0.70%	1.25%	0.38%	4.99%	95.01%
1996	2.78%	0.72%	1.26%	0.38%	5.14%	94.86%
1997	2.90%	0.73%	1.27%	0.38%	5.27%	94.73%
1998	3.07%	0.74%	1.28%	0.37%	5.46%	94.54%
1999	3.26%	0.75%	1.30%	0.30%	5.62%	94.38%
2000	3.42%	0.77%	1.33%	0.30%	5.82%	94.18%
2001	3.49%	0.78%	1.35%	0.28%	5.90%	94.10%

TABLE 7: Copyright Industries Employment: Real Annual Growth Rates

Year	Core	Partial	Distribution	Related	Total	Remainder
1987-1988	3.65%	3.68%	7.32%	0.00%	4.18%	2.16%
1988-1989	4.65%	5.63%	2.44%	0.33%	3.70%	1.99%
1989-1990	3.92%	3.51%	-0.14%	-4.25%	1.93%	1.20%
1990-1991	0.89%	2.55%	-2.23%	-4.09%	-0.21%	-0.94%
1991-1992	-0.09%	4.01%	1.63%	-5.22%	0.37%	0.67%
1992-1993	3.12%	6.15%	2.26%	-4.53%	2.61%	1.44%
1993-1994	4.19%	5.66%	3.67%	-0.60%	3.85%	2.25%
1994-1995	6.90%	5.84%	3.84%	-1.57%	5.28%	1.30%
1995-1996	6.27%	3.22%	2.35%	1.20%	4.47%	1.29%
1996-1997	6.75%	4.13%	2.74%	1.56%	5.02%	2.10%
1997-1998	7.26%	2.91%	2.61%	1.08%	5.10%	1.27%
1998-1999	7.96%	3.13%	3.52%	-17.66%	4.51%	1.37%
1999-2000	6.23%	3.65%	3.32%	-1.57%	4.79%	1.08%
2000-2001	1.78%	1.72%	1.46%	-4.90%	1.36%	-0.19%
Average 1977-2001						
Average 1977-2001	4.93%	3.38%	3.80%	0.52%	4.10%	1.50%
Average 1987-2001						
Average 1987-2001	4.51%	3.98%	2.46%	-3.00%	3.34%	1.21%
Average 1997-2001						
Average 1997-2001	5.78%	2.85%	2.73%	-6.05%	3.93%	0.88%
Average 1998-2001						
Average 1998-2001	5.29%	2.83%	2.76%	-8.31%	3.54%	0.75%
Average 1999-2001						
Average 1999-2001	3.98%	2.68%	2.39%	-3.25%	3.06%	0.44%

TABLE 8: A Comparison of the Employment of the Copyright Industries and Manufacturing Industries in the U.S. Economy 2000, 2001

(in thousands)

	2000	2001
Copyright Industries		
Core	4,629	4,711
Partial	1,038	1,056
Distribution	1,799	1,825
Related	399	379
Total	7,865	7,972
Non-Copyright Manufacturing Industries*		
Food and Kindred Products	1,684	1,685
Industrial Machinery and Equipment	1,775	2,014
Electronic and Other Electric Equipment	1,639	1,612
Fabricated Metal Products	1,537	1,479
Chemicals and Allied Products	1,038	1,033
Rubber and Miscellaneous Plastics Products	1,011	954
Apparel and Other Textile Products	630	566
Instruments and Related Products	852	859
Lumber and Wood Products	832	795
Primary Metal Industries	698	651
Paper and Allied Products	654	635
Textile Mill Products	527	473
Stone, Clay, and Glass Products	579	571
Furniture and Fixtures	558	527
Aircraft and Aircraft Parts	465	463
Petroleum and Coal Products	127	127
Leather and Leather Products	71	64
Tobacco Products	34	33

TABLE 9: 1991-2001 Estimated Revenues Generated by Foreign Sales/Exports of Selected U.S. Core Copyright Industries*

(in billions of dollars)

Industry	1991 Estimate	1992 Estimate	1993 Estimate	1994 Estimate	1995 Estimate	1996 Estimate	1997 Estimate	1998 Estimate	Revised 1999 Estimate	2000 Estimate	2001 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	\$9.51
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
Computer Software	\$19.65	\$21.94	\$24.32	\$26.44	\$29.14	\$34.81	\$40.28	\$41.87	\$50.65	\$56.88	\$60.74
Newspapers, Books, Periodicals	\$3.36	\$3.62	\$3.67	\$3.79	\$3.97	\$3.96	\$4.22	\$4.51	\$4.79	\$4.33	\$4.03
Total for Selected Industries	\$36.19	\$39.19	\$43.78	\$48.33	\$53.11	\$60.18	\$66.85	\$69.21	\$79.41	\$85.46	\$88.97

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Appendix C: NAICS Versus SIC

This section comments on the upcoming change from the U.S. Standard Industrial Classification System to the North American Industry Classification System (NAICS). The fundamental approach of the new system is to group industries together that use similar production processes. The NAICS system will identify hundreds of new, emerging and advanced technology industries, several of which are listed below. There will also be a drastic reorganization of the current industries into 20 sectors rather than the existing 10 sectors in an attempt to better capture the shift in the U.S. to a service economy. The classification of new industries will undoubtedly make it easier to identify what industries belong in our various copyright categories, thereby enabling a more accurately portrayal of the benefits of the copyright industry to the U.S. economy.

Below is a summary by sector of the specific changes under the NAICS classification system that will directly influence the copyright industry. This information was obtained from the U.S. Census Bureau website (www.census.gov).

Manufacturing

There are now 79 new industries and revisions to an existing 186 industries in order to coincide with the systems used in Canada and Mexico. There are 479 NAICS industries, while in the SIC system there are 459. The creation of the Computer and Electronic Product Manufacturing subsector is the most notable change. Publishing has been moved out of the manufacturing sector and into the newly created information sector.

Retail and Wholesale Trade

The NAICS focuses on what an establishment does rather than to whom it sells. Retailers are defined as those establish-

ments that sell merchandise, generally without transformation, and attract customers using methods such as advertising, point of sale location, and display of merchandise. Meanwhile, wholesale establishments are engaged in selling or arranging the purchase or sale of goods, for resale, capital or durable nonconsumer goods, and raw and intermediate materials and supplies used in the production. The Census Bureau has estimated that 7% of computer wholesalers and 22% of office supply wholesalers will move to retail.

Information

The creation of this sector will have the most profound effect on the copyright industry. Included are those establishments that create, disseminate, or provide the means to distribute information, as well as establishments that provide data processing services. The following industries are included in this sector: newspaper, book and periodical publishers; software publishers; broadcasting and telecommunications producers and distributors; motion picture and sound recording industries; information services and data processing services. In total, there are 34 industries in this sector of which 20 are new (including paging, cellular and other wireless communications, and satellite communications).

Professional, Scientific and Technical Services

The major input for these businesses is human capital with industries being defined by the expertise and training of the service provider. Lawyers, engineering services, architectural services, and advertising services are included in this sector. There are 47 total and 28 new industries in this sector.

Administrative and Support; Waste Management and Remediation Services

Industries from Services; Transportation, Communication and Utilities; Construction; and Agriculture, Forestry, and Fishing are included in this sector.

Arts, Entertainment and Recreation

Businesses in this sector are involved in meeting the cultural, entertainment, and recreational interests of their patrons. Casinos and gambling establishments, historical sites and sports clubs and teams are recognized for the first time. There are 25 total and 19 new industries in this sector.

Other Services

This sector includes the following industries: Photofinishing, Computer Repair, and Mainframes.

Auxiliary Establishments

This sector includes those establishments that primarily produce support services for other establishments of the enterprise, which are usually not intended for use outside of the enterprise. An example is an establishment that provides data processing services for an enterprise. In addition, this sector includes the establishment that is the head office of an enterprise, rather than grouping it with primary activity of the establishment for which the support activity was performed. An important difference between the old and new systems is that the NAICS classifies auxiliary establishments based on what they do, not on whom they serve. This is due to the production-oriented concept of the NAICS system. Future Economic Census employment data will be affected by this change in philosophy, with employees shifting from the manufacturing and retail trade sectors to various other sectors and subsectors such as Management of Companies and Enterprise; Warehousing and Storage; and Computer System Design and Related Services.

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