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Economic Contribution of Copyright Industries in Finland 2016–2020

Mikko Grönlund, Tuomas Ranti, Veijo Pönni & Petteri Sinervo

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Economic Contribution of Copyright Industries in Finland 2016–2020

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Abstract

The purpose of the present study was to measure the economic contribution of copyright industries to the Finnish economy in 2016, 2017, 2018, 2019 and 2020 using the World Intellectual Property Organization's (WIPO) revised methodology in this measurement and to compare the Finnish findings to the results of similar studies completed in other countries.

The key findings of the study include the following:

- The combined value added of copyright industries represented 5.69 percent of the Finnish GDP in 2020 and amounted to €13.54 billion and the combined number of employees in the copyright industries amounted to 146 380 and represented 5.87 percent of the total employment in Finland in 2015.
- From the year 2000 to the year 2020 the economic contribution of core copyright industries has shown a moderate growth. The combined value added of core copyright industries represented 4.47 percent of the Finnish GDP in 2020 (3.28 percent in 2000) amounting to €10.6 billion.
- Compared to the Finnish GDP growth of 9.4 percent between 2016 and 2020, the value added of core copyright industries in absolute terms grew by 19.4 percent.
- In 2020, the largest core copyright industries, software and databases, accounted for approximately 74 percent of the cumulative value added of the core copyright industries in Finland.
- From 2016 to 2020, the most prominent growth in core copyright industries took place in the software industry whereas the relative contribution of the press and literature decreased.
- The revised WIPO Guide on Surveying the Economic Contribution of the Copyright-Based Industries has enabled a very useful increase in the comparability of studies made in different countries. Finland ranks high when it comes to the contribution of the core copyright industries but lower in terms of overall copyright contribution.

Keywords copyright, creative industries, national economy, creative economy, economy of copyright

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Tekijänoikeusalojen taloudellinen merkitys Suomessa 2016–2020

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Tekijä/t	Mikko Grönlund, Tuomas Ranti, Veijo Pönni & Petteri Sinervo (Turun yliopiston Brahea-keskus)		
Kieli	englanti	Sivumäärä	80

Tiivistelmä

Tämän selvityksen tarkoituksena oli mitata tekijänoikeustoimialojen taloudellista vaikutusta Suomen talouteen vuosina 2016, 2017, 2018, 2019 ja 2020 käyttäen Maailman henkisen omaisuuden järjestön (WIPO) kehittämää ja vuonna 2015 uudistamaa metodologiaa sekä tehdä vertailua muissa maissa tehtyihin vastaaviin tutkimuksiin.

Keskeiset tulokset:

- Vuonna 2020 tekijänoikeustoimialojen yhteenlaskettu jalostusarvo oli 5,69 % Suomen bruttokansantuotteesta ja oli määrältään €13,54 mrd. Tekijänoikeustoimialojen työntekijämäärä oli yhteensä 146 380 työntekijää, mikä on 5,87 % Suomen koko työvoimamäärästä.
- Vuodesta 2000 vuoteen 2020 keskeisten tekijänoikeustoimialojen taloudelliset vaikutukset kasvoivat kohtalaisesti. Näiden toimialojen yhteenlaskettu jalostusarvo vuonna 2020 oli 4,47 % Suomen BKT:sta (3,28 € vuonna 2000) ja määrältään €10,6 mrd.
- Suomen BKT kasvoi 9,4 % vuodesta 2016 vuoteen 2020 ja vastaavana aikana tekijänoikeustoimialojen jalostusarvo kasvoi absoluuttisesti 19,4 %.
- Vuonna 2020 suurin keskeisistä tekijänoikeustoimialoista oli tietokoneohjelmistot ja tietokannat, joka edusti suunnilleen 74 % tekijänoikeustoimialojen kumulatiivisesta jalostusarvosta.
- Vuodesta 2016 vuoteen 2020 keskeisistä tekijänoikeustoimialoista eniten kasvoi ohjelmistokehitys kun taas kustannustoiminnan ja painamisen suhteellinen vaikutus pieneni.
- WIPO:n opas tekijänoikeustoimialojen taloudellisten vaikutusten tutkimiseksi on lisännyt eri maissa tehtyjen tutkimusten vertailtavuutta. Kansainvälisessä vertailussa Suomi sijoittuu korkealle keskeisten tekijänoikeustoimialojen vaikutusten osalta, mutta alemmas kaikkien tekijänoikeustoimialojen vaikutusten vertailussa.

Asiasanat tekijänoikeus, luovat toimialat, kansantalous, luova talous, tekijänoikeuden talous

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Upphovsrättssektorernas ekonomiska betydelse i Finland 2016–2020

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Referat

Syftet med denna utredning var att mäta upphovsrättssektorernas ekonomiska konsekvenser för Finlands ekonomi 2016, 2017, 2018, 2019 och 2020 med hjälp av metodologi som utvecklats av Världspanorganisationen för den intellektuella äganderätten (WIPO) och som reformerades 2015 samt jämföra resultaten med motsvarande studier i andra länder.

Centrala resultat:

- År 2020 var upphovsrättssektorernas totala förädlingsvärde 5,69 % av Finlands BNP och värdet uppgick till 13,54 md euro. Upphovsrättssektorerna hade sammanlagt 146 380 anställda, vilket motsvarade 5,87 % av hela arbetskraften i Finland.
- Från 2000 till 2020 ökade de centrala upphovsrättssektorerna ekonomiska konsekvenser måttligt. År 2020 var dessa sektors totala förädlingsvärde 4,47 % av Finlands BNP (3,28 % 2000) och uppgick till 10,6 md euro.
- Finlands BNP ökade med 9,4 % från 2016 till 2020, och under samma period ökade upphovsrättssektorernas förädlingsvärde med 19,4 % absolut sett.
- År 2020 var den största upphovsrättssektor programvara och databaser. Den står för ca 74 % av det kumulativa förädlingsvärdet inom upphovsrättssektorerna.
- Från 2016 till 2020 ökade programvaruutveckling mest bland de viktigaste upphovsrättssektorerna, medan den relativa inverkan av förlags- och tryckeriverksamhet minskade.
- WIPO:s handbok om upphovsrättssektorernas ekonomiska konsekvenser har ökat jämförbarheten mellan studier i olika länder. I en internationell jämförelse ligger Finland högt när det gäller konsekvenserna av de centrala upphovsrättssektorerna, men placeringen är sämre när man jämför konsekvenserna av alla upphovsrättssektorer.

Nyckelord upphovsrätt, kreativa branscher, nationalekonomi, kreativ ekonomi, upphovsrättens ekonomi

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EXECUTIVE SUMMARY

Copyright is a legal term, which describes the rights that creators have over their literary and artistic works. Copyright is also a private property right. A number of factors such as the shift to a services economy, digital production and distribution have increased the interest in intangible assets including copyrights. Works protected by copyright and industries that exploit copyrighted material are important factors from an economic perspective. Copyrighted works contribute to their surrounding economy during the process in which they are created, reproduced, distributed and used. Hence, it can be stated that the creation of a work is merely the starting point in its exploitation as it can also act as an input for other activities. Previous studies in Finland have shown that the economic contribution of the copyright industries which can also be called copyright-based industries can exceed that of traditional industries like the production of food and beverages and the manufacture of electronics and equipment.

The purpose of the present study was twofold:

- To measure the economic contribution of copyright industries to the Finnish economy in 2016, 2017, 2018, 2019 and 2020.
- To compare the Finnish findings to the results of similar studies completed in other countries.

The key findings and conclusions of the study include the following:

- The combined value added of copyright industries represented 5.69 percent of the Finnish GDP in 2020 and amounted to €13.54 billion.
- The value added of the copyright industries grew from 5.4 percent of the Finnish GDP in 2015 to 5.7 percent in 2020. The growth was not steady but the value added increased from 5.4 percent in 2016 to 5.7 percent in 2017 and then declined to 5.5 percent (2018) and 5.4 percent (2019). After the year 2019 the value added increased again to 5.7 percent of the Finnish GDP in 2020.

- Compared to the Finnish GDP growth of 9.4¹ percent between 2016 and 2020, the value added of core copyright industries in absolute terms grew by 19.41 percent.
- The combined number of employees in the copyright industries amounted to 146 380 and represented 5.87 percent of the total employment in Finland in 2020.
- After the Millennium the economic contribution of core copyright industries has shown a significant growth. Between 2003 and 2020, the value added of the core copyright industries has doubled from approximately €5.1 billion to over €10.6 billion.
- In 2003, the combined value added of core copyright industries represented 3.48 percent of the Finnish GDP. In 2020 the corresponding figure was 4.47 percent.
- In 2020, the largest core copyright industries, software and databases, accounted for almost three quarters (74 %) of the cumulative value added of the core copyright industries in Finland.
- From 2016 to 2020, the most prominent growth in core copyright industries took place in the subcategory Software and databases whereas the biggest decrease took place in the relative contribution of the press and literature.
- The relative proportion of workforce in the core copyright industries grew slightly during the same period. The total number of employees in the core copyright industries increased by 7.8 percent, while the employed labour force in Finland declined by approximately 3.2 percent.
- In 2020, the interdependent copyright industries (activities related to copyright protected materials) had a combined value added of €1.55 billion (0.65% of GDP) and employed 11 868 employees (0.48 % of the total labour force).
- Production and sales in the paper industry amounted to approximately one third (37 %) of the total value added of the interdependent copyright industries in 2020. This is significantly less than five years earlier in 2015 (63 %).
- Exports of copyrighted works relating to core copyright industries amounted to €14.27 billion in 2020, representing 27.5 percent of Finland's total exports. The respective value of the imports was €7.43 billion, which amounted to 17.0 percent of total imports. This produced a trade surplus of €6.84 billion.

1 The figure is based on preliminary GDP data for 2020

- Exports relating to interdependent copyright industries totalled €1 227 million in 2020. Approximately 61 percent of the total value of exports was attributable to the paper industry. In 2015, the respective share was higher around 76 percent.
- The WIPO Guide on Surveying the Economic Contribution of the Copyright-Based Industries has been useful in increasing the comparability of studies made in different countries. The WIPO Guide was revised in 2015 and this study applies the revised methodology.
- In international comparison Finland ranks high when it comes to the contribution of the core copyright industries but somewhat lower in terms of overall copyright contribution.

1 Introduction

Copyright² is a legal term, which describes the rights that creators have over their literary and artistic works. This legal concept gives the creators of copyright protected material the right to decide upon the exploitation of the economic values related to their creative works. Copyright is one of the main branches of intellectual property. It applies to “every production in the literary, scientific and artistic domain, whatever may be the mode or form of its expression” (Art.2. Berne Convention for the Protection of Literary and Artistic Works). The copyright legislation defines the requirements for an outcome of creative work to be covered by copyright, determines the exclusive rights of the creator, and specifies the protective instruments that can be used to enforce the copyright holder's rights. In Finland, copyright protection is governed by the Copyright Act (8.7.1961/404), which has been amended and modified several times since its coming into force. The copyright legislation is national but the concept of copyright as well as the protective elements have been a subject for international treaties for a relatively long time now. The most important international treaties being the Berne Convention for the Protection of Literary and Artistic Works (Berne Convention 1886), the Rome Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations (the Rome Convention 1961), the WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT) (WIPO 2015). Due to international treaties and active harmonisation work by WIPO the core substance of the concept of copyright is considered similarly in different countries and legislations. The copyright industries operate based on the same principles because most countries have joined and implemented the major international conventions in the field of copyright and related rights (Nikzad & Solomon 2019).

The economic justification for the existence of copyright, as well as the protection instruments for other intangible works, is that creative content has characteristics of public goods, namely being both non-rival and non-excludable (Landes & Posner, 1989). Non-rivalry means that many people can use them at the same time without the individual value of consumption being reduced. Copyrighted subject matters being non-excludable means that without appropriate legal rights, it is usually very difficult for the

2 In this study the term copyright is used to cover both the actual copyright and the related or neighbouring rights.

authors to prevent unauthorised uses of the content (Watt, 2004). For intangible goods such as copyrighted works, the fixed costs of producing the original first copy tend to be high, while the variable costs for reproducing and marketing it are often very low. Markets that exhibit public good characteristics fail because it is difficult to stop non-payers from consuming the product due to the non-excludability characteristics (Nikzad & Solomon 2019). The lack of revenue may then reduce the incentive to generate those goods. Copyright is seen to rectify market failure due to the partial non-excludability of copyright works and the distinctive cost-structure of copyright industries (Handke 2010). Copyright protection is needed to ensure that the creator of a work or the rights 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 transform the development of copyright industries into important business sectors (Hargreaves 2011). Copyright law is also designed to establish the right balance between different economic effects, investing the necessary time in cultural creations, their proper distribution, and the protection and enforcement of the rights involved (WIPO 2015).

Being a legal concept copyright has, naturally, been subject to legal studies since its origin. To study copyright from an economic perspective arose around a hundred years ago. One of the first to address the economic aspects of copyrighted subject matters was Arnold Plant in 1934. He presented an analysis on the economics of copyright and emphasised the statutory monopoly aspects to copyright. Many scholars after him have taken a similar approach. One major stream of research has been to view the balance between production and consumptions of copyrighted products. Economists see copyright as an attempt to achieve, simultaneously, a socially optimal production of, and a socially optimal consumption of, copyright material (Watt 2009). Thus copyright looks at the trade-off between consumption efficiency (maximising the net value consumers get of any produced intellectual product) and production efficiency (preserving incentives to create these products efficiently) (Liebowitz (2003). There has been a lot of research and discussion about the exact amount of copyright protection that would be appropriate to equate supply and demand of copyright products. No consistent or unanimous view exists for the optimal level of copyright protection. One can, however, conclude that it appears unlikely that either extreme (no protection at all, or total and absolute protection) is an optimal solution (Watt 2009). During the past decades, there has been significant interest in the economics of copyright and the “demand for economic research on copyright industries has doubled in recent years” (WIPO 2015). Especially to study and assess economic contribution and impact of copyright has gained attention, which requires other research perspectives than to view the balance between production and consumptions of copyrighted products. A number of factors such as the shift has driven the increased interest to a services economy, digital production and distribution and an increasing understanding of the value attached to intangible assets including copyrights.

Growth supported by intellectual property has rapidly come to the fore of policy objectives in the last decade with the increased emphasis on the creative or knowledge economy (Towse 2011).

Copyright is a private property right. Property rights are defined as “the ability of individuals to own, buy, sell and use their property in a market economy” (WIPO 2015). A survey of the copyright industries implies a study of the economic activities related to the exercise of these specific rights. First studies addressing the economic importance or impact of copyright industries were published in the 1970s in the USA (1977), Canada (1977) and Australia (1981). Several other studies followed thereafter. Research addressing the economic contribution of copyright has broadly adopted a similar kind of methodology but there were some differences in the applied methodologies, especially as the industries included varied, which made the comparison of the findings difficult. The Finnish Ministry of Education and Culture was active to in 2002 to launch an initiative at the World Intellectual Property Organization (WIPO) to “develop a practical instrument in the form of guidelines, recommendations and survey methods to be considered and applied when undertaking 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” (WIPO 2003). The WIPO Guide on Surveying the Economic Contribution of the Copyright-Based Industries was published in 2003. Since then the methodology defined in the WIPO Guide has been widely adopted and currently more than 50 countries around the world have engaged the WIPO methodology in surveying the economic performance of their copyright sector.

The WIPO methodology has four steps to study the economic contribution of copyright³ industries: identification and classification of industries, data collection, data analysis and analysis and presentation of results. The WIPO provides instructions on which industries it considers copyright-relevant. It lists sector codes according to the International Standard Industrial Classification (ISIC) and divides copyright-relevant sectors into four categories, namely core copyright industries, interdependent copyright industries, partial copyright industries and non-dedicated industries. In 2015, WIPO published a revised guide on surveying the economic contribution of the copyright-based industries. The revised guide made no changes to the fundamentals of the methodology. The groupings of the copyright industries were re-considered due to the changes in the industrial classification system (ISIC) and a more unified approach to treat the level of dependence on copyright in specific non-core sectors was introduced. The revised WIPO Guide also attempts to provide approaches, which allow countries with less advanced statistical systems to

3 In addition to the term copyright industries the term copyright-based industries is often used. In this report both terms are used to describe the same group of industries.

produce credible results without embarking on costly field surveys. The revised WIPO Guide also suggested that, in addition to value added, employment and foreign trade, a second generation of indicators should be considered. However, no such indicators have been introduced yet. The revised WIPO Guide and the discussion thereafter further developed the methodology and concentrated on the ways to establish so called copyright factors. However, no widely adopted or cost-effective method has been published.

The WIPO methodology relies on the statistical data provided by the national or international statistical organisations. The aim is to survey the economic contribution of copyright industries and to provide quantifiable characteristics for this contribution. The methodology addresses the three main indicators of the size of these industries – the value added generated by them, their share in employment, and their contribution to foreign trade. The WIPO Guide outlines the methodology of the survey, justifies the choice of indicators, describes their characteristics and elaborates on existing approaches to their measurement. The WIPO methodology has limitations and it does not address all economic aspects related to copyright. The economic impact of copyright law itself, the social effects of copyright and the valuation of the copyright assets are left for other methodological development and additional research. Applying the current methodology to surveying the economic contribution of copyright industries provides an overview of the size of the creative sector. The methodology does not expand into impact studies, nor does it attempt to indicate any causalities. Therefore, the results should always be interpreted keeping these limitations in mind and taken only as indicators of size, which are useful for making international comparisons and for monitoring trends (WIPO 2015).

The economic contribution of copyright industries has been previously addressed in seven studies in Finland: 1984, 1991 (using data from 1988), 2000 (data 1997), 2008 (data 2000, 2003, 2004 and 2005), 2010 (data 2005–2008), 2014 (data 2009–2012) and 2017 (data 2013–2015). The first three studies were published before the WIPO Guide and thus could not exploit its guidelines, but used a similar approach. The study that was published in 2008 used the WIPO guidelines but, in parallel, applied the methodology of the 2000 study and presented two sets of results. The studies published in 2010, 2014 and 2017 as well as the current study applies the WIPO methodology.

In addition to Introduction, this report has six chapters. Chapter 2 describes the copyright or copyright-based industries and the methodology of the study. Chapter 3 presents the most important findings on the economic volume of copyright industries in terms of value added and employment. The trade balance of copyrighted goods and services is presented in Chapter 4. Chapter 5 presents the findings on Finnish copyright collective management organisations' economic activities. In Chapter 6, the results of this study are compared with findings in other countries and Chapter 7 contains the conclusions made

out of this study. Appendix 1 presents detailed information concerning the definition of copyright-based industries and the copyright factors used for this study.

This study was initiated and commissioned by the Ministry of Education and Culture. The purpose of the study is to measure the economic contribution of copyright or copyright-based industries from 2016 to 2020 by applying the methodology defined in the WIPO Guide on Surveying the Economic Contribution of the Copyright Industries 2015 Revised Edition.

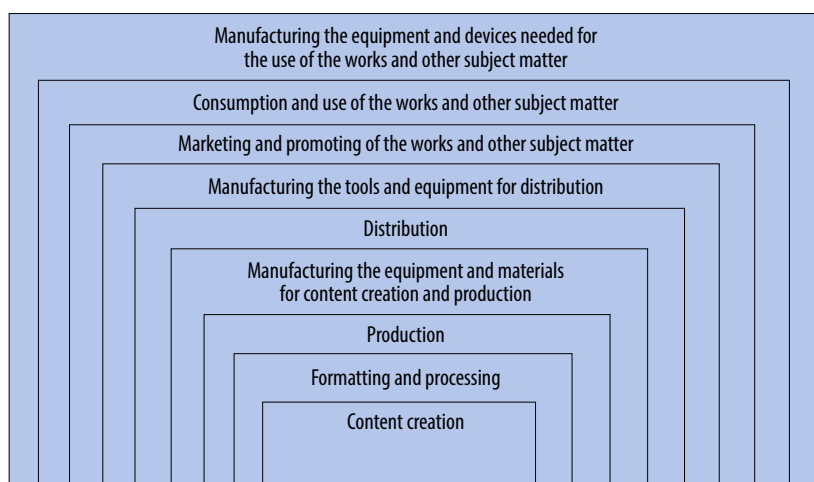
2 The Copyright Industries and the Methodology of the Study

2.1 The Copyright Industries

The mental process and creation work needed to produce copyrighted subject matter is the initial act of creating economic value out of copyright protected material. This creative process is the basic element relevant for the copyright's economic contribution. After the copyrighted subject matter is created, it needs to be modified, packaged, reproduced and distributed⁴ in order to be used. A distinction should be made between a work, which is protected by copyright and the "means of delivery" by which the work appears in the market and is made available for consumption. For example, a song is protected by copyright, but a music CD or file is a means of delivery. Copyright itself only refers to the intellectual property aspect and not to the means of delivery. The means of delivery acts as an intermediary between the underlying copyright and the market. (WIPO 2015). When measuring the economic contribution of copyright protected material one should include all the activities resulting from the multiple effects of copyright on the economy, those of the creators, the right holders, the distributors, users, equipment manufacturers, advertisers, etc. Figure 1 describes the activities related to the production, dissemination and use of copyright protected material. With respect to the copyright-based industries, they can be viewed as layers of economic activities from which the effects of copyright radiate outwards as shown in Figure 1. Quite naturally, the activities related to the production, dissemination and use of copyrighted works are not the same for all works. The works are different in nature and different means are needed in both production and use. These layers reflect the flow of copyrighted material from the original creator to the consumer. They do not always represent the borderlines between different industries involved in copyright value creation, since there are activities overlapping several layers within single industries.

4 The term distribution is used in this study in a technologically neutral way to refer to all distribution, dissemination, diffusion or making available the protected subject matter to the public.

Figure 1. Layers of economic activities related to the production, packaging and distribution of material protected by copyright and related rights (Sinervo & Picard 2000)



When measuring the economic contribution of copyright, the primary task is to define the copyright or copyright-based industries and to categorise them. This means that one has to decide which industries are included in the study, and then to put them into appropriate categories according to the extent to which their activities rest on copyright. The WIPO Guide 2015 categorises the copyright-based industries into four main groups, namely the core copyright industries, the interdependent copyright industries, the partial copyright industries and the non-dedicated support industries. For each category a short description, based on the WIPO Guide, is presented below.

The core copyright industries are industries, which are wholly engaged in the creation, production and manufacture, performance, broadcasting, communication and exhibition, or dissemination and sale of works and other protected subject matter. The core copyright industries as a category could not exist, or would be significantly different, without copyright in works or other subject matter. These industries include, for example, press and literature, motion pictures, recorded music, music publishing, radio and television broadcasting, and software.

Interdependent copyright industries are industries, which are engaged in the production, manufacture and sale, and renting or leasing of equipment. Their function is wholly or primarily to facilitate the creation, production, or use of works and other protected subject matter. The interdependent copyright industries include activities characterised by their complementarity with the core copyright industries because they are jointly consumed; for example, there is no television programming unless there is a television.

The interdependent copyright industries support the use of copyright content in a crucial way, but they are in turn dependent on the availability of copyright works, hence their complementarity. Examples of industries in this category include the manufacturing, wholesaling and retailing of TV sets and radios; CD and DVD players; computers; musical instruments; photographic instruments; photocopiers; recording material; and paper.

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 manufacture, performance, broadcasting, communication and exhibition, and distribution and sales. Industries like textiles and footwear, jewellery, furniture, wall coverings and carpets, toys and games, architecture, engineering, and museums represent some of the partial copyright industries.

Non-dedicated support industries are those in which a portion of the activities is related to facilitating broadcast communication and the distribution or sale of works and other protected subject matter whose activities have not been included in the core copyright industries. For example transportation services, telecommunications and wholesale and retail trade fall into this category.

When measuring the economic contribution of copyright industries the core copyright industries are fully included in the calculations. This means that the total contribution of the core copyright industries to the value added and creation of employment are counted in when calculating the total effect of the copyright industries on a country. When it comes to the other three categories only part of their activities are related to copyright protected material. Therefore, judgement must be applied when measuring their effect on the national economy. Thus, only the portion, which is directly attributable to copyright protected material, is included. This is worked out according to so-called copyright factors, which are discussed below.

2.2 Establishing the Copyright Factors

When analysing the economic contribution of any copyright or copyright-based industry, the general question is whether or not all the products of an industry identified in an ISIC code are copyright products. The problem is how to determine the industries whose products cannot be fully attributed to copyright and how to identify the portion, which can be considered attributable to copyright. In the studies addressing economic contribution of copyright-based industries, it is generally adopted that for core copyright industries, the contribution is counted as 100 per cent. Calculations regarding interdependent copyright industries, partial copyright industries and non-dedicated support industries involve the use of so-called copyright factors, which implies the

weighting of the portion of a specific industry that can be attributed to copyright or the level of its dependence on copyright. WIPO Guide (2015) suggests some approaches that can be used to establish the copyright factors. One is a sampling technique by using questionnaires and interviews of industry representatives in order to find out which part of industries' activities is related to copyrighted works. In addition to sampling, one can attempt to analyse the components, which make up each sector and the scale of activity associated with each component in relation to copyrighted works. Carrying out a sampling research is time consuming and costly. When such research is not available, the ratios used in previous national studies or comparable research done elsewhere can be taken into account when establishing the copyright factors.

In this study, time and resource constraints did not allow field research in order to set the copyright factors. Therefore, the copyright factors for this study need to rely on existing studies. When estimating copyright factors using data from comparable countries, one should use data from countries with similar legal frameworks, production practices, working conditions, or other economically significant factors (WIPO 2015). By the year 2022, almost 50 countries (presented in Table 19) had conducted surveys in accordance with the WIPO Guide. In this respect, these studies are at least essentially comparable with the results of the Finnish study. Table 19 demonstrates that the majority of the available studies are not carried out in developed economies, but in a number of developing or emerging economies and economies in transition. At the time of this study in spring 2022, in addition to Finland there were nine European Union member state studies that followed the WIPO Guide, namely Bulgaria, Croatia, France, Hungary, Latvia, Lithuania, the Netherlands, Romania and Slovenia. Taking into account the size of the economy, production structure and economy's dependence on foreign trade the researchers of this study concluded that the data from the Dutch study is still most appropriate for the purpose of this study. Thus, for interdependent and partial copyright industries the copyright factors from the Dutch study, published in 2014, are used in this study. This is also in line with the previous study carried out in Finland. In the Dutch study, published in 2014, the copyright factors of an earlier Dutch study (2008) were used, although the report also presented the figures of Singapore and Hungary for comparison. The copyright factors for core, interdependent, partial and non-dedicated support industries are shown in Tables 1 to 4.

The copyright factor of non-dedicated support industries is most commonly determined based on the WIPO Guide. According to the WIPO Guide to derive the copyright factor for the group of non-dedicated support industries, an assumption could be made that the broad non-dedicated support industries serve the copyright industries and other non-copyright industries in the same ratios as their respective size in the economy. The formula for the copyright factor that can be used is thus:

$$\text{Factor} = \frac{\{(Core - d) + (Interdependent - d) + (Partial - d)\}}{GDP-D}$$

Where *d* = dedicated distribution industries and
D = the three non-dedicated support industries

Calculated according to the formula above the copyright factor of non-dedicated support industries in this study is 4.85 percent.

Table 1. Copyright factors of the core copyright industries

	Copyright factors	
	Finland	Netherlands
Press and literature	100 %	100 %
Music, theatrical productions, operas	100 %	100 %
Motion picture and video	100 %	100 %
Radio and television	100 %	100 %
Photography	100 %	100 %
Software and databases	100 %	100 %
Visual and graphic arts	100 %	100 %
Advertising	100 %	100 %
Copyright collecting societies	100 %	100 %

Table 2. Copyright factors of the Interdependent copyright industries

	Copyright factors	
	Finland	Netherlands
TV sets , radios, VCRs, CD and DVD players, electronic game equipment	32,5 %	32,5 %
Computers and equipment	32,5 %	32,5 %
Musical instruments	31,7 %	31,7 %
Photographic and cinematographic instruments	31,7 %	31,7 %
Photocopiers	30,0 %	30,0 %
Blank recording material	25,0 %	25,0 %
Paper	25,0 %	25,0 %

Table 3. Copyright factors of the partial copyright industries

	Copyright factors	
	Finland	Netherlands
Apparel, textiles and footwear	5,8 %	5,8 %
Jewellery and coins	26,0 %	26,0 %
Other crafts	39,3 %	39,3 %
Furniture	8,8 %	8,8 %
Household goods, china and glass	0,9 %	0,9 %
Wall covering and carpets	2,0 %	2,0 %
Toys and games	44,0 %	44,0 %
Architecture, engineering, surveying	8,1 %	8,1 %
Interior design	12,1 %	12,1 %
Museums	36,8 %	36,8 %

Table 4. Copyright factors of the non-dedicated support industries

	Copyright factors	
	Finland	Netherlands
General wholesale and retailing	4,85 %	6,0 %
General transportation	4,85 %	6,0 %
Information and communicayions	4,85 %	6,0 %

* Detailed table of the copyright factors of all industries of the Finnish study is shown in Appendix 1

2.3 Collection of Data

This study is based on statistical data on copyright industries between 2016 and 2020. The data was predominately collected from corporate annual statement statistics provided by Statistics Finland.

The turnover is the combined operating income of an industry and the value added is calculated by subtracting the intermediate goods and services from the turnover. The value added therefore represents the value created by the factors of the production of that industry. The number of employees is presented as full time equivalents showing the actual person years invested in the production in an industry.

The firms are classified under statistical categories according to their main activities. Therefore, there are activities within the firms that may vary from the activity according to which they are categorised. There is no external reporting of the value of a firm's activities in different fields. Therefore, both the share of the non-copyright related activities of firms in copyright industries and the copyright-related activities of firms in non-copyright industries cannot be assessed.

Complementary data sources have been used when statistical information has been missing or activities have not been captured in the statistical categories. The use of complementary sources has been conducted in accordance with guidelines of the WIPO Guide. The complementary data come from sources that are updated and published annually. This has been done for the benefit of the consistency of the time series. The main sources of complementary data have been the collective rights management

organisations⁵ statistics. The values of the foreign trade of copyrighted goods and services were collected Finnish Customs International Trade Statistics. The value added has been calculated using the median of turnover to value added ratio. However, there are some significant analytical challenges resulting from the current statistical categorisation, which makes it difficult to attribute the operations to the relevant copyright-related activity categories. The implementation of a new European statistical classification (NACE rev. 2 and the national classifications that have been reformed accordingly) will possibly solve some of these issues.

5 Audiovisual Producers Finland - APFI ry, Filmex ry (Actors Copyright Association), Gramex ry (The Collective Management Organisation for Recorded Music), Kopiosto ry (Copyright organisation representing the creative industries), Kuvasto ry (Copyright society for artists working in the field of visual arts), Sanasto ry (Finnish literary copyright society) and Teosto ty (Music Copyright Association).

3 The Economic Contribution of Copyright Industries in Finland

In this section, the figures of turnover, value added, and number of employees of the copyright or copyright-based industries in Finland are presented. Using the WIPO methodology as the basis, data from these industries was gathered for the years 2016, 2017, 2018, 2019 and 2020 (Appendix 1). In selected instances, data from the years 2003–2015 and 2013–2015 are also displayed in order to illustrate longer-term development.

First, the figure 2 shows the development of the value added of the copyright-based industries as a share of the annual GDP during 2013–2020. We can see from the figures that the relative contribution of copyright-based industries to Finnish GDP has slightly increased during the time period, from 5.08 percent in 2013 to 5.43 percent in 2016, and 5.69 percent in 2020. The aggregate value added of copyright-based industries in 2013 was €10.33 billion; €11.83 billion in 2016, and 13.54 billion in 2020 (Figure 3).

Figure 2. Value added of the copyright-based industries as a share of GDP, %

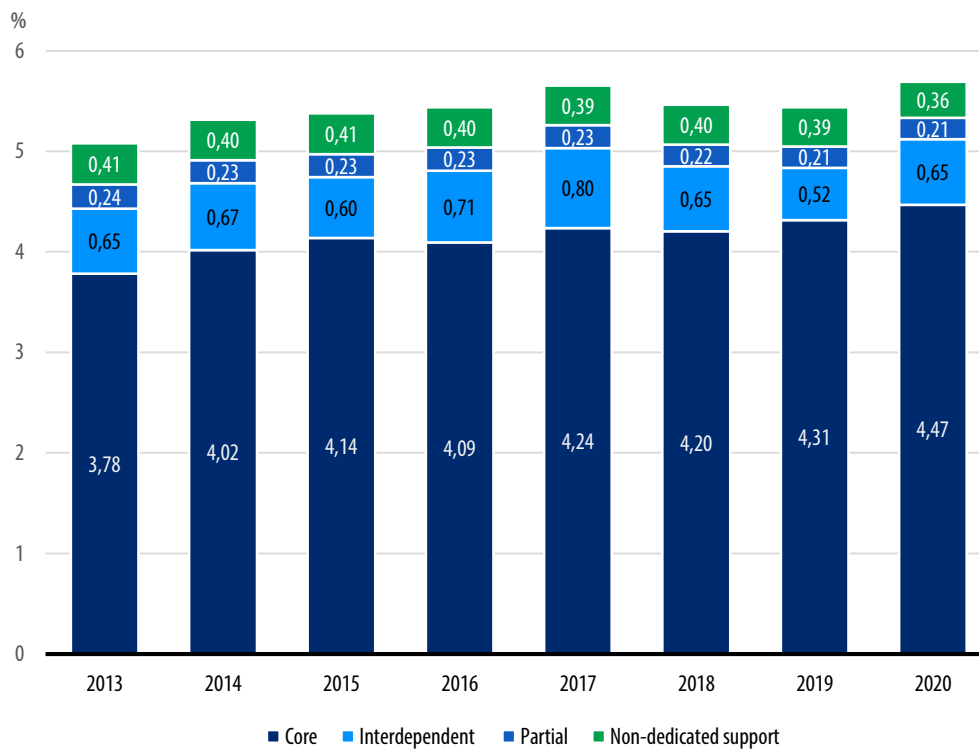
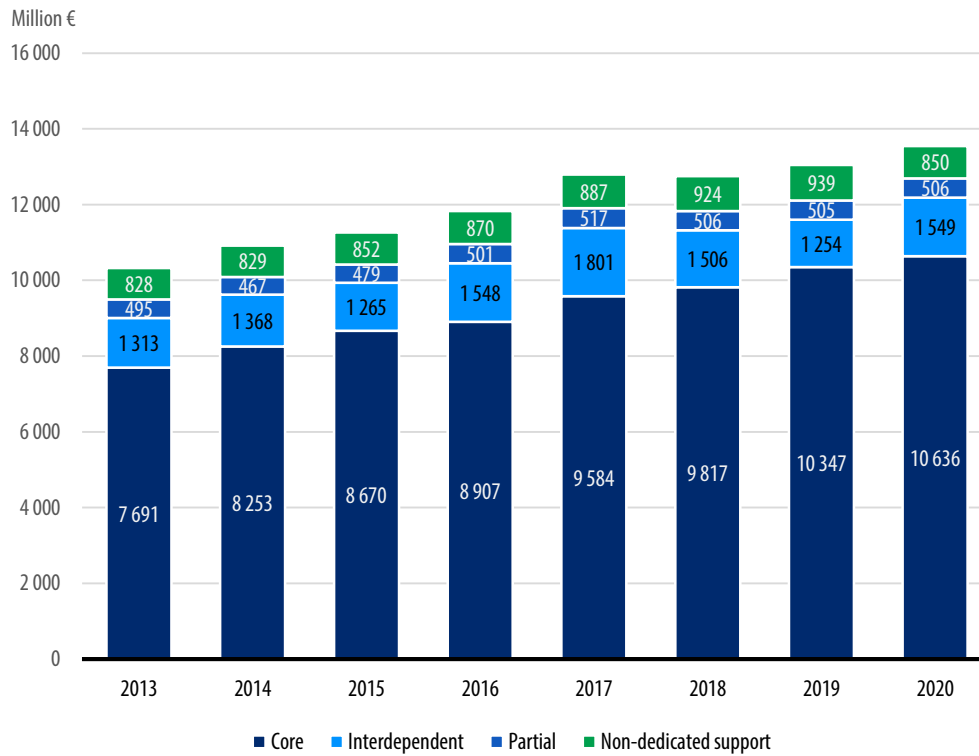
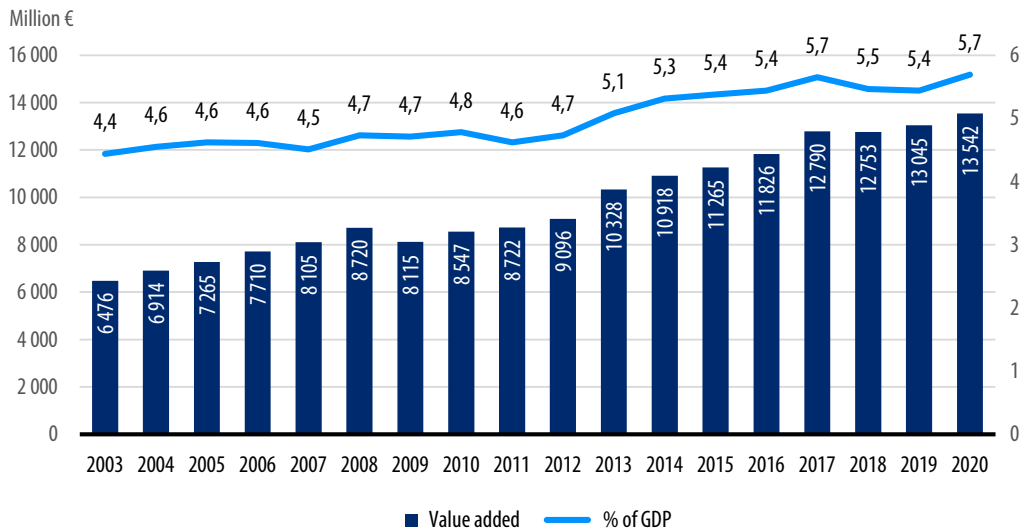


Figure 3. Value added of the copyright-based industries, € Million

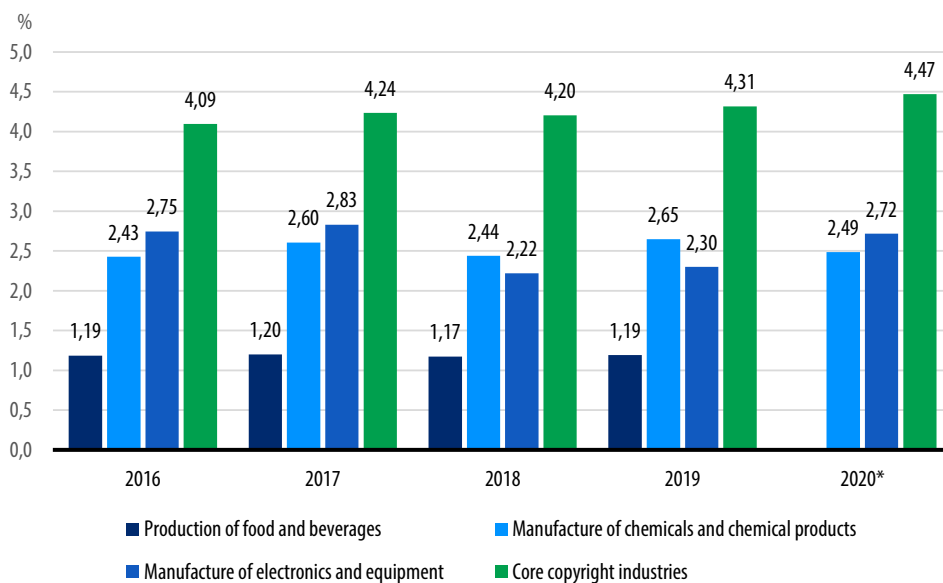
Between 2003 and 2020, the value added of the copyright-based industries has more than doubled from approximately €6.5 billion to somewhat more than €13.5 billion. Correspondingly, the share of the value added of the copyright-based industries of the GDP has increased by nearly 30 percent from approximately 4.4 percent to 5.7 percent during the same period.

Figure 4. Development of value added of the copyright-based industries 2003–2020



The core copyright industries in Finland contribute more to GDP than food, metal or machinery industries during the time period of 2016–2020 (preliminary data for 2020; data for “Production of food and beverages” not available for 2020) (Figure 5)⁶.

Figure 5. Contribution of the core copyright industries to GDP in comparison with selected other industries



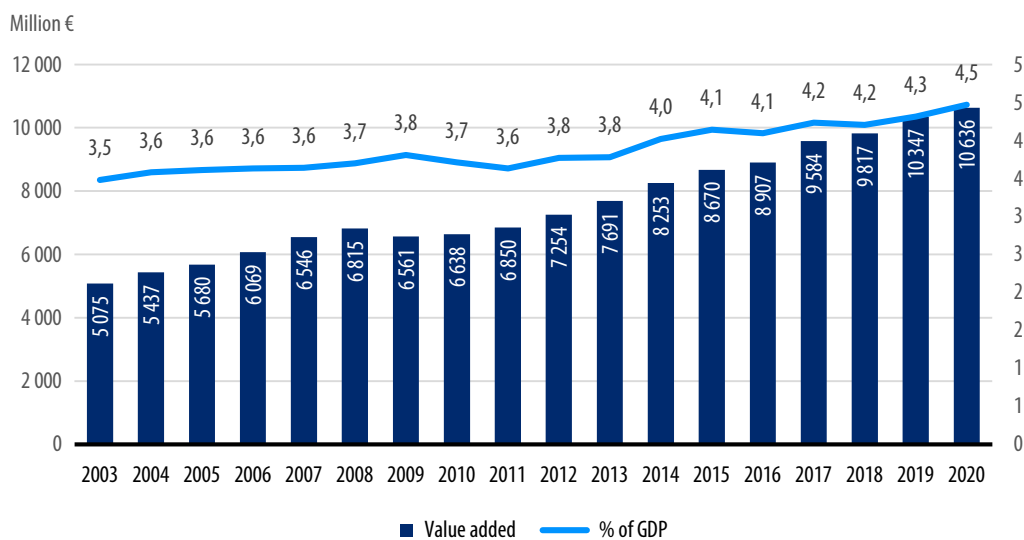
6 The industries for the comparison were selected to represent basic industries with no close connection to copyrighted subject matters.

Table 5. Value added of the copyright-based industries in Finland

		Value added as % GDP	Total value added € Million	Change in total value added %
2016	Core	4,09	8 907	2,73
	Interdependent	0,71	1 548	22,39
	Partial	0,23	501	4,67
	Non-dedicated	0,40	870	2,15
	Total	5,44	11 826	4,98
2017	Core	4,24	9 584	7,60
	Interdependent	0,80	1 801	16,34
	Partial	0,23	517	3,19
	Non-dedicated	0,39	887	1,95
	Total	5,65	12 790	8,15
2018	Core	4,20	9 817	2,43
	Interdependent	0,65	1 506	-16,38
	Partial	0,22	506	-2,13
	Non-dedicated	0,40	924	4,17
	Total	5,46	12 753	-0,29
2019	Core	4,31	10 347	5,40
	Interdependent	0,52	1 254	-16,73
	Partial	0,21	505	-0,20
	Non-dedicated	0,39	939	1,62
	Total	5,44	13 054	2,36
2020	Core	4,47	10 636	2,79
	Interdependent	0,65	1 549	23,52
	Partial	0,21	506	0,20
	Non-dedicated	0,36	850	-9,48
	Total	5,69	13 542	3,74

Between 2003 and 2020, the value added of the core copyright industries has doubled from approximately €5.1 billion to somewhat more than €10.6 billion. During the same period the share of the value added of the core copyright industries of the GDP has increased by more than a quarter (28 %) from approximately 3.5 percent to 4.5 percent.

Figure 6. Development of value added of the core copyright industries 2003–2020



The number of employees in the copyright-based industries amounted to 137 412 in 2016 (5.69 percent of the total employed workforce) and 146 380 in 2020 (5.87 percent of the total employed workforce). Figure 5 shows the development of employment in copyright-based industries as their share of the total workforce during 2013–2020. The total number of employees in copyright-based industries, as well as the relative proportion of the workforce increased during 2016–2020. In that time period, the total number of employees in core copyright industries increased by 11.3 percent (see Figure 6), while the aggregate employed labour force in Finland increased by mere 3.2 percent. The largest increase of the relative share of the total workforce in core copyright industries was seen in software and databases, while the largest decrease of the relative share was seen in press and literature.

Figure 7. Employees in the copyright-based industries as a share of total employment, %

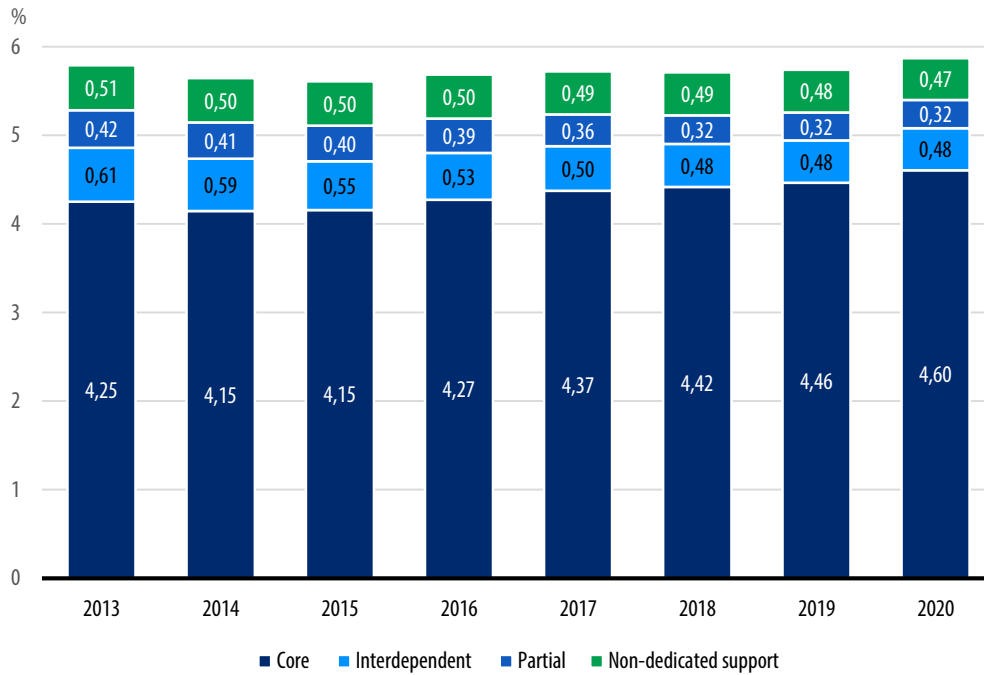
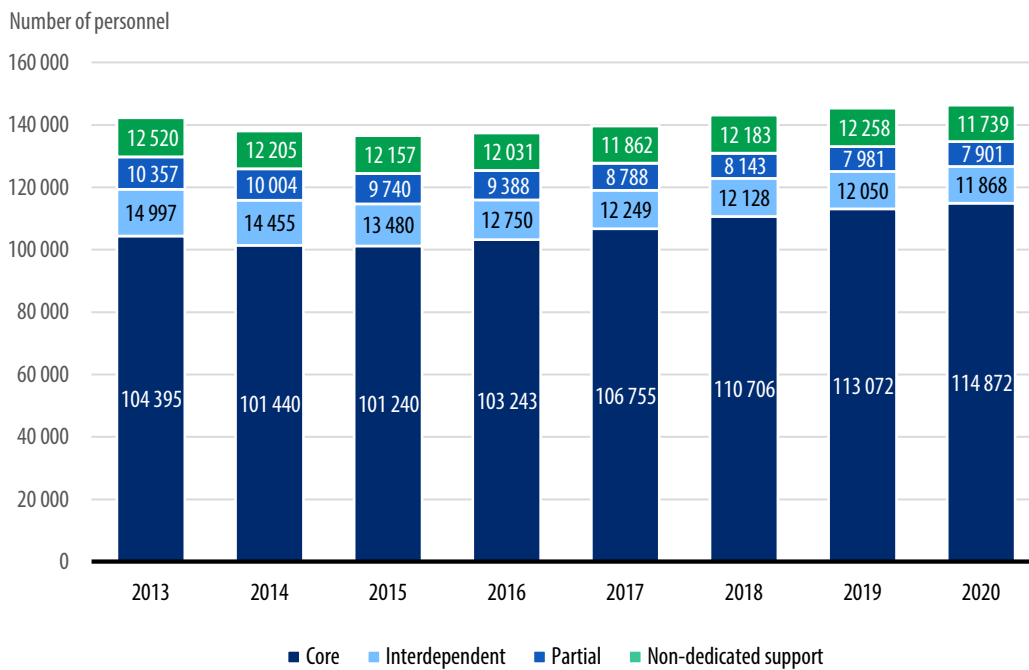
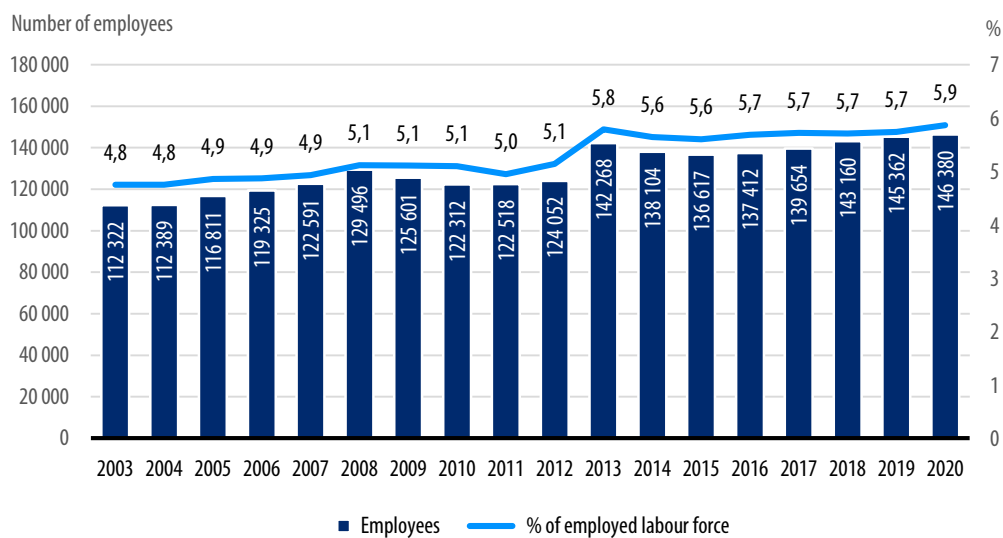


Figure 8. Number of employees in the copyright-based industries



Between 2003 and 2020, the number of employees of the copyright-based industries has increased by approximately 34 000 from slightly over 112 000 to over 146 000 (30%). Correspondingly, the share of the copyright-based industries of the labour force has increased by more than a quarter from 4.8 percent to 5.9 percent during the same period.

Figure 9. Development of employment of the copyright-based industries 2003–2020



In 2003, the number of employees of the core copyright industries was approximately 93 500. After that the number of employees of the core copyright industries has increased by approximately 21 000 people to somewhat under 115 000 (23 %) people in 2020. Correspondingly, the share of the core copyright industries of the labour force has increased by more than a quarter from 4.0 percent to 4.6 percent (16.3 %).

Figure 10. Development of employment of the core copyright industries 2003–2020

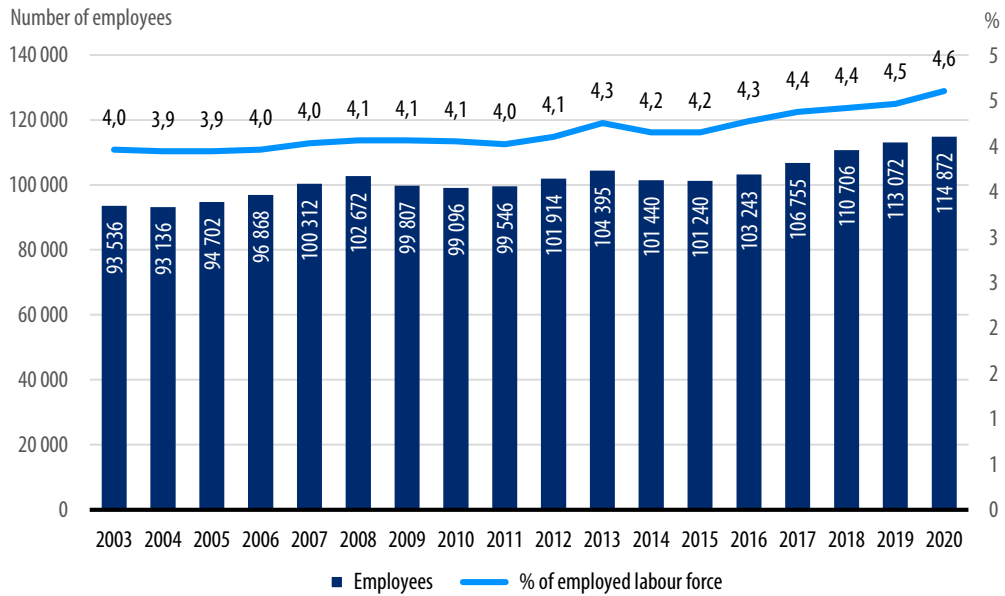


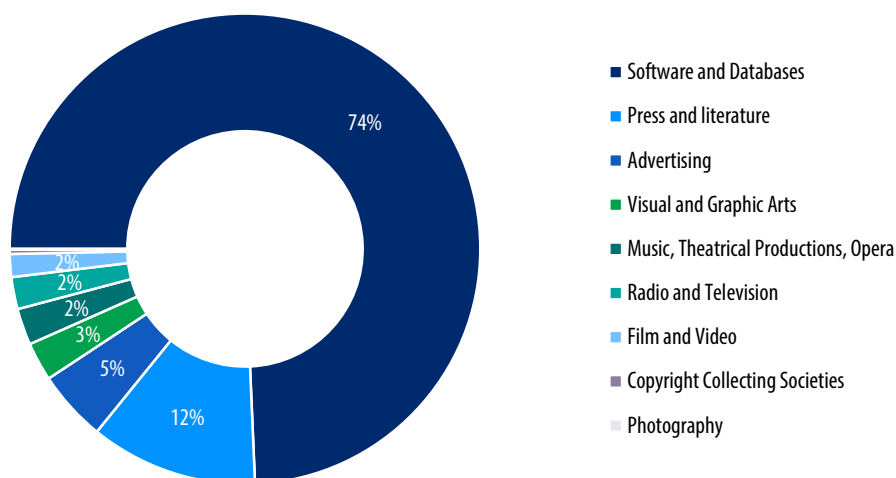
Table 6. Employees in the copyright-based industries in Finland

		Employees as % of total employment %	Total number of employees	Change in total employment %
2016	Core	4,27	103 243	1,98
	Interdependent	0,53	12 750	-5,42
	Partial	0,39	9 388	-3,61
	Non-dedicated	0,50	12 031	-1,03
	Total	5,69	137 412	0,58
2017	Core	4,37	106 755	3,40
	Interdependent	0,50	12 249	-3,93
	Partial	0,36	8 788	-6,40
	Non-dedicated	0,49	11 862	-1,40
	Total	5,72	139 654	1,63
2018	Core	4,42	110 706	3,70
	Interdependent	0,48	12 128	-0,98
	Partial	0,32	8 143	-7,34
	Non-dedicated	0,49	12 183	2,70
	Total	5,71	143 160	2,51
2019	Core	4,46	113 072	2,14
	Interdependent	0,48	12 050	-0,64
	Partial	0,32	7 981	-1,98
	Non-dedicated	0,48	12 258	0,62
	Total	5,74	145 362	1,54
2020	Core	4,60	114 872	1,59
	Interdependent	0,48	11 868	-1,51
	Partial	0,32	7 901	-1,01
	Non-dedicated	0,47	11 739	-4,24
	Total	5,87	146 380	0,70

In 2020, the two largest core copyright industries, software and databases, and press and literature, represented approximately 86 percent of the combined contribution of the core copyright industries in terms of value added (cf. figure 11). Software and databases was the largest core copyright industry, with an aggregate value added representing 74.3 percent of the core copyright sectors' total figure. In the second place, in terms of value added, was press and literature (11.5%). Advertising came in third, at a value added of 4.9% of the total of core copyright industries.

In terms of the development of value added, press and literature represented the largest absolute decline from 2016 to 2020: -95 million Euro (-7.2%). By far the largest absolute and relative growth of value added was seen in software and databases: +1.74 billion Euro (+28.3%).

Figure 11. Breakdown of the value added of the core copyright industries into sub-sectors, 2020



In 2020, software and databases represented a proportion of 63.2% of the total employment of the core copyright sectors (for comparison, the corresponding value was 54.0% in 2015) (cf. figure 12). Press and literature represented 17.3% (a drop from 23.3% in 2015), advertising represented 7.0%, and music, theatrical productions and opera 3.6%, closely followed by visual and graphic arts (3.5% of the total employment of the core copyright sectors).

With regard to the development of the employment of the core copyright sectors, radio and television (+28%, +475 employees), and software and databases (+24%, +14 056 employees) represented the largest relative and absolute increases from 2016 to 2020.

During the same period, press and literature represented the largest relative and absolute decrease in employment: -11.8% and -2652 employees. Visual and graphic arts (-5.9%, -255 employees), and advertising (-5.8%, -494 employees) represented the second largest declines in employment.

Figure 12. Breakdown of the employment of the core copyright industries into sub-sectors, 2015

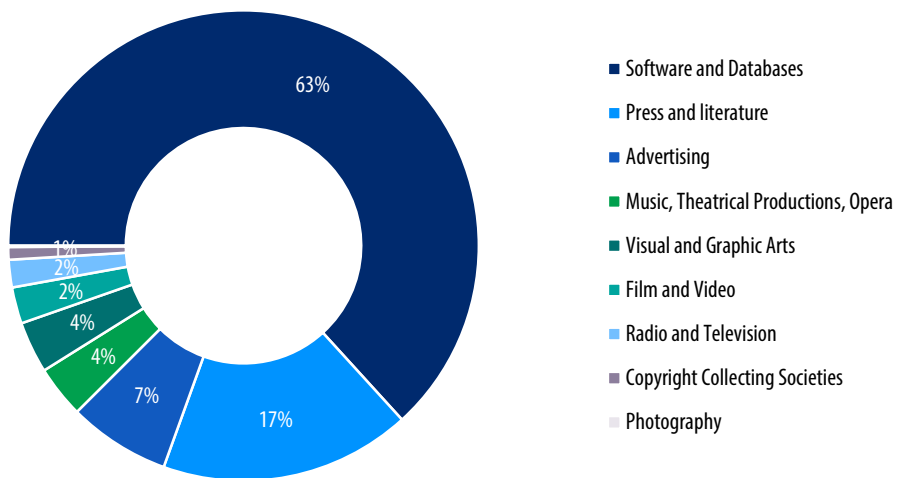


Table 7. Economic contribution of the copyright-based industries in Finland, 2016

	Turnover (€ million)	Value added (€ million)	% of GDP	Employees	% of employed labour force
Core copyright industries					
Press and Literature	4 005	1 320	0,61	22 493	0,93
Music, Theatrical Productions, Opera	1 126	228	0,10	3 809	0,16
Film and Video	491	173	0,08	2 708	0,11
Photography	8	5	0,00	103	0,00
Visual and Graphic Arts	627	250	0,12	4 328	0,18
Radio and Television	821	195	0,09	1 699	0,07
Software and Databases	15 260	6 163	2,83	58 588	2,42
Advertising	1 706	537	0,25	8 548	0,35
Copyright Collecting Societies	60	36	0,02	968	0,04
Total core copyright industries	24 105	8 907	4,09	103 243	4,27
Interdependent copyright industries					
TV sets, radios, VCRs, CD players, DVD players etc.	3 906	513	0,24	4 390	0,18
Computers and Equipment	1 311	153	0,07	1 819	0,08
Musical Instruments	25	5	0,00	120	0,00
Photographic and cinematographic instruments	185	64	0,03	1 107	0,05
Photocopiers	90	32	0,01	395	0,02
Blank recording material	142	25	0,01	284	0,01
Paper	5 126	756	0,35	4 636	0,19
Total interdependent copyright industries	10 824	1 265	0,71	12 750	0,53

	Turnover (€ million)	Value added (€ million)	% of GDP	Employees	% of employed labour force
Partial copyright industries					
Apparel, textiles and footwear	184	42	0,02	902	0,04
Jewelry and coins	363	72	0,03	1 787	0,07
Other crafts	93	12	0,01	463	0,02
Furniture	379	79	0,04	1 545	0,06
Household goods, china and glass	39	9	0,00	153	0,01
Wall covering and carpets	2	1	0,00	12	0,00
Toys and games	520	70	0,03	1 483	0,06
Architecture, engineering, surveying	400	211	0,10	2 935	0,12
Interior design	12	5	0,00	78	0,00
Museums	4	1	0,00	31	0,00
Total partial copyright industries	1 996	501	0,23	9 388	0,39
Non-dedicated support industries					
General wholesale and retailing	2 842	392	0,18	5 818	0,24
General transportation	1 064	381	0,17	5 686	0,24
Telephony and internet	212	97	0,04	527	0,02
Total non-dedicated support industries	4 118	870	0,40	12 031	0,50
Total copyright-based industries	41 044	11 826	5,44	137 412	5,69

Table 8. Economic contribution of the copyright-based industries in Finland, 2017

	Turnover (€ million)	Value added (€ million)	% of GDP	Employees	% of employed labour force
Core copyright industries					
Press and Literature	3 964	1 370	0,61	21 545	0,88
Music, Theatrical Productions, Opera	1 192	254	0,11	3 897	0,16
Film and Video	552	194	0,09	2 692	0,11
Photography	9	5	0,00	99	0,00
Visual and Graphic Arts	660	267	0,12	4 443	0,18
Radio and Television	801	215	0,10	1 824	0,07
Software and Databases	16 469	6 695	2,96	62 804	2,57
Advertising	1 709	558	0,25	8 511	0,35
Copyright Collecting Societies	30	26	0,01	940	0,04
Total core copyright industries	25 386	9 584	4,24	106 755	4,37
Interdependent copyright industries					
TV sets, radios, VCRs, CD players, DVD players etc.	4 248	649	0,29	3 919	0,16
Computers and Equipment	1 362	164	0,07	1 812	0,07
Musical Instruments	27	5	0,00	116	0,00
Photographic and cinematographic instruments	191	65	0,03	1 108	0,05
Photocopiers	87	32	0,01	378	0,02
Blank recording material	553	41	0,02	276	0,01
Paper	5 620	845	0,37	4 641	0,19
Total interdependent copyright industries	12 088	1 801	0,80	12 249	0,50

	Turnover (€ million)	Value added (€ million)	% of GDP	Employees	% of employed labour force
Partial copyright industries					
Apparel, textiles and footwear	186	45	0,02	886	0,04
Jewelry and coins	369	68	0,03	1 477	0,06
Other crafts	68	17	0,01	390	0,02
Furniture	387	83	0,04	1 444	0,06
Household goods, china and glass	39	9	0,00	148	0,01
Wall covering and carpets	2	1	0,00	12	0,00
Toys and games	431	64	0,03	1 306	0,05
Architecture, engineering, surveying	423	224	0,10	3 018	0,12
Interior design	14	5	0,00	79	0,00
Museums	5	1	0,00	31	0,00
Total partial copyright industries	1 923	517	0,23	8 788	0,36
Non-dedicated support industries					
General wholesale and retailing	2 826	393	0,17	5 596	0,23
General transportation	1 124	394	0,17	5 741	0,24
Telephony and internet	215	100	0,04	525	0,02
Total non-dedicated support industries	4 165	887	0,39	11 862	0,49
Total copyright-based industries	43 562	12 790	5,65	139 654	5,72

Table 9. Economic contribution of the copyright-based industries in Finland, 2018

	Turnover (€ million)	Value added (€ million)	% of GDP	Employees	% of employed labour force
Core copyright industries					
Press and Literature	3 855	1 326	0,57	20 776	0,83
Music, Theatrical Productions, Opera	1 218	280	0,12	4 391	0,18
Film and Video	572	174	0,07	2 800	0,11
Photography	9	5	0,00	99	0,00
Visual and Graphic Arts	665	285	0,12	4 352	0,17
Radio and Television	589	238	0,10	2 038	0,08
Software and Databases	17 932	6 913	2,96	66 545	2,65
Advertising	1 717	569	0,24	8 740	0,35
Copyright Collecting Societies	34	27	0,01	965	0,04
Total core copyright industries	26 590	9 817	4,20	110 706	4,42
Interdependent copyright industries					
TV sets, radios, VCRs, CD players, DVD players etc.	4 648	290	0,12	3 948	0,16
Computers and Equipment	1 291	148	0,06	1 694	0,07
Musical Instruments	26	6	0,00	114	0,00
Photographic and cinematographic instruments	192	70	0,03	1 098	0,04
Photocopiers	90	30	0,01	368	0,01
Blank recording material	569	20	0,01	262	0,01
Paper	6 254	942	0,40	4 647	0,19
Total interdependent copyright industries	13 069	1 506	0,65	12 128	0,48

	Turnover (€ million)	Value added (€ million)	% of GDP	Employees	% of employed labour force
Partial copyright industries					
Apparel, textiles and footwear	181	45	0,02	870	0,03
Jewelry and coins	330	56	0,02	1 180	0,05
Other crafts	107	15	0,01	313	0,01
Furniture	400	81	0,03	1 328	0,05
Household goods, china and glass	43	10	0,00	155	0,01
Wall covering and carpets	2	1	0,00	11	0,00
Toys and games	425	56	0,02	1 065	0,04
Architecture, engineering, surveying	448	236	0,10	3 100	0,12
Interior design	13	5	0,00	82	0,00
Museums	7	1	0,00	40	0,00
Total partial copyright industries	1 956	506	0,22	8 143	0,32
Non-dedicated support industries					
General wholesale and retailing	3 000	419	0,18	5 853	0,23
General transportation	1 174	400	0,17	5 793	0,23
Telephony and internet	223	105	0,04	537	0,02
Total non-dedicated support industries	4 397	924	0,40	12 183	0,49
Total copyright-based industries	46 012	12 753	5,46	143 160	5,71

Table 10. Economic contribution of the copyright-based industries in Finland, 2019

	Turnover (€ million)	Value added (€ million)	% of GDP	Employees	% of employed labour force
Core copyright industries					
Press and Literature	3 932	1 258	0,52	20 269	0,80
Music, Theatrical Productions, Opera	1 183	317	0,13	4 613	0,18
Film and Video	603	197	0,08	2 880	0,11
Photography	9	5	0,00	97	0,00
Visual and Graphic Arts	682	301	0,13	4 351	0,17
Radio and Television	604	251	0,10	2 122	0,08
Software and Databases	18 785	7 437	3,10	69 586	2,75
Advertising	1 693	551	0,23	8 162	0,32
Copyright Collecting Societies	37	30	0,01	992	0,04
Total core copyright industries	27 528	10 347	4,31	113 072	4,46
Interdependent copyright industries					
TV sets, radios, VCRs, CD players, DVD players etc.	5 580	206	0,09	3 874	0,15
Computers and Equipment	1 377	171	0,07	1 732	0,07
Musical Instruments	26	5	0,00	98	0,00
Photographic and cinematographic instruments	191	76	0,03	1 068	0,04
Photocopiers	88	29	0,01	349	0,01
Blank recording material	130	11	0,00	240	0,01
Paper	5 949	756	0,32	4 690	0,19
Total interdependent copyright industries	13 340	1 254	0,52	12 050	0,48

	Turnover (€ million)	Value added (€ million)	% of GDP	Employees	% of employed labour force
Partial copyright industries					
Apparel, textiles and footwear	180	43	0,02	851	0,03
Jewelry and coins	249	51	0,02	1 093	0,04
Other crafts	57	16	0,01	290	0,01
Furniture	368	84	0,03	1 377	0,05
Household goods, china and glass	40	9	0,00	142	0,01
Wall covering and carpets	2	1	0,00	10	0,00
Toys and games	282	50	0,02	844	0,03
Architecture, engineering, surveying	468	245	0,10	3 241	0,13
Interior design	13	5	0,00	86	0,00
Museums	9	2	0,00	48	0,00
Total partial copyright industries	1 669	505	0,21	7 981	0,32
Non-dedicated support industries					
General wholesale and retailing	2 999	424	0,18	6 003	0,24
General transportation	1 219	402	0,17	5 701	0,23
Telephony and internet	229	113	0,05	554	0,02
Total non-dedicated support industries	4 446	939	0,39	12 258	0,48
Total copyright-based industries	46 983	13 045	5,44	145 362	5,74

Table 11. Economic contribution of the copyright-based industries in Finland, 2020

	Turnover (€ million)	Value added (€ million)	% of GDP	Employees	% of employed labour force
Core copyright industries					
Press and Literature	3 854	1 225	0,51	19 841	0,80
Music, Theatrical Productions, Opera	947	267	0,11	4 115	0,16
Film and Video	508	167	0,07	2 876	0,12
Photography	10	5	0,00	102	0,00
Visual and Graphic Arts	520	283	0,12	4 073	0,16
Radio and Television	482	234	0,10	2 174	0,09
Software and Databases	19 823	7 905	3,32	72 644	2,91
Advertising	1 475	518	0,22	8 054	0,32
Copyright Collecting Societies	28	31	0,01	994	0,04
Total core copyright industries	27 646	10 636	4,47	114 872	4,60
Interdependent copyright industries					
TV sets, radios, VCRs, CD players, DVD players etc.	5 941	691	0,29	3 883	0,16
Computers and Equipment	1 376	167	0,07	1 731	0,07
Musical Instruments	27	6	0,00	103	0,00
Photographic and cinematographic instruments	173	63	0,03	1 062	0,04
Photocopiers	86	30	0,01	335	0,01
Blank recording material	130	24	0,01	244	0,01
Paper	4 763	567	0,24	4 510	0,18
Total interdependent copyright industries	12 496	1 549	0,65	11 868	0,48

	Turnover (€ million)	Value added (€ million)	% of GDP	Employees	% of employed labour force
Partial copyright industries					
Apparel, textiles and footwear	161	41	0,02	741	0,03
Jewelry and coins	233	48	0,02	974	0,04
Other crafts	85	14	0,01	341	0,01
Furniture	367	85	0,04	1 390	0,06
Household goods, china and glass	41	9	0,00	141	0,01
Wall covering and carpets	2	1	0,00	10	0,00
Toys and games	308	56	0,02	872	0,03
Architecture, engineering, surveying	476	246	0,10	3 295	0,13
Interior design	15	5	0,00	89	0,00
Museums	8	1	0,00	49	0,00
Total partial copyright industries	1 694	506	0,21	7 901	0,32
Non-dedicated support industries					
General wholesale and retailing	2 974	432	0,18	5 937	0,24
General transportation	1 001	311	0,13	5 265	0,21
Telephony and internet	231	107	0,04	537	0,02
Total non-dedicated support industries	4 206	850	0,36	11 739	0,47
Total copyright-based industries	46 043	13 542	5,69	146 380	5,87

4 Collective Management Organisations

The main function of Collective Management Organisations (CMO's) is to collect copyright royalties and payments for the specific uses of copyrighted works, and to distribute these revenues as remunerations to the right-holders for the use of their works. This task is justified and guided by the relevant legislation concerning CMO's. Currently in Finland there are seven Collective Management Organisations: Gramex (representing performing artists whose performances have been recorded on phonograms, and producers of phonograms), Kopiosto (representing authors, photographers, performing artists and publishers), Kuvasto (representing visual artists), Sanasto (representing the authors and translators of literary works), Teosto (representing composers, lyricists, arrangers and music publishers) and Audiovisual Producers Finland – APFI, which was founded in March 2018 when previous CMO Tuotos ry combined their activities with Suomen audiovisuaalisen alan tuottajat - SATU ry, Audiovisual Finland ry and Elokuvatuottajat ry. Ever since 2018 also Filmex (representing actors) has been active as a CMO, supervising the rights of actors performing in recorded audio-visual works.

One of the major changes in the field of CMO's happened in 2015, when the earlier private copying levy collected by Teosto was replaced with Finnish Government direct funding from the State budget. The amount of compensation is defined by an annual study of private copying in Finland, latest study being from 2021. The Ministry of Education and Culture then confirms the annual plan of distribution of the compensating funds for private copying, both directly to right-owners and as indirect compensation for general purposes i.e. grants to creative workers.

For the purposes of this study, data on Collective Management Organisations was collected from Culture Statistics published by Statistics Finland and directly from the CMO's and their annual reports. However, there are some differences in the form in which the figures are reported depending on the organisation and year in question, and there can be substantial yearly fluctuations especially in distributed remunerations. It is common that there is a timely lag between collecting the royalties and distributing the remunerations. Thus, it is challenging to compile a comparable and complete time series of these monetary flows, which should be considered when referring to these figures. Table 11 shows the collected royalties and distributed remunerations of the Finnish collective management organisations in 2020.

Table 12. Royalties collected and distributed by the collective management organisations in 2020 (€1 000)

Sources: Gramex, Filmex, Kopiosto, Kuvasto, Sanasto, Teosto and Audiovisual Producers Finland – APFI

1 000 €	APFI ¹	Filmex ²	Gramex ³	Kopiosto	Kuvasto	Sanasto	Teosto ⁴	Total
Royalties collected	24 981	1 469	22 504	54 127	1 259	12 616,0	65 568	182 524
from Finland	24 934	1 390	21 685	53 416	1 259	12 604,0	61 800	177 088
from abroad	47	79	819	711	-	12,0	3 768	5 436
Royalties distributed	7 175	947	19 300	65 900	860	10 095,1	51 450	155 727
to Finland	3 166	947	9 700	62 500	860	10 087,4	26 578	113 838
to abroad	4 009	-	9 600	3 400	-	7,7	24 872	41 889

1) APFI royalties collected includes an exceptional sum of 13.902.926,98 euros from previous years to be distributed for foreign rights owners. Reason for this is the solution for a long dispute between Kopiosto and APFI concerning the rate of distribution between foreign audio-visual artistic workers and producers of these works. These royalties were released for distribution in 2021.

2) Royalties collected without the grants from Ministry of Education

3) Including private copying remuneration and reprography

4) Including private copying remuneration and compensation for lending

Collective rights management organisations distribute the major portion of the collected royalties and payments to the respective right-holders. Remunerations are commonly distributed at least 6 months after royalties are collected, but in some cases in the following year, or even several years later. Teosto for example distributes remunerations five times in a year. This may lead to a situation where the annual distributed amount of remunerations is bigger than the collected amount of royalties. In 2020 Kopiosto is a good example of this, since the annual distribution has been 20 percent higher than collected remunerations (Table 13), simply because distribution also includes pending remunerations from earlier years. The ratio between remunerations distributed and royalties collected varies between different organisations from less than 30 percent to slightly over 120 percent in 2020 (Table 13). Both the very low ratio of APFI and the high ratio of Kopiosto are explained by the previously mentioned time lag between collecting and distribution of remunerations.

Part of the royalties collected is distributed as grants through the Finnish Music Foundation (MES), which was founded in 2012 for promoting and supporting Finnish music, both its performing and creation. MES continues the funding activities of ESEK (The Finnish Performing Music Promotion Centre) and LUSES (The Foundation for the Promotion of Finnish Music). A similar organisation for the audio-visual field is AVEK (The Promotion Centre for Audio-visual Culture) which is part of Kopiosto. AVEK is mostly funded by compensating state funds for private copying.

Furthermore, the portion of distributed remunerations has decreased in certain CMO's and increased in others between 2015 and 2020. Although entirely comparable figures of royalty flow over time are hard to come by, on a general level it can be stated that the monetary amounts of collected royalties and distributed remunerations have increased significantly between 2015 and 2020. Roughly estimated there has been a 1.6-times increase during these five years.

Table 13. Ratio between remunerations distributed and royalties collected by copyright societies as a percentage 2005, 2008, 2012, 2015 and 2020. Sources: Gramex, Filmex, Kopiosto, Kuvasto, Sanasto, Teosto and Audiovisual Producers Finland – APFI

	2005	2008	2012	2015	2020
APFI	-	-	-	-	28,7
Filmex	-	-	-	-	64,5
Gramex	109,1	82,6	69,9	96,5	85,8
Kopiosto	88,7	85,3	85,2	55,7	121,8
Kuvasto	71,0	97,5	61,2	66,2	68,3
Sanasto	-	-	95,6	94,5	80,0
Teosto	88,1	82,7	84,1	80,6	78,5

It is notable in table 12 that APFI has quite much pending royalties to be distributed, and thus their ratio in 2020 was very low. APFI has received a large sum of royalties collected by Kopiosto during years 2015–2020 as a solution to a dispute concerning the rate of distribution between foreign audio-visual artistic workers and producers of these works. These works are published in file sharing services. In 2020 Kopiosto, it has also distributed 20 percent more than what they collected in the same year, due to this same reason. This just shows how different years are not equally distributed or comparable in the operations of these Collective Management Organizations.

Table 14. Royalties collected by the collective management organisations in 2005-2020 (€1 000) 2018.
Sources: Gramex, Filmex, Kopiosto, Kuvasto, Sanasto, Teosto and Audiovisual Producers Finland – APFI

1 000 €	2005	2008	2012	2015	2020
APFI*	470	927	1 386	1 376	24 981
Filmex	-	-	-	-	1 469
Gramex	23 796	18 134	19 600	20 000	22 504
Kopiosto	26 379	23 648	27 129	31 381	54 127
Kuvasto	367	443	590	739	1 259
Sanasto	-	1 400	3 335	7 174	12 616
Teosto	37 740	42 064	55 638	60 997	65 568
Total	88 752	86 616	107 678	121 667	182 524

* Figures between 2005–2015 are royalties collected by Tuotos ry. Audiovisual Producers Finland – APFI was formed in in 2018

Amount of royalties collected (table 14) has increased substantially through years under investigation. Also new CMO's have been founded, but roughly estimated the increase in royalties collected during the past 15 years has been more than 90 million euros.

5 Cross-border Flow of Copyright Remunerations

This section presents the foreign trade of certain goods and services as well as the trade in rights, which are sources of flows of copyright remunerations, royalties and licence fees. The figures presented are based on data gathered from International Trade Statistics of the Finnish Customs and Statistics of International trade in goods and services published by Statistics Finland. Imports and exports are measured based on products rather than industries. Because manufactured articles progress from being raw materials to being a final product they go through an entire production chain in which the role of distribution channels, such as transport, wholesale and retailing, is unknown and irretrievable when registering final products⁷. Therefore, the trade balance cannot be broken down into industry categories with the same level of accuracy as financial statement statistics, and thus presenting the results in accordance with the WIPO template is somewhat challenging and problematic. Moreover, while trade statistics for more traditional copyrighted goods, such as books and newspapers, are readily available, data on related services and remunerations flows include major shortcomings. Industry associations and company information can be used to alleviate these problems. However, surveys produced on a regular basis are required in order to produce reliable results at the desired level.

According to Customs Finland Foreign trade statistics total value of exports was approximately €57 740 million in 2020. Correspondingly, the total value of exports in 2020 was roughly €59 768 million. Exports of copyrighted works relating to core copyright industries amounted to €14 271 million in 2020, representing 27.5 percent of Finland's total exports (23.5 % in 2019, 17.4 % in 2018, 16.3 % in 2017 and 18.1 % in 2016). The significant increase in the share of the core copyright industry exports is due to a simultaneous increase in the value of exports of computer services and a decrease in the value of total exports. The respective value of the imports was €7 430 million, which amounted to 17.0 percent of total imports (13.9 % in 2019, 10.5 % in 2018, 9.6 % in 2017 and 8.9 % in 2016). In 2020, the trade surplus of the core copyright industries was €6 841 million. The most significant categories of copyrighted material in terms of total export value were computer services and the royalties and licence fees. The same sub-categories of the core copyright industries were also important in terms of imports. In addition, the import value of advertising and related services was much greater than their export value in 2020.

⁷ Leenheer, Jorna, Bremer, Simon & Theeuwes, Jules (2008) The Economic Contribution of Copyright Industries to the Netherlands, SEO Economic Research., SEO Report no. 2008-60.A, pp 6.

Table 15. Core copyright industry related exports 2016–2020. Source: Finnish Customs International Trade Statistics

	2016		2017		2018		2019		2020	
	M€	%	M€	%	M€	%	M€	%	M€	%
Press and literature	121	1,2 %	109	1,0 %	99	0,9 %	60	0,4 %	31	0,2 %
Recorded media	14	0,1 %	35	0,3 %	34	0,3 %	29	0,2 %	26	0,2 %
Visual and graphic art works	2	0,0 %	6	0,1 %	6	0,1 %	5	0,0 %	3	0,0 %
Computer services	6 871	66,2 %	6 784	63,9 %	6 941	62,7 %	10 048	71,6 %	11 048	77,4 %
Information services	44	0,4 %	77	0,7 %	63	0,6 %	82	0,6 %	65	0,5 %
Advertising and related services	537	5,2 %	687	6,5 %	830	7,5 %	417	3,0 %	314	2,2 %
Audiovisual and related services	10	0,1 %	87	0,8 %	70	0,6 %	86	0,6 %	55	0,4 %
Other personal, cultural and recreational services	39	0,4 %	117	1,1 %	98	0,9 %	84	0,6 %	67	0,5 %
Royalties and licence fees	2 741	26,4 %	2 710	25,5 %	2 934	26,5 %	3 225	23,0 %	2 661	18,6 %
Total	10 379	100 %	10 612	100 %	11 075	100 %	14 036	100 %	14 271	100 %

Table 16. Core copyright industry related imports 2016–2020. Source: Finnish Customs International Trade Statistics

	2016		2017		2018		2019		2020	
	M€	%	M€	%	M€	%	M€	%	M€	%
Press and literature	139	2,7 %	140	2,5 %	145	2,3 %	141	1,9 %	123	1,7 %
Recorded media	28	0,5 %	59	1,0 %	53	0,8 %	44	0,6 %	41	0,5 %
Visual and graphic art works	6	0,1 %	6	0,1 %	12	0,2 %	9	0,1 %	8	0,1 %
Computer services	2 457	47,0 %	2 793	49,0 %	3 153	49,6 %	3 761	52,0 %	4 030	54,2 %
Information services	134	2,6 %	167	2,9 %	156	2,5 %	147	2,0 %	144	1,9 %
Advertising and related services	1 161	22,2 %	1 036	18,2 %	1 283	20,2 %	1 517	21,0 %	1 334	18,0 %
Audiovisual and related services	288	5,5 %	337	5,9 %	373	5,9 %	413	5,7 %	485	6,5 %
Other personal, cultural and recreational services	222	4,2 %	256	4,5 %	283	4,4 %	302	4,2 %	304	4,1 %
Royalties and licence fees	792	15,2 %	903	15,8 %	901	14,2 %	894	12,4 %	961	12,9 %
Total	5 227	100 %	5 698	100 %	6 360	100 %	7 227	100 %	7 430	100 %

Table 17. Core copyright industry related trade balance in 2020.

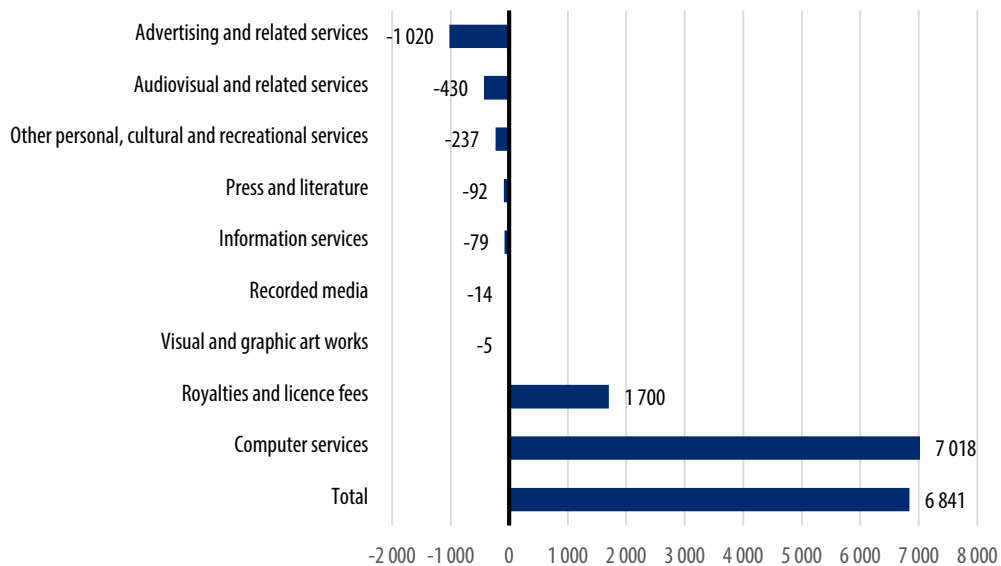
Source: Finnish Customs International Trade Statistics

	Export	Import	Trade balance
Press and literature	31	123	-92
Recorded media	26	41	-14
Visual and graphic art works	3	8	-5
Computer services	11 048	4 030	7 018
Information services	65	144	-79
Advertising and related services	314	1 334	-1 020
Audiovisual and related services	55	485	-430
Other personal, cultural and recreational services	67	304	-237
Royalties and licence fees	2 661	961	1 700
Total	14 271	7 430	6 841

The trade balance of core copyright-based industries has grown by a third (32.8%) during the last five years; while in 2016 the trade balance was approximately €5.15 billion, the respective figure for 2020 was €6.84 billion. The largest core copyright industry, computer services, contributed the highest increase in trade balance. In 2016, the trade balance of the computer services was approximately €4.14 billion; the respective figure for 2020 was €7.02 billion.

Figure 13. Core copyright industry related trade balance in 2020.

Source: Finnish Customs International Trade Statistics



The trade balance of interdependent copyright industries is in significant deficit. A closer look at the trade balance shows that Finland produces a trade deficit in all sub-categories except paper, which produces a vast surplus. The trade structure of interdependent copyright industries shows that Finland produces a trade deficit in all categories except paper, which produces an extensive surplus. Of the other categories of the interdependent industries only computers and related equipment, constitute any significant exports. However, imports are considerably higher than exports also in this category.

Table 18. Interdependent copyright industry related trade balance in 2020 (Million €).

Source: Finnish Customs International Trade Statistics

	Export	Import	Trade balance
TV sets, radios, VCRs, CD and DVD players etc.	87	586	-499
Computers and equipment	345	1 506	-1 161
Musical instruments	3	40	-37
Photographic and cinematographic instruments	14	54	-41
Photo-copiers	28	51	-23
Blank recording material	3	5	-3
Paper	748	31	718
Total	1 227	2 274	-1 046

6 International Comparison

In essence, the WIPO methodology offers a means to standardise national studies by examining the contribution of copyright-based industries, and thus improving cross-national comparability. Since the first edition of the WIPO Guide was published in 2003 studies that both apply the WIPO methodology and include comparable results have been published in 49 countries. According to the classification used by WIPO, surveys in accordance with the methodology have been carried out in only eight developed countries. By far the most of the studies (23) have been conducted in developing countries. The rest of the surveys have been done on either transition (11) or emerging economies (7). The limited number of small developed economies in the comparative data makes the Finnish study comparing the results only indicative and updating the applicable copyright coefficients challenging. In addition, when comparing and evaluating the results of different countries, the fact that the reference year for the results of only seven countries is 2016 or later must be taken into account.

Furthermore, practices in using the WIPO Guide are still evolving. Differences prevail in the level of detail of the reports, and the methods used and data sources are not always fully transparent. Certain differences are due, for example, to variations in the availability of statistics or industry categorisations. Moreover, practices vary in terms of dealing with missing data, using copyright factors, and reporting results on foreign trade, for instance. Thus, although cross-national comparisons are the least sensitive to such issues at an aggregate level, the results should nevertheless be interpreted with caution.

Table 19 compares the economic contributions of copyright-based industries in countries that have by the spring of 2022 conducted studies in accordance with the WIPO Guide.

Table 19. The Economic contribution of the copyright-based industries using the WIPO methodology.
Source: Based on data from the World Intellectual Property Organization

	Classification	Reference year	Value added as % of GDP	Employment as % of total employment
Argentina	Developing	2008	4,70	3,00
Australia	Developed	2018	6,80	8,30
Bhutan	Developing	2008	5,46	10,09
Botswana	Developing	2016	5,46	2,66
Brunei Darussalam	Developing	2006	1,58	3,20
Bulgaria	Transition	2011*	4,54	4,92
Canada	Developed	2019	6,15	5,35
China	Emerging	2017	7,35	9,46
Colombia	Developing	2005	3,30	5,80
Croatia	Transition	2004	4,27	4,64
Dominica	Developing	2010	3,40	4,80
Ecuador	Developing	2014	4,47	3,47
Ethiopia	Developing	2012	4,73	4,20
Finland	Developed	2020	5,69	5,87
France	Developed	2012	7,02	1,62
Grenada	Developing	2010	4,60	3,60
Hungary	Transition	2013	8,25	7,28
Indonesia	Emerging	2010	4,11	3,75
Jamaica	Developing	2005	4,81	3,03
Jordan	Developing	2006	2,43	2,88
Kenya	Developing	2007	5,32	3,26
Latvia	Transition	2000	5,05	5,59
Lebanon	Developing	2005	4,75	4,49
Lithuania	Transition	2008	5,40	4,92
Malawi	Developing	2009	3,46	3,35
Malaysia	Emerging	2005	5,70	7,50
Mexico	Developing	2003	4,77	11,01

	Classification	Reference year	Value added as % of GDP	Employment as % of total employment
Republic of Moldova	Transition	2013	3,31	3,58
Netherlands	Developed	2011	6,00	6,90
Pakistan	Developing	2000	4,45	3,71
Panama	Developing	2006	6,35	3,17
Peru	Developing	2005	2,67	4,50
Philippines	Emerging	2010	7,34	14,14
Republic of Korea	Developed	2009	9,89	6,24
Romania	Transition	2005	5,55	4,19
Russian Federation	Transition	2004	6,06	7,30
Serbia	Transition	2012	4,61	4,06
Singapore	Developed	2004	6,19	6,21
Slovenia	Transition	2007	5,10	6,80
South Africa	Emerging	2008	4,11	4,08
St. Kitts-Nevis	Developing	2010	6,60	3,10
St. Lucia	Developing	2010	8,00	4,40
St. Vincent and the Grenadines	Developing	2010	5,60	4,90
Tanzania	Developing	2010	4,28	5,63
Thailand	Emerging	2006	4,48	2,85
Trinidad & Tobago	Developing	2011	4,80	5,00
Turkey	Emerging	2018	2,88	4,34
Ukraine	Transition	2005	2,85	1,90
USA	Developed	2019	11,99	7,95

* Year of issue

* The table above illustrates that a number of studies have been carried out in countries that have only a limited number of official statistics available and make use of their own surveys and proxies. One must take into account these limitations while making international comparisons and conclusions.

* One must also take into account the fact that data for different studies was collected from different time periods. The most recent study of each country was used in the comparison.

Figures 14, 15, 16 and 17 and tables 20 and 21 are used to illustrate the position of the Finnish copyright-based industries in relation to copyright-based industries of other countries. Based on studies carried out in approximately fifty countries, the copyright-based industries comprise

on average 5.2 percent (median value 4.8 percent) of the GDP of a country. In Finland, the copyright-based industries comprise approximately 5.7 percent of GDP. Therefore, Finland is somewhat above average and takes shared sixteenth position in the group of 49 countries. However, within the eight developed countries Finland ranks last. When taking into account only the contribution of the core copyright industries, Finland, ranks ninth with a contribution of 4.5 percent. Comparisons between countries need to take into account the fact that different coefficients/copyright factors may have been used in different countries. Some studies have not used copyright factors for interdependent copyright industries but these industries have been fully taken into account. This approach heavily affects the total contribution of copyright-based industries to the economy. Such studies include, for example, Bulgaria, China, Hungary, Jordan, Malawi, Republic of Korea, Tanzania and the United States. Many of these studied countries rank higher than Finland when it comes to the total contribution of copyright-based industries.

Figure 14. Value added of the total copyright-based industries as percentage of GDP per country.
Source: Based on data from the World Intellectual Property Organization

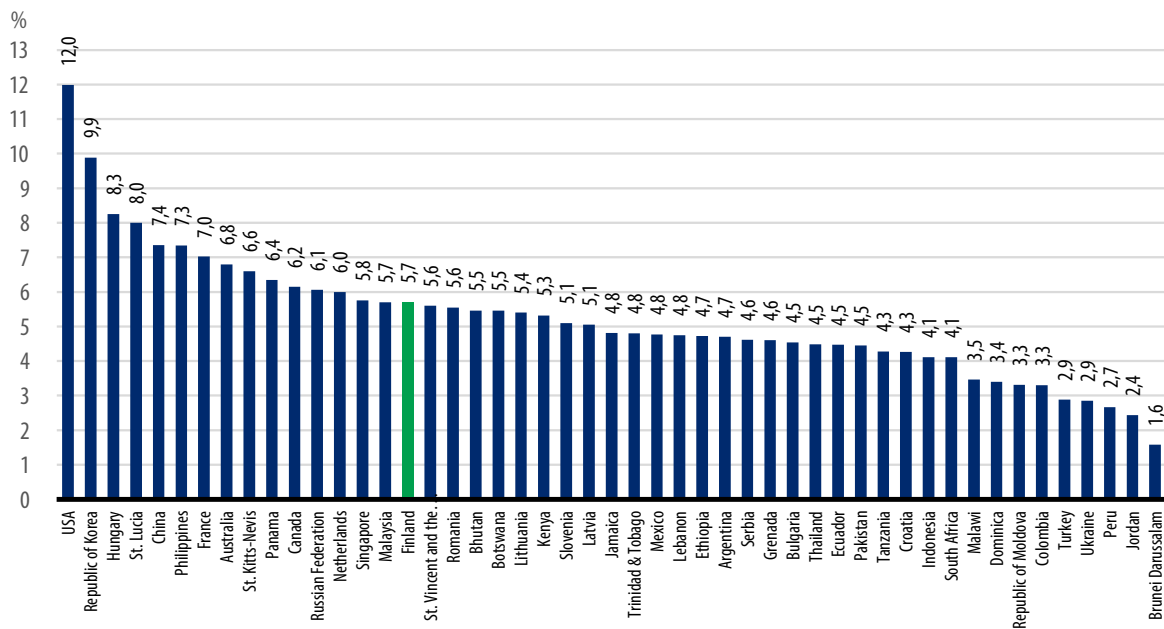


Figure 15. Value added of the core copyright industries as percentage of GDP per country. Source: Based on data from the World Intellectual Property Organization

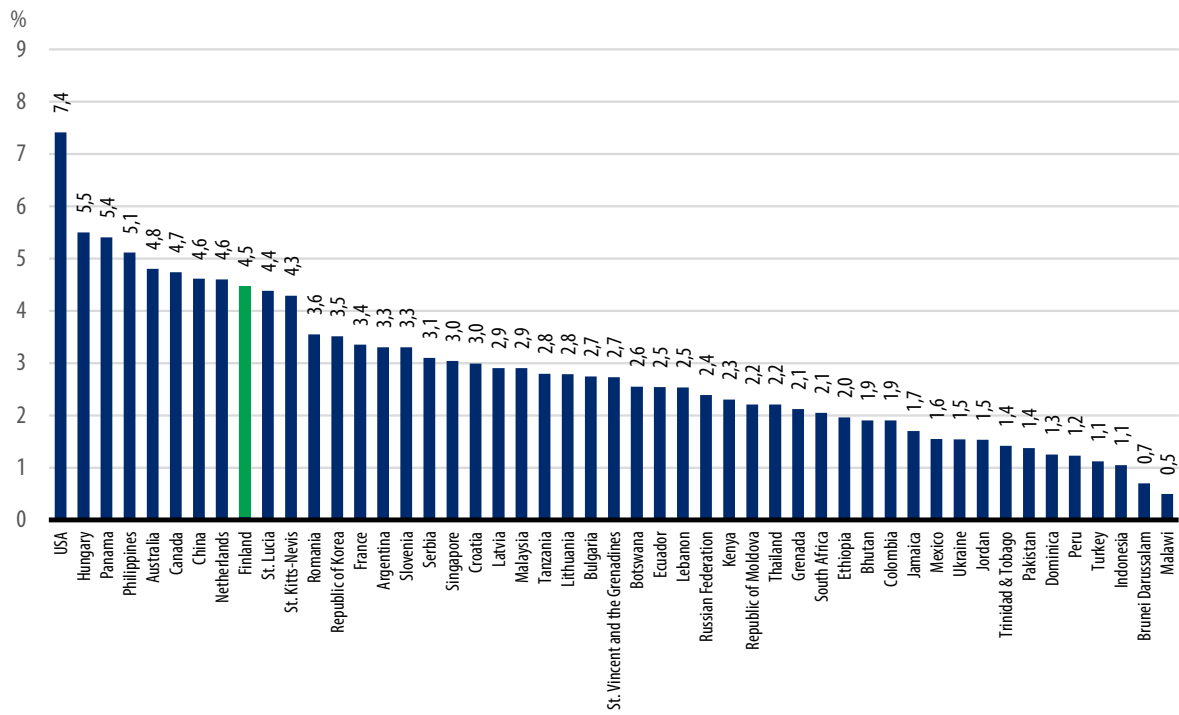


Table 20. Value added of the copyright–based industries by sub-categories as a percentage of GDP per country.

Source: Based on data from the World Intellectual Property Organization

	Classification	Reference year	Core	Inter-dependent	Partial	Non-dedicated	Total
Argentina	Developing	2008	3,30	0,60	0,20	0,60	4,70
Australia	Developed	2018	4,80	1,20	0,40	0,40	6,80
Bhutan	Developing	2008	1,90	0,60	2,20	0,70	5,46
Botswana	Developing	2016	2,55	1,71	0,30	0,89	5,46
Brunei Darussalam	Developing	2006	0,70	0,10	0,70	0,08	1,58
Bulgaria	Transition	2011*	2,74	1,08	0,29	0,38	4,54
Canada	Developed	2019	4,74	0,90	0,11	0,38	6,15
China	Emerging	2017	4,61	1,18	0,55	1,01	7,35
Colombia	Developing	2005	1,90	0,80	0,30	0,40	3,30
Croatia	Transition	2004	2,99	0,88	0,32	0,07	4,27
Dominica	Developing	2010	1,25	0,30	0,68	1,38	3,40
Ecuador	Developing	2014	2,54	0,84	0,77	0,31	4,47
Ethiopia	Developing	2012	1,96	1,39	0,43	0,95	4,73
Finland	Developed	2020	4,47	0,65	0,21	0,36	5,69
France	Developed	2012	3,35	0,60	1,87	1,20	7,02
Grenada	Developing	2010	2,12	0,30	0,96	1,22	4,60
Hungary	Transition	2013	5,50	1,32	0,30	1,13	8,25
Indonesia	Emerging	2010	1,05	0,65	2,06	0,36	4,11
Jamaica	Developing	2005	1,70	0,74	0,47	1,90	4,81
Jordan	Developing	2006	1,53	0,12	0,21	0,57	2,43
Kenya	Developing	2007	2,30	2,17	0,41	0,43	5,32
Latvia	Transition	2000	2,90	1,10	0,28	0,77	5,05
Lebanon	Developing	2005	2,53	0,71	0,62	0,89	4,75
Lithuania	Transition	2008	2,79	1,27	0,26	1,07	5,40
Malawi	Developing	2009	0,50	2,63	0,07	0,25	3,46
Malaysia	Emerging	2005	2,90	2,10	0,60	0,10	5,70

	Classification	Reference year	Core	Inter-dependent	Partial	Non-dedicated	Total
Mexico	Developing	2003	1,55	1,69	0,85	0,68	4,77
Republic of Moldova	Transition	2013	2,21	0,42	0,19	0,49	3,31
Netherlands	Developed	2011	4,60	0,40	0,30	0,60	6,00
Pakistan	Developing	2000	1,37	0,11	0,98	1,99	4,45
Panama	Developing	2006	5,40	0,06	0,05	0,84	6,35
Peru	Developing	2005	1,23	0,28	0,02	1,14	2,67
Philippines	Emerging	2010	5,11	1,32	0,51	0,41	7,34
Republic of Korea	Developed	2009	3,51	4,75	0,66	0,97	9,89
Romania	Transition	2005	3,55	1,08	0,53	0,39	5,55
Russian Federation	Transition	2004	2,39	0,76	0,27	2,64	6,06
Serbia	Transition	2012	3,10	0,58	0,22	0,71	4,61
Singapore	Developed	2004	3,04	1,60	0,08	1,03	5,75
Slovenia	Transition	2007	3,30	0,60	0,50	0,60	5,10
South Africa	Emerging	2008	2,05	0,56	0,21	1,29	4,11
St. Kitts-Nevis	Developing	2010	4,29	0,56	0,93	0,82	6,60
St. Lucia	Developing	2010	4,38	0,26	2,13	1,23	8,00
St. Vincent and the Grenadines	Developing	2010	2,73	0,13	1,09	1,66	5,60
Tanzania	Developing	2010	2,80	1,37	0,10	0,00	4,28
Thailand	Emerging	2006	2,21	1,02	0,71	0,54	4,48
Trinidad & Tobago	Developing	2011	1,41	0,13	0,97	2,28	4,80
Turkey	Emerging	2018	1,12	0,51	0,29	0,44	2,88
Ukraine	Transition	2005	1,54	0,68	0,10	0,54	2,85
USA	Developed	2019	7,41	2,15	0,23	2,20	11,99

* Year of issue

Average of the copyright-based industries employment was 5.2 percent to the total amount of people employed in a country (median value 4.5 percent). In Finland, the copyright-based industries' contribution to the total employment was 5.9 percent. In Finland, the contribution of copyright-based industries' to the total employment is somewhat above the average and Finland was ranked number fourteen. However, within the group of eight developed countries (average 6.1) Finland ranked sixth. Considering the separate contribution of the core copyright industries, Finland, with a contribution of 4.6 percent, clearly exceeds the average (2.8) and ranks sixth. This is the fourth biggest share among the developed countries and a bit higher than average proportion (4.5).

Figure 16. Employment in the copyright-based industries as a percentage of the total employment per country. Source: Based on data from the World Intellectual Property Organization

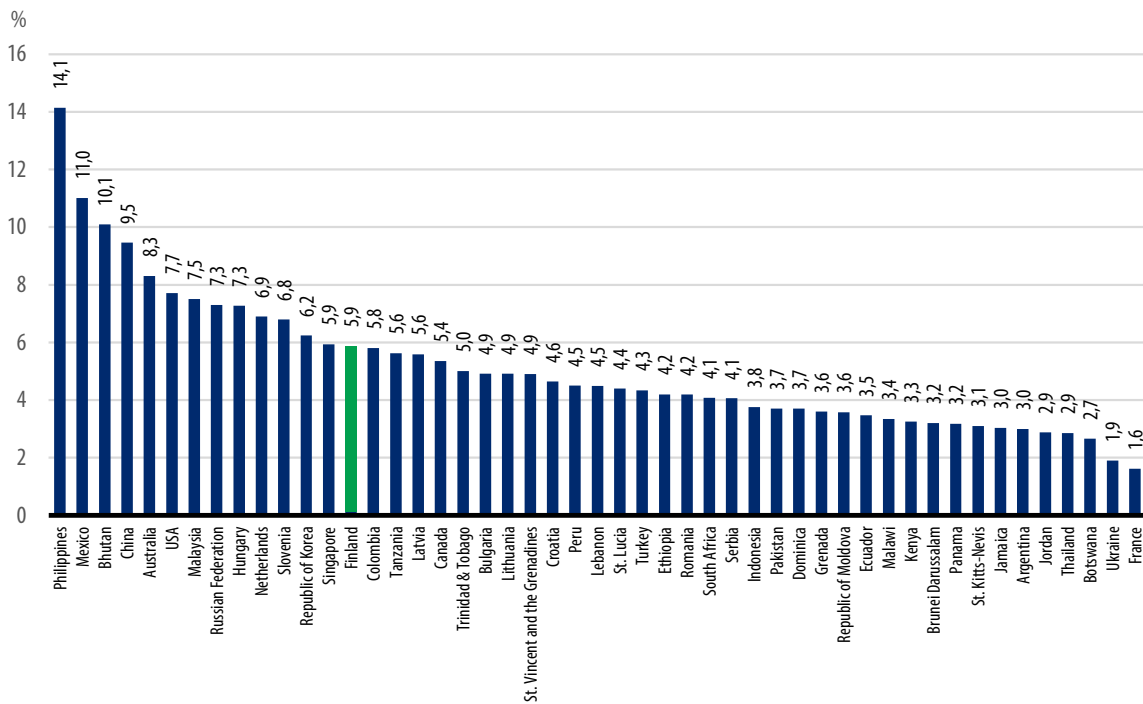


Figure 17. Employment in the core copyright industries as a percentage of the total employment per country.
 Source: Based on data from the World Intellectual Property Organization

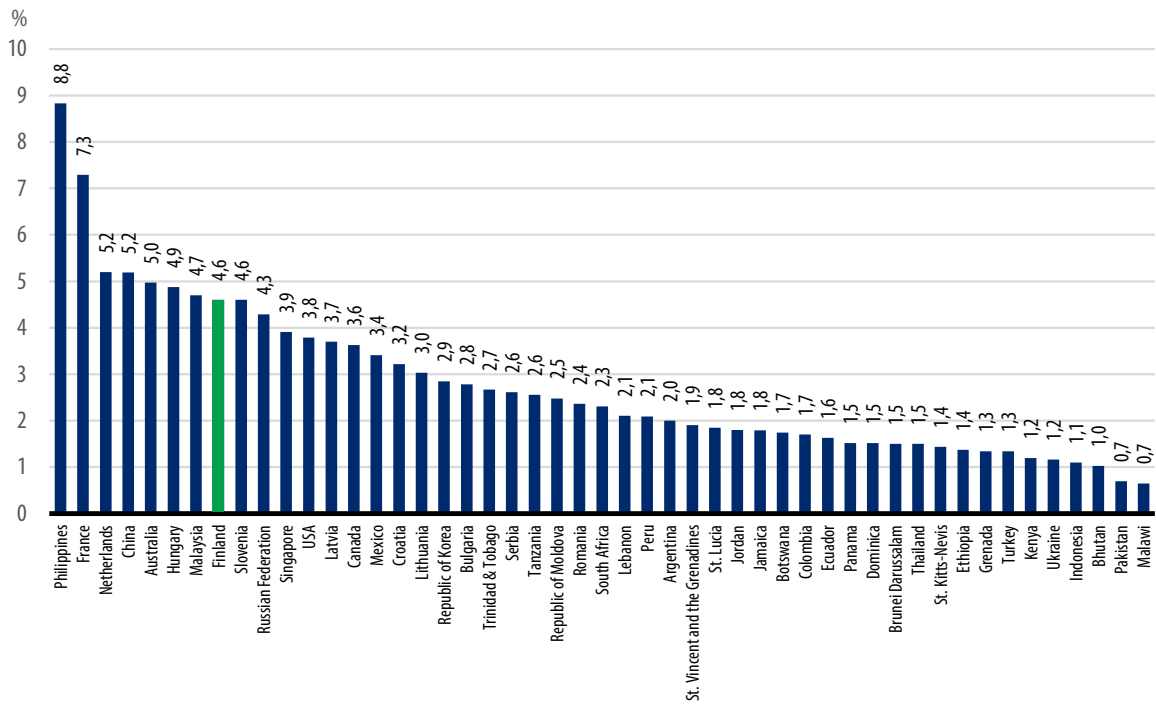


Table 21. Employment in the copyright-based industries as a percentage of the total employment per country.

Source: Based on data from the World Intellectual Property Organization

	Classification	Reference year	Core	Inter-dependent	Partial	Non-dedicated	Total
Argentina	Developing	2008	2,00	0,30	0,50	0,20	3,00
Australia	Developed	2018	4,97	1,81	0,06	6,50	8,30
Bhutan	Developing	2008	1,03	0,29	7,16	1,61	10,09
Botswana	Developing	2016	1,74	0,17	0,23	0,53	2,66
Brunei Darussalam	Developing	2006	1,50	0,40	1,10	0,20	3,20
Bulgaria	Transition	2011*	2,78	1,34	0,31	0,49	4,92
Canada	Developed	2019	3,63	0,91	0,16	0,33	5,35
China	Emerging	2017	5,19	2,18	1,27	0,85	9,46
Colombia	Developing	2005	1,70	0,70	1,90	1,50	5,80
Croatia	Transition	2004	3,22	0,93	0,41	0,08	4,64
Dominica	Developing	2010	1,52	0,04	0,21	1,98	3,70
Ecuador	Developing	2014	1,63	0,59	0,75	0,50	3,47
Ethiopia	Developing	2012	1,37	1,27	0,33	1,23	4,20
Finland	Developed	2020	4,60	0,48	0,32	0,47	5,87
France	Developed	2012	7,29	3,56	0,30	1,81	1,62
Grenada	Developing	2010	1,34	0,38	0,82	1,05	3,60
Hungary	Transition	2013	4,88	0,82	0,36	1,22	7,28
Indonesia	Emerging	2010	1,10	0,27	2,05	0,33	3,75
Jamaica	Developing	2005	1,79	0,31	0,23	0,68	3,03
Jordan	Developing	2006	1,80	0,08	0,20	0,80	2,88
Kenya	Developing	2007	1,20	0,75	1,04	0,27	3,26
Latvia	Transition	2000	3,70	0,70	0,44	0,75	5,59
Lebanon	Developing	2005	2,11	0,73	0,70	0,95	4,49
Lithuania	Transition	2008	3,03	0,80	0,26	0,82	4,92
Malawi	Developing	2009	0,65	2,43	0,11	0,17	3,35
Malaysia	Emerging	2005	4,70	1,60	0,90	0,20	7,50

	Classification	Reference year	Core	Inter-dependent	Partial	Non-dedicated	Total
Mexico	Developing	2003	3,41	3,65	2,53	1,41	11,01
Republic of Moldova	Transition	2013	2,48	0,33	0,23	0,54	3,58
Netherlands	Developed	2011	5,20	0,40	0,50	0,70	6,90
Pakistan	Developing	2000	0,70	0,04	1,37	1,60	3,71
Panama	Developing	2006	1,52	1,20	0,31	0,13	3,17
Peru	Developing	2005	2,09	0,14	0,07	2,20	4,50
Philippines	Emerging	2010	8,83	3,27	1,21	0,82	14,14
Republic of Korea	Developed	2009	2,85	1,59	0,67	1,12	6,24
Romania	Transition	2005	2,36	0,58	0,82	0,43	4,19
Russian Federation	Transition	2004	4,29	0,75	0,56	1,69	7,30
Serbia	Transition	2012	2,61	0,44	0,33	0,69	4,06
Singapore	Developed	2004	3,91	1,06	0,19	0,77	5,94
Slovenia	Transition	2007	4,60	0,80	0,70	0,70	6,80
South Africa	Emerging	2008	2,31	0,51	0,23	1,03	4,08
St. Kitts-Nevis	Developing	2010	1,44	0,45	0,81	0,41	3,10
St. Lucia	Developing	2010	1,85	0,33	1,09	1,14	4,40
St. Vincent and the Grenadines	Developing	2010	1,91	0,17	1,01	1,81	4,90
Tanzania	Developing	2010	2,56	2,14	0,29	0,64	5,63
Thailand	Emerging	2006	1,50	0,29	0,68	0,39	2,85
Trinidad & Tobago	Developing	2011	2,67	1,73	0,20	0,41	5,00
Turkey	Emerging	2018	1,34	0,56	1,95	0,49	4,34
Ukraine	Transition	2005	1,16	0,46	0,08	0,20	1,90
USA	Developed	2019	3,79	1,97	0,24	1,71	7,71

* Year of issue

7 Conclusions

This study covered the economic contribution of copyright or copyright-based industries from 2016 to 2020 in Finland. The relative contribution of all copyright-based industries has slightly increased during the years under examination; while in 2016 this contribution was 5.44 percent, the respective figure for 2020 was 5.69 percent. The aggregate value added of copyright-based industries €11.83 billion in 2016 and €13.54 billion in 2020. The contribution of the core copyright industries increased from 4.09 percent in 2016 to 4.47 percent in 2020. The increase is mainly explained by the increase in the subcategory Software and databases. The contribution of the interdependent industries as well as the share of non-dedicated support industries decreased from 0.74 percent in 2016 to 0.65 percent in 2020. This is due to the decline in the paper industry's share. The paper industry is one of the major industries in the Finnish economy, and therefore, although only a portion of the paper industry's value-added is calculated as being copyright-based, a major change in pulp and paper production heavily affects the numbers of the interdependent copyright industries. The share of the non-dedicated support industries decreased modestly while the share of the partial copyright industries remained about unchanged. Even in the long run, the development of value added has been positive. In 2003, the value added of the copyright-based industries was approximately € 6.4 billion. By 2020, the summed up value added of the copyright-based industries had more than doubled to €13.54 billion. In 2003, this represented 4.44 percent of the GDP, while the respective number for 2020 was 5.69 percent, that is, more than a quarter higher.

The copyright-based industries employed a total of 137 412 people in 2016 and 146 380 people in 2020. In 2016, this represented 5.69 percent of the total employed workforce, while the respective number for 2020 was 5.87 percent. Both the total number of employees in the copyright-based industries and the relative proportion of this workforce increased slightly between 2016 and 2020. This growth is primarily due to the increase of the workforce in subcategory Software and Databases. In 2016 subcategory Software and Databases employed 58 588 people and the respective figure for 2020 was 72 644 people (24 %). Other subcategories that increased their number of employees during the period under review were Radio and television, Music, theatrical productions, opera and Film and video. The biggest decreases in the number of employees has happened in the categories of press and literature, TV sets, radios, etc., advertising, jewellery and coins, toys and games and paper. In 2003, the copyright-based industries employed a total of 112 322 people. By 2020, the total number of employees had risen by approximately 34,000,

or almost a third to 146,380 people. In 2003, this represented 4.75 percent of the total employed workforce, while the respective number for 2020 was 5.87 percent. This is about a quarter higher than in the early millennium.

Some of earlier studies conducted in Finland did not fully apply the methodology of the revised WIPO Guide. The international industrial classification system (ISIC) was modified some ten years ago. The modified system was not applied in the first Finnish studies. The new classification makes it possible to capture the core copyright and the interdependent copyright industries more accurately than previously and it reduces double inclusion of certain industries in these categories. In spite of the modifications in the methodology and classification system, the differences between the studies are rather modest. That is particularly apparent when it comes to the core copyright industries, in which the differences are insignificant. The economic contribution of core copyright industries was 3.48 percent of GDP in the year 2003 and had reached 4.47 percent by 2020. During the past two decades, the economic contribution of the core copyright industries has shown a clear and steady growth. During the same period, the share of copyright-based industries of the total employment has also increased, although slightly less than the share of value added. Specifically, in the year 2003, the core copyright industries represented 3.96 percent of the total employed workforce, while the respective share in 2020 was 4.60 percent. A closer look at the core copyright industries reveals that the growth has been driven in particular by growth in sub-category Software and databases. The development of the second largest subcategory of the core copyright industry, Press and literature, has been the opposite. In this case, both the value added and, in particular, the number of employees have decreased.

This report applied the revised WIPO Guide on Surveying the Economic Contribution of the Copyright-Based Industries, published in 2015. The high-grade statistical system of Finland enables the report to accurately capture copyright-based activities according to the WIPO Guide. However, the WIPO guide requires assessment and judgement in certain aspects, for example, when measuring the copyright factors of independent and partial copyright industries. In this report, the researchers were cautious and used moderate assumptions when calculating the copyright factors. Therefore, one can say that the economic contribution figures of this research paper are more likely to underestimate than overestimate the importance of the copyright industries' contribution to the economy.

The international comparisons made in Chapter 6 indicate that Finland ranks high in terms of the contribution of its core copyright industries but a bit lower when it comes to the overall contribution of all its copyright-based industries. This means that the non-core copyright industries contribute less in Finland than in many other countries. Nevertheless, it should be kept in mind that certain national reports are not entirely transparent on the

calculation of the contribution of the non-core copyright industries and therefore the comparison has to be interpreted with caution.

The WIPO guide on Surveying the Economic Contribution of the Copyright-Based Industries was published in 2003 and the experience of its implementation reveals a level of variation. There are obviously differences in the availability of statistics or industry categorisations in many countries, but practices also vary in terms of dealing with missing data, using copyright factors, and reporting results on foreign trade. In particular, the use of copyright factors is an issue that requires caution when making international comparisons. Some of the reports do not reveal what copyright factors have been used and what weight is given to interdependent, partial or non-dedicated support industries.

In 2015, WIPO published a revised guide on the economic contribution of the copyright-based industries. The researchers welcomed this. However, even further alignment of the implementation of the methodology would be desirable. One of the reasons for revising the guide was to enable a more unified approach to treat the non-core sectors and, especially, to set the copyright factors. In this respect, standardised ways of calculations or estimations would be practical. Country-specific sampling by surveys and interviews would naturally be very useful, but rarely possible. A research and survey on an international level would be very useful to further standardise the methodology. WIPO's expertise and resources would be valuable in implementation and coordination of this work.

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Appendix: Copyright-based industries and related activities with corresponding industry classification codes and the used copyright factors

CORE COPYRIGHT INDUSTRIES

Category	Activities	Corresponding industries in Finnish TOL 2008 classification
Press and literature	Authors, writers, translators	90030 Artistic creation
		74300 Translation and interpretation activities
		82990 Other business support service activities n.e.c.
	Newspapers	58130 Publishing of newspapers
		63910 News agencies
	News and feature agencies, etc.	58140 Publishing of magazines and periodicals
	Magazines and periodicals	58110 Publishing of books
	Book publishing	58120 Publishing of directories etc.
	Cards maps, directories, and other published material	58190 Other publishing activities
		18110 Printing of newspapers
	Pre-press, printing, and post press of books, magazines, newspapers, and advertising materials	18120 Other printing
		18130 Pre-press and pre-media services
		18140 Binding and related services
		82191 Secretarial and other specialised office support activities
		82192 Mailing activities
	Wholesale and retail of press and literature	46492 Wholesale of books
		47610 Retail sale of books in specialised stores
		47622 Retail sale of journals and periodicals
		47792 Second-hand bookshops
		47911 Retail sale of books, music and video recordings via mail order houses and net commerce
Libraries	7729 Renting and leasing of other personal and household goods	
	91010 Library and archives activities	

Category	Activities	Corresponding industries in Finnish TOL 2008 classification	
Music, theatrical productions, operas	Composers, lyricists, arrangers, choreographers, directors, performers, etc.	90030 Artistic creation	
	Choreographers, writers	90030 Artistic creation	
	Directors, performers, and other personnel	90030 Artistic creation	
	Artistic and literary creation and interpretation	90030 Artistic creation	
	Support activities to the performing arts and the operation of concert and theatre halls		90020 Support activities to performing arts
			90040 Operation of arts facilities
	Printing and publishing of music	59200 Sound recording and music publishing activities	
	Production and manufacture of recorded music	18200 Reproduction of recorded media	
	Wholesale, retail, and rentals of recorded music		46431 Wholesale of electrical household appliances
			46494 Wholesale of musical instruments and supplies
			47630 Retail sale of music and video recordings in specialised stores
			77220 Renting of video tapes and disks
			77290 Renting and leasing of other personal and household goods
Operation of concert and theatre halls	90040 Operation of arts facilities		
Performances and allied agencies (booking agencies, ticket agencies, etc)		90010 Performing arts	
		90020 Support activities to performing arts	
		79900 Other reservation service and related activities	

Category	Activities	Corresponding industries in Finnish TOL 2008 classification
Motion picture and video	Writers, directors, actors, etc.	90030 Artistic creation
		59110 Motion picture, video and television programme production activities
	Motion picture and video production and distribution	59120 Motion picture, video and television programme post-production activities
		59130 Motion picture, video and television programme distribution activities
		Motion picture exhibition
	Video rentals and sales, video on demand	77220 Renting of video tapes and disks
		46432 Wholesale of radio and television goods
47630 Retail sale of music and video recordings in specialised stores		
Allied services	18200 Reproduction of recorded media	
Radio and television	Television program production activities	59110 Motion picture, video and television programme production activities
		59120 Motion picture, video and television programme post-production activities
		59130 Motion picture, video and television programme distribution activities
	National radio and television broadcasting companies	60100 Radio broadcasting
		60201 Television programming and broadcasting activities (excl. pay television channels)
		60202 Pay television channel activities
	Independent producers	59110 Motion picture, video and television programme production activities
		59120 Motion picture, video and television programme post-production activities
		59130 Motion picture, video and television programme distribution activities
Photography	Studios and commercial photography	74201 Photographic studio and other photographic activities
		74202 Photographic laboratory activities

Category	Activities	Corresponding industries in Finnish TOL 2008 classification
Software, databases and computer games	Programming, development, and design, manufacturing	58210 Publishing of computer games
		58290 Other software publishing
		62010 Computer programming activities
		62020 Computer consultancy activities
		62030 Computer facilities management activities
		62090 Other information technology and computer service activities
	Wholesale and retail pre-packaged software (business programs, video games, educational programs etc.)	46510 Wholesale of computers, computer peripheral equipment and software
		47410 Retail sale of computers, peripheral units and software in specialised stores
Database processing and publishing	63110 Data processing, hosting and related activities	
	63120 Web portals	
Visual and graphic arts	Artists	90010 Performing arts
		90030 Artistic creation
	Art galleries and other wholesale and retail	90020 Support activities to performing arts
		90040 Operation of arts facilities
	Picture framing and other allied services	74201 Photographic studio and other photographic activities
		74202 Photographic laboratory activities
	Service related to printing	18120 Other printing
	Graphic design	90030 Artistic creation
		18120 Other printing
		74101 Graphic design activities
Advertising	Agencies, buying services	73111 Advertising agency activities
		73112 Direct and outdoor advertising activities
		73119 Other advertising activities
		73200 Market research and public opinion polling
Copyright collecting societies	Copyright Collecting Societies	94120 Activities of professional membership organisations

All the subcategories of the core copyright industries are included in the calculations of the economic contribution of copyright. Thus their copyright factor is 100%.

INTERDEPENDENT COPYRIGHT INDUSTRIES

Category	Activities	Corresponding industries in Finnish TOL 2008 classification	Copyright factor Finland
TV sets, Radios, VCRs, CD Players, DVD Players, Cassette Players, Electronic Game Equipment, and Other Similar Equipment	Manufacture	26300 Manufacture of communication equipment	32,5 %
		26400 Manufacture of consumer electronics	32,5 %
	Wholesale and retail	46431 Wholesale of electrical household appliances	32,5 %
		46432 Wholesale of radio and television goods	32,5 %
		46499 Wholesale of other household goods n.e.c.	32,5 %
		47430 Retail sale of audio and video equipment in specialised stores	32,5 %
	Renting	77290 Renting and leasing of other personal and household goods	32,5 %
		77390 Renting and leasing of other machinery, equipment and tangible goods n.e.	32,5 %
Computers and Equipment		26200 Manufacture of computers and peripheral equipment	32,5 %
		46510 Wholesale of computers, computer peripheral equipment and software	32,5 %
		47410 Retail sale of computers, peripheral units and software in specialised stores	32,5 %
		77330 Renting and leasing of office machinery and equipment (including computers)	32,5 %
Musical Instruments		32200 Manufacture of musical instruments	31,7 %
		46494 Wholesale of musical instruments and supplies	31,7 %
		47595 Retail sale of musical equipment and supplies	31,7 %
		7729 Renting and leasing of other personal and household good	31,7 %
Photographic and cinemato- graphic instruments		26700 Manufacture of optical instruments and photographic equipment	31,7 %
		46433 Wholesale of photographic equipment and supplies	31,7 %
		46434 Wholesale of optical goods	31,7 %
		47782 Retail sale of photographic equipment; photography services	31,7 %
		47783 Retail sale of optical goods	31,7 %
		77390 Renting and leasing of other machinery, equipment and tangible goods n.e.c.	31,7 %

Category	Activities	Corresponding industries in Finnish TOL 2008 classification	Copyright factor Finland
Photocopiers		28230 Manufacture of office machinery and equipment (except computers and peripheral equipment)	30,0 %
		46660 Wholesale of other office machinery and equipment	30,0 %
Blank recording material		26800 Manufacture of magnetic and optical media	25,0 %
		46521 Wholesale of telecommunication equipment	25,0 %
Paper		17110 Manufacture of pulp	25,0 %
		17120 Manufacture of paper and paperboard	25,0 %
		17211 Manufacture of paper sacks and bags	25,0 %
		17212 Manufacture of corrugated paper and paperboard and of containers of paper and paperboard	25,0 %
		17230 Manufacture of paper stationery	25,0 %
		17290 Manufacture of other articles of paper and paperboard	25,0 %

PARTIAL COPYRIGHT INDUSTRIES

Category	Activities	Corresponding industries in Finnish TOL 2008 classification	Copyright factor Finland
Apparel textiles and footwear		14110 Manufacture of leather clothes	5,8 %
		14120 Manufacture of workwear	5,8 %
		14130 Manufacture of other outerwear	5,8 %
		14140 Manufacture of underwear	5,8 %
		14190 Manufacture of other wearing apparel and accessories	5,8 %
		13921 Manufacture of household furnishings of textile materials	5,8 %
		13922 Manufacture of tarpaulins, sails and other made-up textile articles	5,8 %
		15200 Manufacture of footwear	5,8 %
		46411 Wholesale of fabrics and yarns	5,8 %
		46412 Wholesale of textiles	5,8 %
		46421 Wholesale of clothing and footwear	5,8 %
		46422 Wholesale of footwear	5,8 %

Category	Activities	Corresponding industries in Finnish TOL 2008 classification	Copyright factor Finland
		47511 Retail sale of fabrics	5,8 %
		47512 Retail sale of yarns and needlework supplies	5,8 %
		47711 Retail sale of women's clothing	5,8 %
		47712 Retail sale of men's clothing	5,8 %
		47713 Retail sale of children's clothing	5,8 %
		47714 Retail sale of furs and leather clothing	5,8 %
		47715 Retail sale of hats and caps	5,8 %
		47719 Retail sale of clothing in non-specialized stores	5,8 %
		47721 Retail sale of footwear and leather goods	5,8 %
		47722 Retail sale of bags	5,8 %
		74109 Industrial design activities	5,8 %
Jewelry and coins		32110 Striking of coins	26,0 %
		32120 Manufacture of jewellery and related articles	26,0 %
		32130 Manufacture of imitation jewellery and related articles	26,0 %
		46480 Wholesale of watches and jewellery	26,0 %
		4719 Other retail sale in non-specialised stores	26,0 %
		47770 Retail sale of watches and jewellery in specialised stores	26,0 %
		74109 Industrial design activities	26,0 %
Other crafts		94999 Activities of other membership organisations n.e.c.	39,3 %
		4719 Other retail sale in non-specialised stores	39,3 %
		47599 Retail sale of household equipment n.e.c.	39,3 %
		74109 Industrial design activities	39,3 %
Furniture		31010 Manufacture of office and shop furniture	8,8 %
		31020 Manufacture of kitchen furniture	8,8 %
		31030 Manufacture of mattresses	8,8 %
		31090 Manufacture of other furniture	8,8 %
		46470 Wholesale of furniture, carpets and lighting equipment	8,8 %
		4719 Other retail sale in non-specialised stores	8,8 %
		47591 Retail sale of furniture	8,8 %
		74109 Industrial design activities	8,8 %

Category	Activities	Corresponding industries in Finnish TOL 2008 classification	Copyright factor Finland
Household goods, china and glass		23110 Manufacture of flat glass	0,9 %
		23120 Shaping and processing of flat glass	0,9 %
		23130 Manufacture of hollow glass	0,9 %
		23140 Manufacture of glass fibres	0,9 %
		23190 Manufacture and processing of other glass, including technical glassware	0,9 %
		13910 Manufacture of knitted and crocheted fabrics	0,9 %
		14310 Manufacture of knitted and crocheted hosiery	0,9 %
		14390 Manufacture of other knitted and crocheted apparel	0,9 %
		16290 Manufacture of other products of wood; manufacture of articles of cork, straw and plaiting	0,9 %
		25990 Manufacture of other fabricated metal products n.e.c	0,9 %
		46441 Wholesale of household articles	0,9 %
		46442 Wholesale of household cleaning materials	0,9 %
		47521 Non-specialized retail sale of hardware, plumbing and building materials	0,9 %
		47522 Retail sale of paints	0,9 %
		47523 Retail sale of kitchen and sanitary fixtures	0,9 %
		47529 Other retail sale of hardware, plumbing and building materials	0,9 %
		47594 Retail sale of household articles	0,9 %
		74109 Industrial design activities	0,9 %
	Wall coverings and carpets		13930 Manufacture of carpets and rugs
		17240 Manufacture of wallpaper	2,0 %
		47531 Retail sale of carpets and curtains	2,0 %
		47532 Retail sale of wallpaper and floor covering	2,0 %
		74109 Industrial design activities	2,0 %

Category	Activities	Corresponding industries in Finnish TOL 2008 classification	Copyright factor Finland
Toys and games		32400 Manufacture of games and toys	44,0 %
		46496 Wholesale of toys and games	44,0 %
		4719 Other retail sale in non-specialised stores	44,0 %
		47650 Retail sale of games and toys in specialised stores	44,0 %
		74109 Industrial design activities	44,0 %
Architecture, engineering, surveying		71110 Architectural activities	8,1 %
		71121 Town and city planning	8,1 %
		71122 Civil engineering activities	8,1 %
		71123 Structural engineering activities	8,1 %
		71124 Heating, plumbing and air-conditioning design	8,1 %
		71125 Electrical engineering design	8,1 %
		71126 Other construction activities	8,1 %
		71127 Mechanical and process engineering design	8,1 %
	71129 Other architectural and engineering activities and related technical consultancy	8,1 %	
Interior design		74102 Interior design activities	12,1 %
Museums		91020 Museums activities	36,8 %
		91030 Operation of historical sites and buildings and similar visitor attractions	36,8 %

NON-DEDICATED SUPPORT INDUSTRIES

Category	Activities	Corresponding industries in Finnish TOL 2008 classification	Copyright factor Finland
General wholesale and retailing		4611 Agents involved in the sale of agricultural raw materials, live animals, textile raw materials and semi-finished goods	4,85 %
		4612 Agents involved in the sale of fuels, ores, metals and industrial chemicals	4,85 %
		4613 Agents involved in the sale of timber and building materials	4,85 %
		4614 Agents involved in the sale of machinery, industrial equipment, ships and aircraft	4,85 %
		4615 Agents involved in the sale of furniture, household goods, hardware and ironmongery	4,85 %
		4616 Agents involved in the sale of textiles, clothing, fur, footwear and leather goods	4,85 %
		4617 Agents involved in the sale of food, beverages and tobacco	4,85 %
		4618 Agents specialised in the sale of other particular products	4,85 %
		4619 Agents involved in the sale of a variety of goods	4,85 %
		4641 Wholesale of textiles	4,85 %
		4642 Wholesale of clothing and footwear	4,85 %
		4643 Wholesale of electrical household appliances	4,85 %
		4644 Wholesale of china and glassware and cleaning materials	4,85 %
		4645 Wholesale of perfume and cosmetics	4,85 %
		4646 Wholesale of pharmaceutical goods	4,85 %
		4649 Wholesale of other household goods	4,85 %
		4661 Wholesale of agricultural machinery, equipment and supplies	4,85 %
	4662 Wholesale of machine tools	4,85 %	
	4663 Wholesale of mining, construction and civil engineering machinery	4,85 %	
	4664 Wholesale of machinery for the textile industry and of sewing and knitting machines	4,85 %	
	4665 Wholesale of office furniture	4,85 %	

Category	Activities	Corresponding industries in Finnish TOL 2008 classification	Copyright factor Finland
		4669 Wholesale of other machinery and equipment	4,85 %
		4671 Wholesale of solid, liquid and gaseous fuels and related products	4,85 %
		4672 Wholesale of metals and metal ores	4,85 %
		4673 Wholesale of wood, construction materials and sanitary equipment	4,85 %
		4674 Wholesale of hardware, plumbing and heating equipment and supplies	4,85 %
		4675 Wholesale of chemical products	4,85 %
		4676 Wholesale of other intermediate products	4,85 %
		4677 Wholesale of waste and scrap	4,85 %
		4711 Retail sale in non-specialised stores with food, beverages or tobacco predominating	4,85 %
		4742 Retail sale of telecommunications equipment in specialised stores	4,85 %
		4751 Retail sale of textiles in specialised stores	4,85 %
		4753 Retail sale of carpets, rugs, wall and floor coverings in specialised stores	4,85 %
		4754 Retail sale of electrical household appliances in specialised stores	4,85 %
		4759 Retail sale of furniture, lighting equipment and other household articles in specialised stores	4,85 %
		4762 Retail sale of newspapers and stationery in specialised stores	4,85 %
		4764 Retail sale of sporting equipment in specialised stores	4,85 %
		4772 Retail sale of footwear and leather goods in specialised stores	4,85 %
		4773 Dispensing chemist in specialised stores	4,85 %
		4774 Retail sale of medical and orthopaedic goods in specialised stores	4,85 %
		4775 Retail sale of cosmetic and toilet articles in specialised stores	4,85 %

Category	Activities	Corresponding industries in Finnish TOL 2008 classification	Copyright factor Finland
		4776 Retail sale of flowers, plants, seeds, fertilisers, pet animals and pet food in specialised stores	4,85 %
		4778 Other retail sale of new goods in specialised stores	4,85 %
		4779 Retail sale of second-hand goods in stores	4,85 %
		4781 Retail sale via stalls and markets of food, beverages and tobacco products	4,85 %
		4782 Retail sale via stalls and markets of textiles, clothing and footwear	4,85 %
		4789 Retail sale via stalls and markets of other goods	4,85 %
		4791 Retail sale via mail order houses or via Internet	4,85 %
		4799 Other retail sale not in stores, stalls or markets	4,85 %
General transportation		49 Land transport and transport via pipelines	4,85 %
		50 Water transport	4,85 %
		51 Air transport	4,85 %
		5221 Service activities incidental to land transportation	4,85 %
		5222 Service activities incidental to water transportation	4,85 %
		5223 Service activities incidental to air transportation	4,85 %
		5224 Cargo handling	4,85 %
		5229 Other transportation support activities	4,85 %
		53 Postal and courier activities	4,85 %
Information and communication		61100 Wired telecommunications activities	4,85 %
		61200 Wireless telecommunications activities	4,85 %
		61300 Satellite telecommunications activities	4,85 %
		61900 Other telecommunications activities	4,85 %

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