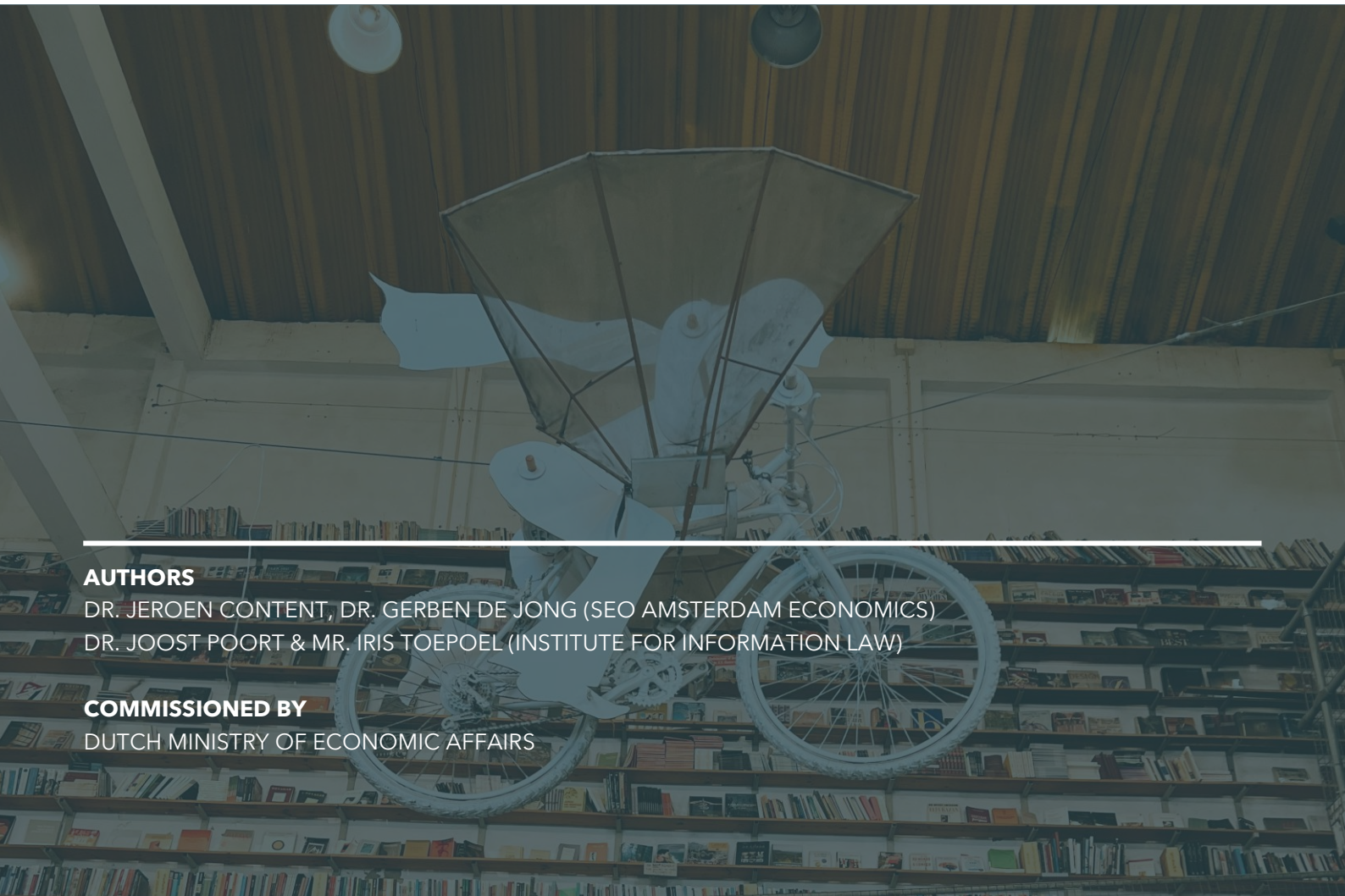
ECONOMIC CONTRIBUTION OF COPYRIGHT INDUSTRIES IN THE NETHERLANDS

A STUDY BASED ON THE WIPO GUIDE

REPORT

seo • amsterdam economics



AUTHORS
DR. JEROEN CONTENT, DR. GERBEN DE JONG (SEO AMSTERDAM ECONOMICS)
DR. JOOST POORT & MR. IRIS TOEPOEL (INSTITUTE FOR INFORMATION LAW)

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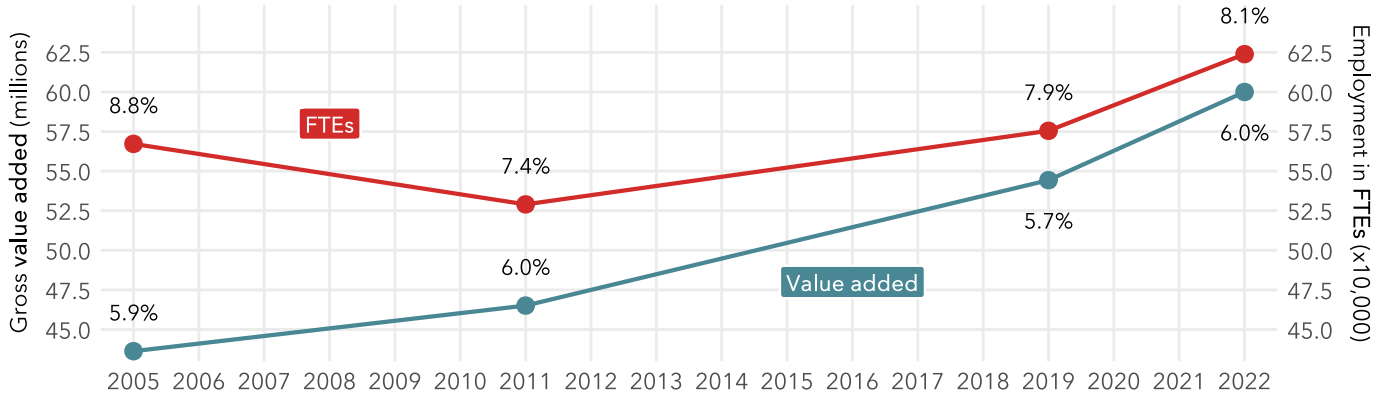
Summary (EN)

- This study measures the economic contribution of industries for which copyright is relevant using the WIPO Guide (2015). The WIPO guide distinguishes between Core, Interdependent, Partial and Non-Dedicated Copyright industries, depending on whether they engage fully or partially in copyrighted products and whether they play a creating or enabling role.
- In 2022, these copyright industries together contributed 60 billion euros in added value, accounting for 6.0 percent of the Dutch gross domestic product (GDP). Their relative economic impact has remained remarkably stable over time. In 2011, copyright industries accounted for 6.0 percent of GDP, and in 2005, their share was nearly identical at 5.9 percent.
- In contrast, the contribution of copyright industries to the national workforce of the Netherlands has increased since 2011. In 2022, copyright-related jobs accounted for 8.1 percent of all full-time equivalents (FTEs), up from 7.4 percent in 2011. However, this share was even higher in 2005, at 8.8 percent.
- The share of self-employed workers in copyright industries is significantly higher than in the overall economy (21 vs. 13 percent in terms of FTE). This difference remains rather stable over time.
- The fact that the copyright industries' relative contribution to GDP remained constant between 2011 and 2022, while their share of employment increased, suggests that these industries experienced below-average labour productivity growth during this period.
- Despite the economic shock of the COVID-19 pandemic, the relative contribution of copyright industries to the economy remained stable, with only slight variations in GDP contribution and employment levels between 2019 and 2022. However, this reflects the copyright industries' overall performance, with variations in the impact on individual copyright-relevant activities likely offsetting each other.
- The Netherlands ranks above the international average in terms of GDP and employment contribution of copyright industries but has lower relative labour productivity compared to other high-ranking countries.
- Like previous Dutch studies, this study also estimates the *goods* trade balance of copyright industries, excluding *services* trade due to limited data availability. In 2022, copyright industries had a 4.7 billion euro goods trade deficit, reversing a 1.5 billion euro surplus in 2011. Since 2005, the goods trade balance has steadily declined. For highly tertiarised economies like the Netherlands, and in particular for service-oriented industries such as copyright industries, studying trade statistics of solely *goods* is increasingly problematic. More detailed data on service trade is needed for a complete picture of the industry's overall trade balance.

Figure S.1 Copyright industries have a stable contribution to GDP and a rising contribution to employment

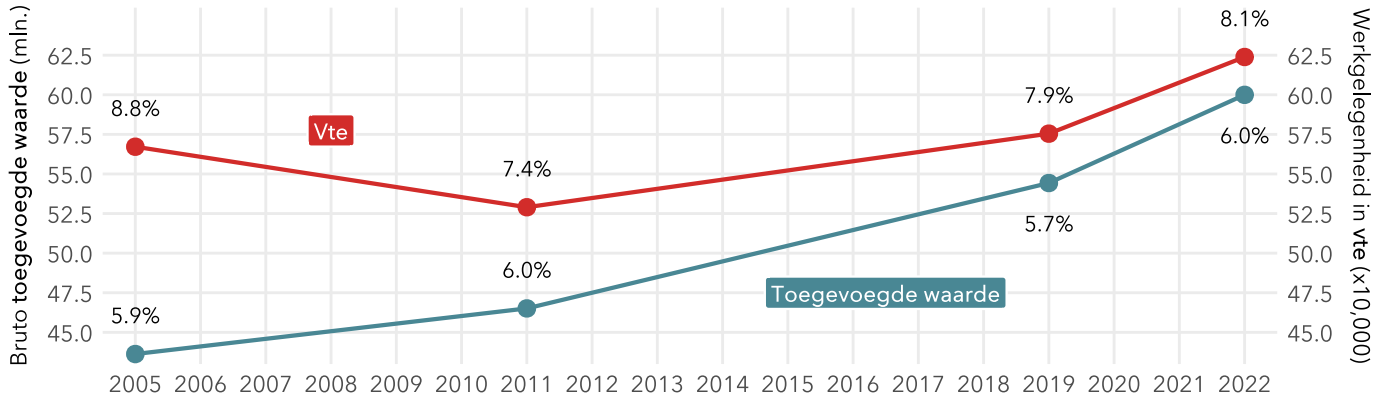


Source: SEO (2014) and CBS Microdata (2025), analysis by SEO/IViR
Note: All monetary values in the figure are deflated to represent 2022 prices.

Samenvatting (NL)

- Deze studie meet de economische omvang van auteursrechtrelevante industrieën door gebruik te maken van de WIPO Guide (2015).
- In 2022 droegen auteursrechtindustrieën 60 miljard euro bij aan de toegevoegde waarde, goed voor 6,0 procent van het Nederlandse bruto binnenlands product (bbp). De relatieve economische omvang van auteursrechtrelevante industrieën is opmerkelijk stabiel over de tijd. In 2011 was de auteursrechtindustrie ook goed voor 6,0 procent van het bbp, en in 2005 was hun aandeel met 5,9 procent ook al bijna identiek.
- De bijdrage van auteursrechtrelevante industrieën aan de werkgelegenheid in Nederland is in de loop der tijd toegenomen. Waar in 2022 8,1 procent van alle voltijdsequivalenten (vte's) in Nederland auteursrechtelijk relevant was, was dit in 2011 nog 7,4 procent. In 2005 lag dit aandeel echter nog hoger op 8,8 procent.
- Het aandeel zelfstandigen in auteursrechtrelevante industrieën is aanzienlijk hoger dan in de totale economie (21 procent versus 13 procent in vte). Dit verschil is over de tijd tamelijk stabiel gebleven.
- De relatieve bijdrage van auteursrechtrelevante industrieën aan het bbp tussen 2011 en 2022 constant is gebleven, terwijl het aandeel in de werkgelegenheid is toegenomen, dit suggereert dat auteursrechtrelevante industrieën in deze periode een ondergemiddelde groei van de arbeidsproductiviteit hebben doorgemaakt.
- Ondanks de economische schok die de coronapandemie heeft veroorzaakt, bleef de relatieve omvang auteursrechtrelevante industrieën binnen de economie stabiel, met slechts kleine schommelingen in het bbp-aandeel en de werkgelegenheid tussen 2019 en 2022. Dit weerspiegelt echter de algemene prestaties, waarbij variaties in de impact van individuele auteursrelevante activiteiten elkaar mogelijk hebben gecompenseerd.
- Nederland scoort boven het internationale gemiddelde wat betreft de bijdrage van auteursrechtrelevante industrieën aan het bbp en de werkgelegenheid, maar heeft een lagere relatieve arbeidsproductiviteit in vergelijking met andere hoog scorende landen.
- Net als eerdere Nederlandse studies schat deze studie de *goederen*handelsbalans van auteursrechtindustrieën, exclusief *diensten*handel vanwege beperkte data. In 2022 hadden de auteursrechtelijke sectoren een tekort op de goederenhandelsbalans van 4,7 miljard euro, tegenover een overschot van 1,5 miljard euro in 2011. Sinds 2005 is de handelsbalans voor goederen gestaag gedaald. Voor economieën met een hoge mate van verdienstelijking, zoals Nederland, en in het bijzonder voor dienstgerichte sectoren, zoals auteursrechtsectoren, wordt het bestuderen van handelsstatistieken van uitsluitend goederen steeds minde relevant. Gedetailleerdere data over de handel in diensten is daarom nodig voor een volledig beeld van de totale handelsbalans van de auteursrechtindustrie.

Figure S.2 Stabiele bijdrage aan het bbp en een stijgende bijdrage aan werkgelegenheid auteursrechtindustrie



Bron: SEO (2014) en CBS Microdata (2025), bewerking SEO/IViR.

Noot: Monetaire waarde in het figuur zijn gecorrigeerd voor inflatie en zijn uitgedrukt in prijzen van 2022.

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1 Introduction

This study measures the economic contribution of copyright industries in the Netherlands, defined by the World Intellectual Property Organization (WIPO) as "those activities or industries where copyright plays an identifiable role".

Research on the economic impact of copyright-relevant sectors has a long-standing tradition, both nationally and internationally. Since Besen and Raskind (1991) highlighted the lack of economic studies on intellectual property in the *Journal of Economic Perspectives*,[1] a substantial body of literature has developed.[2] A key driver of this research has been the WIPO Guide *(Guide on Surveying the Economic Contribution of the Copyright Industries,* 2015). This guide facilitates empirical analysis by offering a standardised and comparable methodology for assessing the contribution of copyright industries to national economies.

The first time the WIPO Guide was applied to measure the economic significance of copyright industries in the Netherlands was in 2008 (SEO, 2008) using data from 2005, with an updated assessment conducted in 2014 (SEO, 2014) using data from 2011. These studies affirm the substantial role of copyright in the Dutch economy, with the most recent study indicating that copyright industries accounted for 6.0 percent of gross-domestic product (GDP) and 7.4 percent of national employment in 2011.

Seeking a more up-to-date assessment, the Dutch Ministry of Economic Affairs (EZ) commissioned SEO Amsterdam Economics (SEO) and the Institute for Information Law (IViR) to update these studies based on the revised WIPO Guide (2015). The research was conducted between October 2024 and February 2025 and was overseen by a supervisory committee appointed by the Ministry.[3] The current report presents macroeconomic data on copyright-relevant industries for the years 2019 and 2022.

This introductory chapter begins by providing background information on developments in the copyright industries in the Netherlands since the publication of the most recent study (Section 1.1). It then outlines the methodology and scope of the current study (Section 1.2) and concludes with a reading guide for the remainder of the report (Section 1.3).

1.1 Background

The economic rationale for copyright protection suggests that private producers will invest in creative endeavours only if they can secure an adequate return, which depends on their ability to capture a portion of the value users derive from their works (Besen & Raskind, 1991). If producers struggle to appropriate this value – such as in cases of widespread copying – they may lack sufficient motivation to produce a work of literature, science or art at a socially

1 *"Although economists have written on topics of intellectual property for a long time, the impact of economics on public policy in this area has been slight, especially as compared to the influence of professional writings in areas such as antitrust and taxation. We believe that too few of the profession's resources have been devoted to these issues and that, of those resources that have been employed, too few have been devoted to empirical analyses."* (Besen & Raskind, 1991)

2 See: https://www.wipo.int/en/web/copyright/economic-performance

3 This committee consisted of Stef van Gompel (independent chair, Vrije Universiteit Amsterdam), Cyril van der Net (Ministerie van Justitie en Veiligheid), Priscilla van la Parra (Ministerie van Onderwijs, Cultuur en Wetenschap), Paul Solleveld (Federatie Auteursrechtbelangen), Suzanne Kluft (Ministerie van Economische Zaken) and Angela van der Meer (Ministerie van Economische Zaken).

optimal level. Put differently, without protection, the rents from such creative production are only partially excludable, which leads to underinvestment. Protection of intellectual property such as copyright protection aims to resolve this market failure.

This study measures the economic contribution of industries for which copyright is relevant. This is not the same as the economic contribution of the copyright system itself (SEO, 2014). Consistent with the first step of the WIPO Guide, it is useful to reflect on some of the recent developments relevant for the copyright system in the Netherlands, as this can aid in setting up and interpreting the outcomes of our economic analysis.

Multiple relevant developments that may have potentially affected the economic size of the copyright industries have been identified. First, there have been major developments in the supply of copyrighted products and services in recent years. Consider, for example, the rapid growth of streaming audio and video services as well as the shift from printed newspapers to digital distribution and the (much more gradual) shift from print to e-books. These developments have transformed how consumers access and engage with copyright protected content, leading to shifts in traditional distribution models, away from physical carriers towards digital services and often towards more globally operating service providers such as Netflix, Amazon (Kindle, Prime), Apple, Disney and Spotify.

Second, the COVID-19 pandemic has had a significant impact on many copyright sectors in very different ways. For instance, music concerts and festivals were not permitted during 2020 and 2021, and theatres and cinemas were forced to close. At the same time, demand for digital content increased, partly because people around the world spent more time at home than ever before. In addition, in many countries, including the Netherlands, the use of illegal offerings increased during the pandemic (Mazzei et al., forthcoming).

Third, significant developments in legislation, case law and policy between 2021 and 2022 have had or may have had a direct impact on the 'economic scope of copyright', as briefly summarised in Box 1.1.

Box 1.1 Key developments in copyright, database, and neighbouring rights, between 2011 and 2022

Within the past few years, we have witnessed significant developments in the fields of copyright, neighbouring rights, and database rights, which could influence the economic dynamics within some of the relevant copyright sectors.

One of these changes is the Dutch Copyright Contracts Act, which took effect on 1 July 2015. It grants authors and performing artists several rights, including the contractual right to a 'fair remuneration' for every exploitation of their work, the right to an additional fair remuneration if the agreed compensation appears disproportionately low in light of the success of the exploitation (as in the case of bestsellers), the right to reclaim transferred copyrights if the exploiter does not sufficiently exploit them, and a prohibition on unreasonable terms.

Additionally, the DSM Directive, which came into effect on 7 June 2021, harmonised various provisions of copyright contract law and imposed an obligation on exploiters to inform authors and performers annually about the exploitation of their works. This European harmonisation underscores the particular significance attributed to copyright contract law. However, the evaluation of the Copyright Contracts Act conducted in 2020 shows that authors and performers often hesitate to assert their rights in practice. In addition to the harmonisation of copyright contract law, the DSM Directive introduced a new neighbouring right for press publishers. With this new neighbouring right, the EU legislator aims to provide press publishers with the opportunity to grant licenses for the online use of press publications. From an economic perspective, this development raises the question of whether a new revenue stream from online intermediaries, such as search engines and online platforms, can be generated for press publishers. The new neighbouring right for press publishers can also be placed in the broader context of initiatives supporting journalistic work and the press and media sector, particularly the European Media Freedom Act.

Another important development is the introduction of a new liability regime for online platforms regarding user-generated content (UGC) in Article 17 of the DSM Directive, implemented in Article 29c of the Copyright Act. Under this

article, platforms such as YouTube and Facebook can no longer rely on the traditional safe harbour for 'hosting' content uploaded by users. Within the scope of Article 17, providers of UGC platforms are directly liable for infringing material that appears on the platform. To prevent infringement cases and damage claims, platforms must proactively seek licenses covering the broad spectrum of content uploaded by users. If no license is available, platforms are required to remove or block copyrighted content.

Furthermore, the introduction of the Digital Services Act (DSA), (which came into effect in November 2022, has further tightened the regulations regarding the liability regime of online platforms, placing additional pressure on compliance by platforms. The new rules arising from Article 17 of the DSM Directive are part of the broader debate regarding the obligation of streaming services to share the growing revenues from streaming with the creative industry. This overarching question concerns not only UGC platforms, such as YouTube and Facebook, but also services like Netflix and Spotify, which, although based on licenses, may potentially impose unattractive 'buy-out deals' on creators and producers due to their market power.

Source: SEO/IViR (2025)

1.2 Method and scope

The research underlying this report strictly adheres to the WIPO Guide of 2015 and employs detailed microdata obtained from Statistics Netherlands (CBS) to provide a structured analysis and a meaningful base of comparison with other studies that have followed the same guidelines. The WIPO Guide outlines four steps to measure the economic contribution of copyright-relevant industries (see Table 1.1). We provide an overview of each of these steps below, while more technical information is provided in Appendix B.

Table 1.1 Roadmap to establishing the economic contribution of copyright-relevant industries

	1. Identification and classification of industries	2. Collection of data	3. Measurement of the contribution of the specific industries	4. Analysis and presentation of the results
Sub-step	Set up the research team	Identify relevant official statistics by industry group	Decide on the method for each industry/indicator	Analyse main trends and tendencies
	Check (developments) in copyright legislation	Identify blank areas	Establish outputs by industry	Comparisons with previous research and studies abroad
	Analyse copyright chain	Collect additional statistics	Establish copyright factors	Report the findings
	Verify sector classification	Clean-up the data and finalise data collection	Establish value added, share of employment and trade balance	
Deliverable	Overview of the copyright-relevant industries	Database with reliable statistical data	Economic contribution of copyright-relevant industries established	Report on the findings and methodology used

Source: WIPO guidelines (2015, p.136), adapted by SEO/IViR (2025)

Note(s): The research assignment explicitly did not include conducting our own qualitative research (e.g. to determine copyright factors). For this reason, we left the sub-step 'Questionnaires / interviews / surveys' out.

Identification and classification of industries

This step involves identifying for which industries copyright is relevant. The WIPO Guide provides fairly precise instructions on this, i.e. the WIPO Guide includes a table of the NACE rev. 2 (*Nomenclature statistique des activités Économiques dans la Communauté Européenne*) sectors which are copyright relevant. The first four levels of the SBI

(*Standard Business Classification*) used in the Netherlands are equivalent to the European NACE. The only exception within the WIPO industries is Air transport (51.22), which is not included in the SBI.

The WIPO Guide distinguishes four categories of copyright-relevant industries:

1. **Core Copyright Industries:** Industries wholly engaged in the creation, production and manufacturing, performance, broadcasting, communication and exhibition of copyright protected products (e.g., software and databases, literature, music and movies).
2. **Interdependent Copyright Industries:** Industries engaged in production, manufacturing and sales of equipment and utilities that facilitate the Core Copyright Industries (e.g., audio and video equipment, computers and blank recording material).
3. **Partial Copyright Industries:** Industries in which a portion of the activities is related to the creation, production, manufacturing, performance, broadcast, communication and exhibition of copyright-protected products (e.g., jewellery, furniture and architecture).
4. **Non-dedicated Copyright industries:** Industries in which a portion of the activities is related to facilitating the broadcast, communication, distribution or sales of copyright-protected products, which do not belong to the Core, Interdependent or Partial Copyright Industries (e.g., telecommunications and transport).

Each of these categories consist of a set of copyright-relevant economic activities. Some examples of which are given in parentheses above.

Since Core Copyright Industries are considered fully copyright relevant by WIPO, their entire economic output is attributed to copyright industries. In contrast, for Interdependent, Partial and Non-dedicated Copyright industries, only a fraction of activities is considered part of the copyright-relevant economy. These fractions, known as 'copyright factors', vary by economic activity an – apart from Core Industries, which by definition have a copyright factor of 100% – are generally highest in Interdependent Industries and lowest in Non-Dedicated Industries.

The full selection of copyright-relevant industries, based entirely on the revised WIPO Guide (2015), along with their subdivision into four categories, is presented in Appendix A. All copyright-relevant economic activities are matched to an SBI-code. In some cases, the SBI is too broad, meaning that it also included economic activity that is not copyright relevant. In such cases the sector is only partially included. In other cases, the sector corresponds to more than one copyright-relevant economic activity as described in the WIPO Guide, the contribution of the sector is then shared between the different economic activities it corresponds to.

Collection of data

This study relies on two key types of data sources:

- Sources for determining the copyright factors.
- Official statistics on value added, employment, and trade.

The research assignment explicitly states not to conduct new qualitative field research to determine copyright factors. Instead, we collected relevant data on the copyright factors used by previous studies based on the WIPO Guide. Foremost, this includes the previous study in the Netherlands (SEO, 2014), which already used an amalgamation of copyright factors used by extant studies at that time. Taking this as a starting point, we then looked at new studies since the last Dutch study was conducted. This list was supplemented with countries that have conducted primary research into copyright factors. It was striking that virtually no such primary research was carried out in the new studies, with most studies referring to copyright factors determined in earlier studies. For this reason,

we have carried out an evaluation of the current copyright factors, which will be explained in more detail in the next section. More detail on the copyright factors data sources and processing can be found in Appendix B.1.

Data on value added, employment, and trade is sourced from official CBS statistics. CBS data on value added are based on an extensive survey of Dutch companies and 'weighted' to represent the full population of companies in each (copyright-relevant) industry. Data on jobs and self-employed people, also provided by CBS, cover the entire population (i.e., not a survey but a comprehensive registration). Company-level trade data from CBS were used to estimate the balance of trade for copyright-relevant industries. These data account for approximately 75–80% of the total annual goods trade volume. However, since the remaining trade volume cannot be linked to specific companies, it is not possible to determine whether this portion involves copyright-relevant industries. Another important caveat is that these data cover only *tangible products* that cross the Dutch border – imports and exports of *services* and *non-tangible goods* (e.g., digital formats) are not included in these statistics. In view of the ongoing digitisation of the (outputs of) the copyright industries, this sole focus on tangible import and exports is increasingly problematic, something we take into account in interpretating the outcomes with respect to the trade balance of copyright-relevant industries. More detail on the statistical data sources and processing can be found in Appendix B.2.

The most recent year for which all data sources are available is 2022. Therefore, this study's primary analysis will focus on 2022. Additionally, a comparative analysis will be conducted for 2019 to assess the economic impact of the COVID-19 pandemic on the copyright sectors.

Measurement of the contribution of the specific industries

We have explored three different methods for determining the copyright factors. Namely:

1. Copyright factors from SEO (2014)
2. Copyright factors from SEO (2014) with possible adjustment based on "expert judgement"
3. Using the method from SEO (2014) to find new aggregate copyright factors based on recent country studies:
    a. Only based on European studies from 2015 or later
    b. Only based on studies from 2019 or later

To ensure the accuracy of the current copyright factors, meaning that they are neither too large nor too small within the current economy, we first evaluated the copyright factors, as defined in the Dutch study from 2014, against the background of the developments within copyright mentioned in Box 1.1. Our conclusion is that none of these legal developments necessitate a change in the factors. To the extent that copyright developments have had economic effects, this primarily concerns a redistribution of income within sectors (as it may for instance be the case for copyright contract law), rather than between sectors with different copyright factors.

Subsequently, we assessed country studies published since 2015. Out of these, only six publish their copyright factors, namely Moldova (2015), France (2016), Botswana (2019), Ghana (2020), Turkey (2020) and Finland (2022). The copyright factors used in these countries are presented in Appendix B.1. From these six countries, only Finland and France have an economic and legal structure that we consider sufficiently comparable to that of the Netherlands. Additionally, the other four countries assign a copyright factor of 1 to Interdependent Copyright Industries, suggesting that no extensive research or economic justification supports this choice as a reference for the current study. Further, Finland used the copyright factors from SEO (2014), so no additional insights can be gained from that study either. While France uses different copyright factors, the study does not explain how they have been determined. The French study uses relatively high factors for certain interdependent categories, for which

we see no objective justification in the Dutch economy. Therefore, we see no reason to adjust the current copyright factors based on the copyright factors of these recent studies.

As an additional robustness check, we have determined a new set of copyright factors based on the methodology used in SEO (2014) but using the copyright factors published in recent studies (i.e. Moldova, 2015; France, 2016; Botswana, 2019; Ghana, 2020; Turkey, 2020; Finland, 2022). The method is based on the mean and the standard deviation of copyright factors for each economic activity. To be precise, for each economic activity it is checked whether its copyright factor is within one standard deviation of the mean (above or below). Those copyright factors that fall outside this range are left out of the calculation of the mean, hence a conditional mean for each economic activity is calculated based on the copyright factors used in the other studies.

Economic contribution is measured in value added, employment and foreign trade, and is subsequently related to the total Dutch economy. More specifically, the value added of copyright-relevant industries is expressed as a percentage of GDP and employment as a percentage of total Dutch employment. At various places in the report, we also consider the labour productivity as the ratio between GDP and employment. The goods trade balance position measures imports and exports and indicates whether copyright-relevant industries export more goods than they import – a trade *surplus* – or import more than they export – a trade *deficit*. All monetary values are deflated and expressed in 2022 euros.

Analysis and presentation of the results

We analyse our findings regarding the economic contribution of copyright-relevant industries in multiple ways. First, we compare the figures for 2022 to those for 2019, to gauge the extent to which our findings could be affected by the COVID-19 pandemic. Second, we break down the overall figures into the four categories of copyright industries as identified by the WIPO. Third, we put our findings in perspective by comparing them with the economic contributions of the copyright industries in other countries and with previous studies conducted in the Netherlands. For these comparisons, we only consider studies that have adhered to the WIPO Guide.

1.3 Reading guide

Section 2 presents the economic contribution of copyright-relevant industries in the Netherlands. It starts by presenting an overview of the total contribution in terms of value added, employment, and goods trade balance, and then breaks the figures down by Core, Interdependent, Partial, and Non-Dedicated Copyright Industries. Section 3 compares our findings with international studies and previous studies conducted in the Netherlands. Section 4 concludes and provides directions for further research.

2 Economic contribution of copyright industries

In 2022, the gross value added by copyright industries in the Netherlands was nearly 60 billion euro, accounting for 6.0 percent of Dutch GDP. These industries employed about 625 thousand full-time equivalents (FTE), representing 8.1 percent of the total employment. While they recorded a goods trade deficit of around 4.7 billion euro, the service trade balance remains unknown due to current data limitations.

This chapter presents the key findings of our assessment of the economic contribution of copyright-relevant industries in the Netherlands. We begin with an overview of the total contribution in terms of value added, employment, and goods trade balance (Section 2.1). This is followed by a series of robustness checks, including an analysis of the economic contribution in the pre-COVID-19 year 2019 (Section 2.2). The chapter concludes with a breakdown of the economic contribution across Core, Interdependent, Partial, and Non-dedicated Copyright Industries (Section 2.3).

2.1 Overview

Value added

Gross value added refers to the income formed in the production process or the value of production minus the value of intermediate consumption. It represents the value that is added to goods and/or services used in the production process, including depreciation (hence the term gross value added). The sum of all domestic value added including indirect taxes and subsidies, which is referred to as gross value added at market prices, equals the GDP of a country.

Table 2.1 tells us that the gross value added of copyright-relevant industries in the Netherlands in 2022 was close to 60 billion euro, which is 6.0 percent of the Dutch GDP in that year. Core Copyright Industries contributed about 4.6 percent to GDP, followed by Non-dedicated Support Industries (0.6 percent), and Interdependent Copyright Industries and Partial Copyright Industries (both 0.4 percent).

Table 2.1 Value added by copyright-relevant industries in 2022

		Gross value added at market prices	
Category		**In mn euro**	**% of GDP**
1	Core Copyright Industries	45,744	4.6%
2	Interdependent Copyright Industries	3,634	0.4%
3	Partial Copyright Industries	4,054	0.4%
4	Non-Dedicated Copyright Industries	6,563	0.6%
	Copyright-relevant industries	**59,996**	**6.0%**
	Total Dutch economy	**993,820**	**100.0%**

Source: CBS Microdata (2025), analysis by SEO/IViR

Employment

Copyright-relevant employment is measured in terms of full-time equivalents (FTEs) as well as the number of jobs. Both FTEs and jobs are further broken down into employees and the self-employed components. From Table 2.2, we see that in 2022, employment in the copyright-relevant industries was approximately 757 thousand jobs, or about 624 thousand FTEs. Relative to total employment in the Netherlands, this means that 7.4 percent of all jobs and 8.1 percent of all FTEs is copyright relevant. These figures include both employees and self-employed workers.

Table 2.2 Employment in copyright-relevant industries in 2022

		Total employment (x1,000)		% of national employment	
Category		**Jobs**	**FTEs**	**Jobs**	**FTEs**
1	Core Copyright Industries	577.8	490.9	5.6%	6.3%
2	Interdependent Copyright Industries	31.8	27.5	0.3%	0.4%
3	Partial Copyright Industries	69.6	50.5	0.7%	0.7%
4	Non-Dedicated Copyright Industries	77.8	55.0	0.8%	0.7%
	Copyright-relevant industries	**757.0**	**623.9**	**7.4%**	**8.1%**
	Total Dutch economy	**10,275**	**7,735**	**100%**	**100%**

Source: CBS Microdata (2025), analysis by SEO/IViR

Table 2.3 presents the division of employment between employed and self-employed workers in 2022, it shows the breakdown of the number and share of jobs and FTEs. The percentages in brackets refer to the share of employed and self-employed of jobs and FTEs. Of the total number of copyright-relevant jobs, 163 thousand (22 percent) are held by self-employed workers. The percentage of self-employed workers in the copyright industries is almost twice as high as in the overall Dutch economy (13 percent), reflecting the important role of self-employment in copyright industries. A large share of self-employed workers is only observed in the Core Copyright industries (25 percent). In the Interdependent and Non-dedicated copyright industries, the self-employment rate is much closer to the national average, while in the Partial Copyright industries, it is well below the national average (7 percent). For FTEs we observe a similar pattern.

Table 2.3 Division of employment between employed and self-employed workers in 2022

		Employed (x1,000)		Self-employed (x1,000)	
Category		**Jobs**	**FTEs**	**Jobs**	**FTEs**
1	Core Copyright Industries	432.1 (75%)	372.8 (76%)	145.7 (25%)	118.0 (24%)
2	Interdependent Copyright Industries	29.6 (93%)	25.7 (93%)	2.2 (7%)	1.8 (7%)
3	Partial Copyright Industries	61.1 (88%)	43.8 (87%)	8.4 (12%)	6.7 (13%)
4	Non-Dedicated Copyright Industries	70.9 (91%)	49.9 (91%)	6.9 (9%)	5.1 (9%)
	Copyright-relevant industries	**593.7** (78%)	**492.3** (79%)	**163.2** (22%)	**131.6** (21%)
	Total Dutch economy	**8,930** (87%)	**6,733** (87%)	**1,344** (13%)	**1,002** (13%)

Source: CBS Microdata (2025), analysis by SEO/IViR

By dividing the total value added by total FTEs in a year, we get an estimate of labour productivity, i.e. the value added for each FTE. Our estimate of labour productivity in copyright-relevant industries in 2022 equals about 95.4 thousand euro per FTE per year, which is lower than our estimate of the labour productivity of 128.5 per FTE per

year in the total Dutch economy. This suggests that more employees are needed in copyright-relevant industries to achieve the same value added. One explanation for this is that copyright industries are relatively labour intensive and service-orientated, leading to less output per FTE employed.

Balance of trade in goods

The trade balance of a country is determined by subtracting the total value of imports from the total value of exports. As noted earlier, our trade data is limited to goods and does not include international trade in (copyright-relevant) services.[4] Table 2.4 shows for the copyright relevant sectors the goods exports, imports and trade balance in millions of euros. The goods trade *deficit* of copyright-relevant industries in 2022 is about 4.7 billion euro, which is about 6.9 percent of the total goods trade *surplus* of the Netherlands. All categories of copyright-relevant industries have a goods trade *deficit*. More than half of both the exports and imports is accounted for by Core Copyright Industries, which also have the highest contribution to the trade deficit of all copyright-relevant industries.

Table 2.4 Goods trade balance of copyright-relevant industries in 2022

		Exports (in mn euro)	Imports (in mn euro)	Trade balance (in mn euro)	% of total trade balance
1	Core Copyright Industries	22,718	24,904	-2,187	-3.2%
2	Interdependent Copyright Industries	9,736	11,201	-1,466	-2.2%
3	Partial Copyright Industries	1,876	2,569	-693	-1.0%
4	Non-Dedicated Copyright Industries	6,393	6,718	-325	-0.5%
	Copyright-relevant industries	**40,723**	**45,392**	**-4,671**	**-6.9%**
	Total Dutch economy	**575,942**	**508,590**	**67,352**	**100%**

Source: CBS Microdata (2025), analysis by SEO/IViR

Note: The figures for the total Dutch economy represent 75-80% of the trade data that can be connected to specific companies that are economically active in the Netherlands.

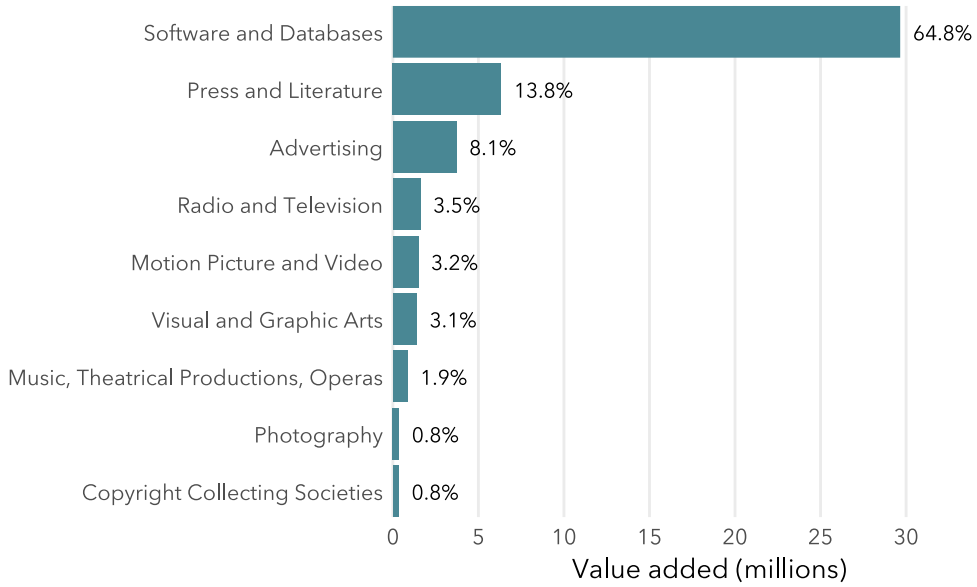
2.2 Core Copyright Industries

Sections 2.3 to 2.6 provide further insight in the underlying subcategories and economic activities of Core Copyright Industries (2.3), Interdependent Copyright Industries (2.4), Partial Copyright Industries (2.5) and Non-dedicated Copyright industries (2.6).

Core Copyright Industries are "industries which are wholly engaged in the creation, production and manufacture, performance, broadcasting, communication and exhibition, or distribution and sale of works and other protected subject matter" (WIPO, 2015, p. 51). All activities in Core Copyright Industries are considered copyright-relevant; therefore, 100 percent of their value added and employment contribute to the national economy.

[4] In 2022, the total Dutch economy exported 731 billion euro and imported 677 billion in goods, versus nearly 261 billion euro and imported 250 billion euro in services (CBS, 2023). Thus, the value of trade in services is generally lower than the value of trade in goods.

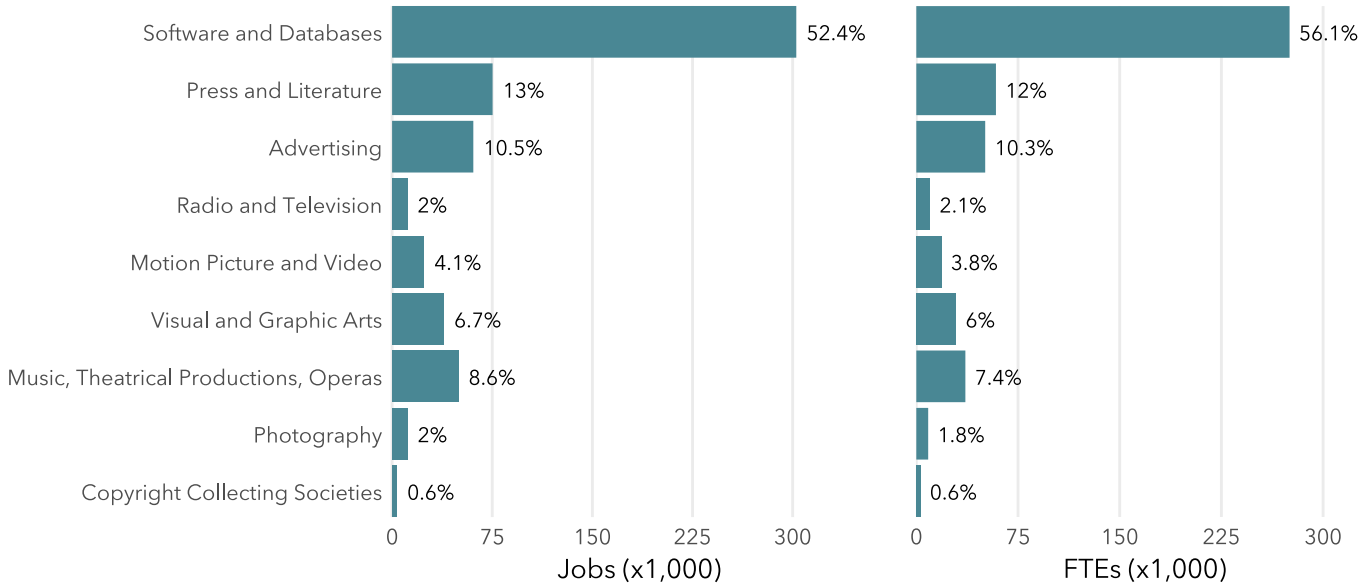
Figure 2.1 Gross value added of **subcategories** of Core Copyright Industries in 2022



Source: CBS Microdata (2025), analysis by SEO/IViR

Figure 2.1 presents a breakdown of subcategories of the Core Copyright Industries. The share of subcategory Software and Databases is considerably larger than other subcategories and represents approximately 65 percent of the value added, followed by Press and Literature (14 percent) and Advertising (8 percent). Together these subcategories account for more than 85 percent of the contribution from Core Copyright Industries. These industries also stand out in terms of employment, as demonstrated by Figure 2.2, although the average number of jobs and FTEs that is required to generate the value added (i.e., the labour productivity) somewhat shifts the shares between the 9 subcategories of Core Copyright Industries. Especially noticeable is the higher number of jobs and FTEs in Music, Theatrical Production and Operas, and to a lesser extent Visual and Graphic Arts. This indicates that the labour productivity (i.e. the value added for each hour worked) is lower in these industries than in Software and Databases, for instance.

Figure 2.2 **Subcategories** of Core Copyright Industries: jobs and FTEs 2022



Source: CBS Microdata (2025), analysis by SEO/IViR

As the economic contribution of the Core Copyright Industries is substantial (especially compared to the other categories), the nine subcategories of this core category are further broken down into economic activities in the following paragraphs.

Software and Databases

The largest subcategory of Core Copyright Industries, Software and Databases, totalled 29.7 billion euro in value added in 2022, which is close to 3 percent of the Dutch GDP. Also, in terms of employment, this industry is significant, with 303 thousand jobs and 275 thousand FTEs it is responsible for about 3.0 (jobs) and 3.6 (FTEs) percent of the total national employment. Within Software and Databases, programming, developing/designing and manufacturing is by far the biggest economic contributor, with over 80 percent of the value added and employment.

Table 2.5 Value added and employment *Software and Databases*

	Value added (in millions)	Jobs (x1,000)	FTEs (x1,000)
Programming, development and design, manufacturing	24,105.5	263.2	240.4
Wholesale and retail prepackaged software (business programs, video games, educational programs etc.)	1,897.2	14.7	13.4
Database processing and publishing	3,652.7	24.9	21.5
Total	**29,655.4**	**302.8**	**275.3**

Source: CBS Microdata (2025), analysis by SEO/IViR

Press and Literature

In terms of gross value added, Press and Literature is the second largest subcategory of the Core Copyright Industries. Contributing more than 6 billion euro or about 0.6 percent to the GDP of Netherlands in 2022. Press and Literature is also the second largest subcategory in terms of employment, with 75.2 thousand jobs and 58.8 thousand FTEs, which is about 0.75 percent of total Dutch economy. Magazines and periodicals have the largest

economic contribution in value added, whereas authors, writers, and translators contribute the most in terms of employment.

Table 2.6 Value added and employment *Press and Literature*

	Value added (in millions)	Jobs (x1,000)	FTEs (x1,000)
Authors, writers, translators	1,004.9	18.9	14.8
Newspapers	892.2	8.4	7.4
News and feature agencies etc.	58.5	0.7	0.6
Magazines/periodicals	1,377.8	5.2	4.5
Book publishing	625.5	6.1	5.1
Cards, maps, directories and other published material	551.1	2.8	2.5
Pre-press, printing, and post-press of books, magazines, newspapers, advertising materials	669.1	11.0	9.1
Wholesale and retail of press and literature (book stores, newsstands, etc.)	650.2	12.7	8.5
Libraries	496.4	9.4	6.3
Total	**6,325.7**	**75.2**	**58.8**

Source: CBS Microdata (2025), analysis by SEO/IViR

Advertising

The third largest subcategory in terms of value added, Advertising, includes only one economic activity: agencies and buying services (including marketing research). This activity employed 60.8 thousand FTEs, spread over 60.8 jobs, that amounted to 3.7 billion euro in value added in 2022, which is about 0.37 percent of the GDP.

Table 2.7 Value added and employment *Advertising*

	Value added (in millions)	Jobs (x1,000)	FTEs (x1,000)
Agencies, buying services	3,715.3	60.8	50.8

Source: CBS Microdata (2025), analysis by SEO/IViR

Visual and Graphic Arts

With 29.4 thousand FTEs and 1.4 billion euro of value added (about 0.14 percent of GDP), the subcategory of Visual and Graphic Arts does not belong to the most labour productive subcategories within the Core Copyright Industries. Within the subcategory of Visual and Graphic Arts, graphic design is the biggest contributor in economic terms.

Table 2.8 Value added and employment *Visual and Graphic Arts*

	Value added (in millions)	Jobs (x1,000)	FTEs (x1,000)
Artists	306.9	14.0	10.1
Art galleries and other wholesale and retail	181.4	8.6	6.0
Picture framing and other allied services	37.3	1.2	0.9
Service activities related to printing	333.6	4.6	4.0
Graphic design	538.4	10.4	8.4
Total	**1,397.6**	**38.8**	**29.4**

Source: CBS Microdata (2025), analysis by SEO/IViR

Radio and Television

The Dutch Radio and Television industry totalled 1.6 billion euro in value added in 2022 (about 0.16 percent of GDP), 11.4 thousand jobs (about 0.11 percent of national employment) and 10.3 FTEs (about 0.13 percent of national employment). Radio and television broadcasting companies, primarily national broadcasting companies, are responsible for the largest share of these figures.

Table 2.9 Value added and employment *Radio and Television*

	Value added (in millions)	Jobs (x1,000)	FTEs (x1,000)
Television programme production activities	515.9	3.1	2.8
National radio and television broadcasting companies	992.6	7.5	6.8
Independent producers	99.5	0.8	0.7
Total	**1608.0**	**11.4**	**10.3**

Source: CBS Microdata (2025), analysis by SEO/IViR

Music, Theatrical Productions and Operas

The subcategory of Music, Theatrical Productions and Operas is the fourth largest of the Core Copyright Industries in terms of employment. With 49.6 thousand jobs and a 36,2 FTE, it represents about 0.5 percent of the total workforce in 2022. Labour productivity in this subcategory is lower, relative to other subcategories of the Core Copyright Industries, as becomes clear when we look at the value added of about 0.85 billion euro. The largest economic contributors are printing and publishing of music and the wholesale, retail and rentals of recorded music (sale and rental) .

Table 2.10 Value added and employment *Music, Theatrical Productions and Operas*

	Value added (in millions)	Jobs (x1,000)	FTEs (x1,000)
Composers, lyricists, arrangers	14.9	2.8	2.0
Choreographers, writers	14.9	2.8	2.0
Directors, performers and other personnel	14.9	2.8	2.0
Artistic and literary creation and interpretation	14.9	2.8	2.0
Support activities to performing arts and operation of concert and theatre halls	44.7	8.6	6.0
Printing and publishing of music	349.9	3.9	3.4
Production/manufacturing of recorded music	14.7	0.3	0.2
Wholesale, retail and rentals of recorded music (sale and rental)	249.1	4.7	3.7
Operation of concert and theatre halls	13.1	2.5	1.7
Performances and allied agencies (bookings, ticket agencies, etc.)	118.0	18.4	13.2
Total	**849.1**	**49.6**	**36.2**

Source: CBS Microdata (2025), analysis by SEO/IViR

Motion Picture and Video

The Motion Picture and Video industry contributed 1.48 billion euro or about 0.15 percent to the GDP of the Netherlands 2022. It consists of 23.9 thousand jobs and 18.4 thousand FTEs. The economic activity motion picture and video production and distribution accounts for over 90 percent of all economic activity within this subcategory.

Table 2.11 Value added and employment *Motion Picture and Video*

	Value added (in millions)	Jobs (x1,000)	FTEs (x1,000)
Writers, directors, actors	101.2	2.8	2.0
Motion picture and video production and distribution	1379.2	20.2	15.7
Motion picture exhibition	0.6	0.0	0.0
Video rentals and sales, video on demand	-12.8	0.6	0.5
Allied services	14.7	0.3	0.2
Total	**1482.9**	**23.9**	**18.4**

Source: CBS Microdata (2025), analysis by SEO/IViR

Photography

In 2022 the photography industry contributed 361 million euro to the Dutch GDP. The employment in the industry consists of 11.5 thousand jobs and 8.7 thousand FTEs.

Table 2.12 Value added and employment *Photography*

	Value added (in millions)	Jobs (x1,000)	FTEs (x1,000)
Studios and commercial photography	361.2	11.5	8.7

Source: CBS Microdata (2025), analysis by SEO/IViR

Copyright Collecting Services

Finally, the subcategory Copyright Collecting Services contributed 349 million euro to the Dutch GDP, and 3.7 thousand jobs and 3.0 thousand FTE.

Table 2.13 Value added and employment *Copyright Collecting Services*

	Value added (in millions)	Jobs (x1,000)	FTEs (x1,000)
Copyright Collecting Societies	349.3	3.7	3.0

Source: CBS Microdata (2025), analysis by SEO/IViR

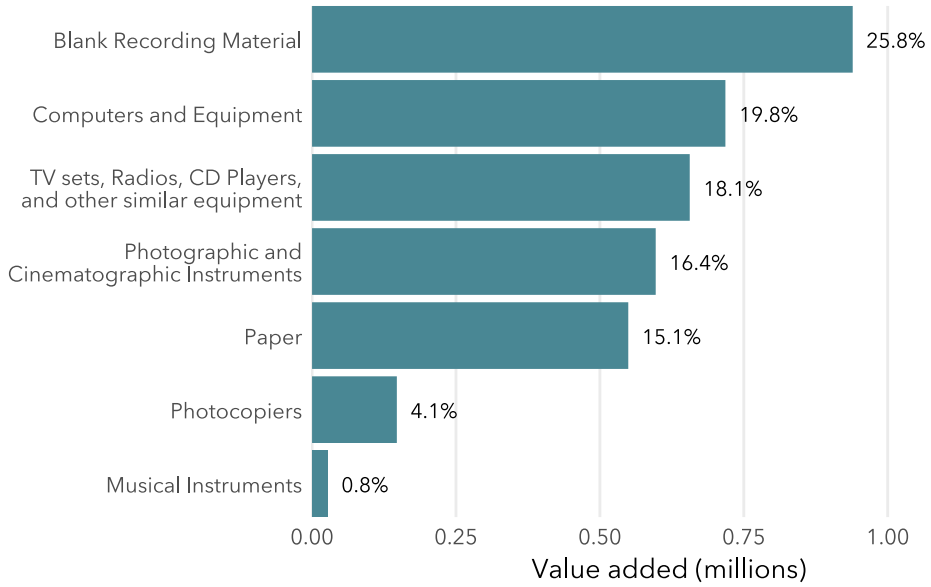
2.3 Interdependent Copyright Industries

Interdependent Copyright Industries are industries that "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" (WIPO, 2015, p. 59). As the economic output for this category has been weighted by the copyright factors, the reported values for value added and employment no longer represent the total value added and employment of the sector codes in question, but merely that part that is considered copyright relevant. The copyright factors within this category range from 25.0 to 32.5 percent (see Appendix B.1), with an average copyright factor of around 30 percent.

The total value added of the Interdependent Copyright Industries accumulates to 3.6 billion euro in 2022 (Table 2.1), which is about 0.4 percent of the Dutch GDP.

In Figure 2.3 we can see that the largest economic activities within this category of copyright-relevant industries are 'Blank Recording Material' (26%), 'Computers and Equipment' (20%), and 'TV sets, Radios, CD players and other similar equipment' (18%). Together, these industries make up almost two-thirds of the added value of all Interdependent Copyright Industries.

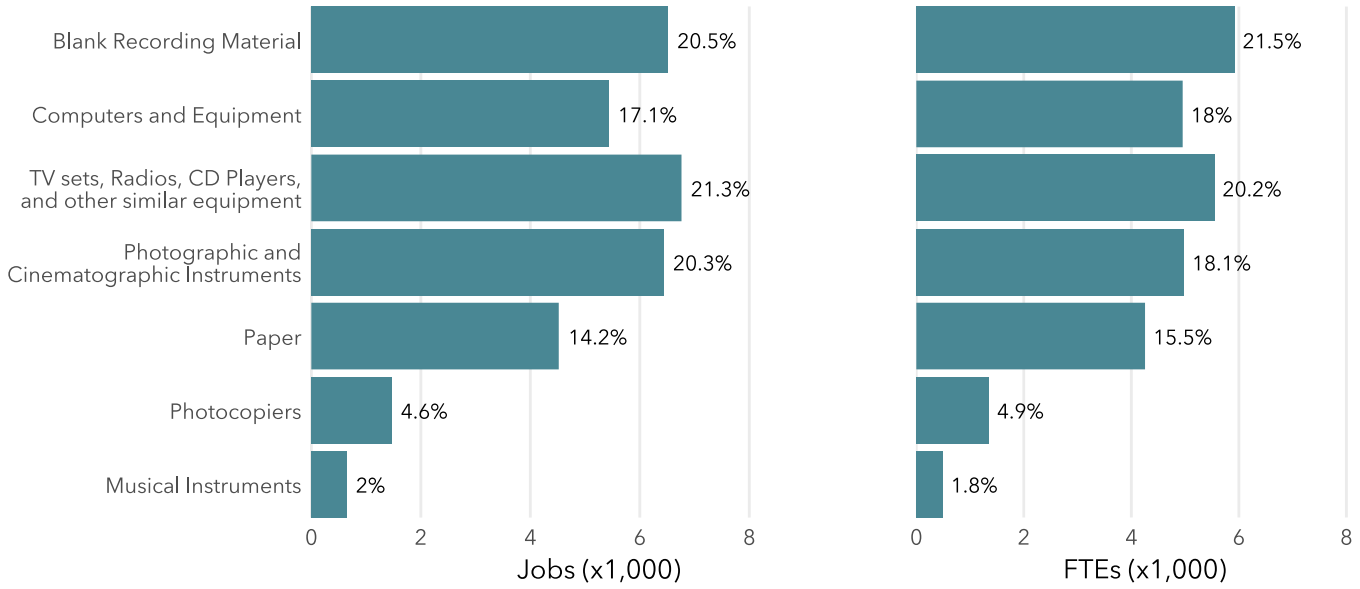
Figure 2.3 Gross value added of economic activities of Interdependent Copyright Industries in 2022



Source: CBS Microdata (2025), analysis by SEO/IViR

Looking at the employment in the Interdependent Copyright Industries in Figure 2.4, we notice a slightly different pattern. The shares of the economic activity of 'Blank Recording Material' and 'Computers and Equipment' is now somewhat smaller, indicating a relatively higher labour productivity for these activities. For 'TV sets, Radios, CD players and other similar equipment' and 'Photographic and Cinematographic Instruments' we see the opposite, suggesting a relatively lower labour productivity. In total Independent Copyright Industries employ 31.8 thousand jobs and 27.5 thousand FTEs, which equals about 0.3 and 0.4 percent of the national employment.

Figure 2.4 **Economic activities** of Interdependent Copyright Industries: jobs and FTEs 2022



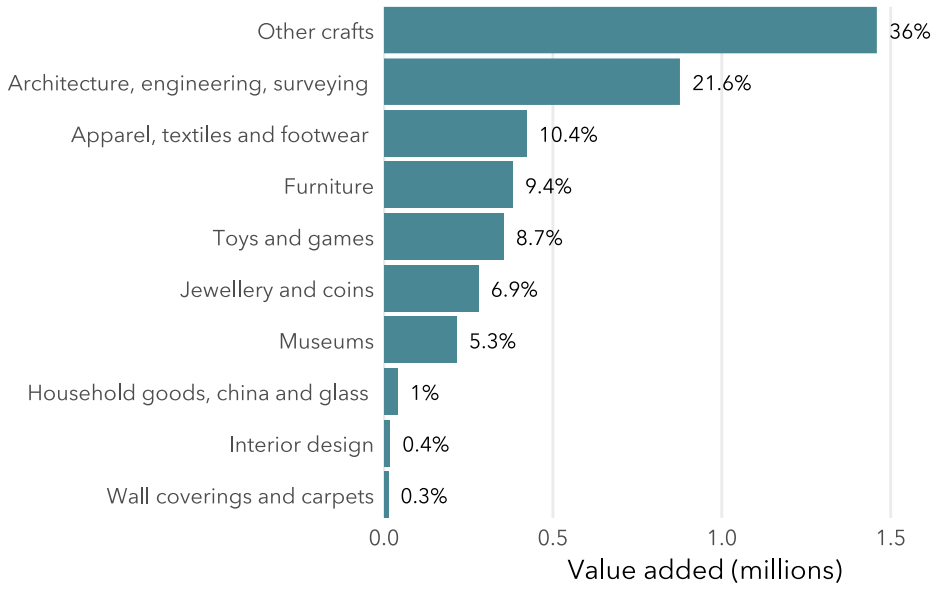
Source: CBS Microdata (2025), analysis by SEO/IViR

2.4 Partial Copyright Industries

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." (WIPO, 2015, p. 60). Accordingly, only a portion of their activities – and economic output – is considered copyright relevant as determined by the copyright factors that ranges from 2.0 to 39.3 percent (see Appendix B.1), with an average copyright factor of 18.4 percent.

The total value added of Partial Copyright Industries in 2022 was 4.1 billion euros in 2022 (Table 2.1), which is about 0.4 percent of Dutch GDP. Figure 2.5 shows us that one third of this value added is accounted for by economic activities of 'Other crafts', followed by economic activities of 'Architecture, engineering, surveying' that account for about one fifth. Economic activities within 'Other crafts' include 'Activities of other membership organisations (incl. craft and collectors' clubs)', 'Retail sale of furniture, lighting equipment and other household articles in specialised stores (incl. handcrafts)', and 'Specialised design activities'.

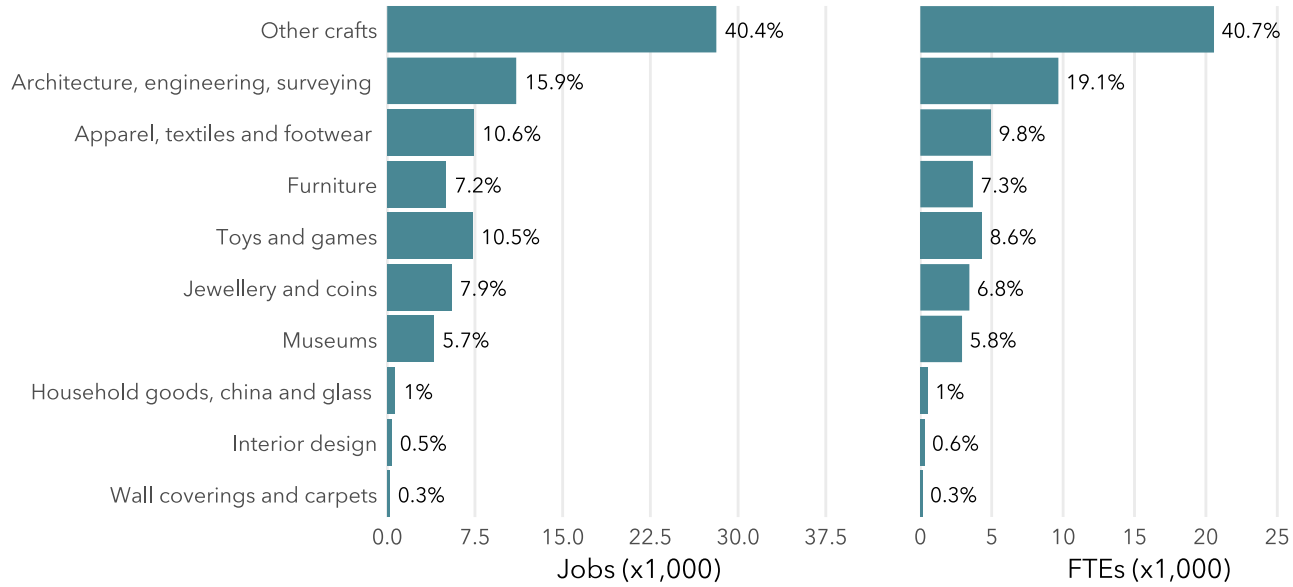
Figure 2.5 Gross value added by **economic activities** of Partial Copyright Industries in 2022



Source: CBS Microdata (2025), analysis by SEO/IViR

Total employment in the Partial Copyright Industries in 2022 is 69.6 thousand jobs and 50.5 thousand FTEs, or about 0.7 percent of the total national employment. For employment in Figure 2.6, we notice a similar pattern as we saw for value added, most of the employment is concentrated in economic activities of 'Other crafts', of all jobs and FTEs in Interdependent Copyright Industries, about 40 percent is accounted for by 'Other crafts', followed by 'Architecture, engineering, surveying' that account for about 16-19 percent.

Figure 2.6 **Economic activities** of Partial Copyright Industries: jobs and FTEs 2022



Source: CBS Microdata (2025), analysis by SEO/IViR

2.5 Non-Dedicated Support Industries

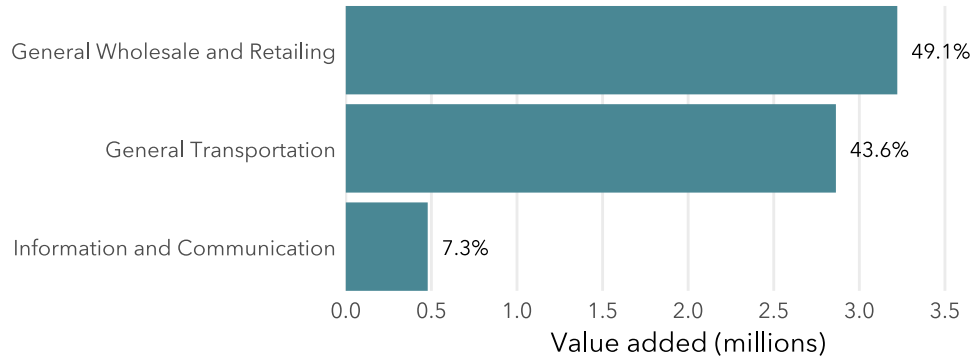
The Non-Dedicated Support Industries are "those in which a portion of the activities is related to facilitating broadcast communication and the distribution or sale of works and other protected subject matters whose activities have not been included in the core copyright industries" (WIPO, 2015, p. 62). In a sense, Non-Dedicated Support Industries are a residual category: It covers copyright-relevant industries that were not previously classified as a Core, Interdependent or Partial Copyright Industry. They concern industries that do not relate to specific trade sectors but instead facilitate numerous sectors.

To calculate the copyright factor for this category, the WIPO Guide prescribes the assumption "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" (WIPO, 2015, p. 130).[5] Using this formula, the copyright factor for Non-Dedicated Support Industries is calculated to be 6.0 percent, exactly equal to the value of this copyright factor in the previous Dutch study (SEO, 2014).

The Non-Dedicated Support Industries contribute a total of 6.6 billion euros in copyright-relevant value added, which is about 0.6 percent of the Dutch GDP. Of the subcategories within the Non-Dedicated Support Industries, 'General Wholesale and Retailing' makes up almost half of the value added (Figure 2.7), while 'General Transportation' accounts for more than 40 percent. This makes the share of the subcategory of 'Information and Communication' within the Non-Dedicated Copyright Industries rather small with approximately 7 percent.

5 The exact formula used is: $\frac{GVA_W^{Core}+GVA_W^{Interdeendent}+GVA_W^{partial}}{GDP-GVA^{Non-dedicated}}$, where GVA_W represents the copyright-factor weighted gross value added of a copyright category, GVA the unweighted gross value added of a copyright category; and GDP the national gross domestic product.

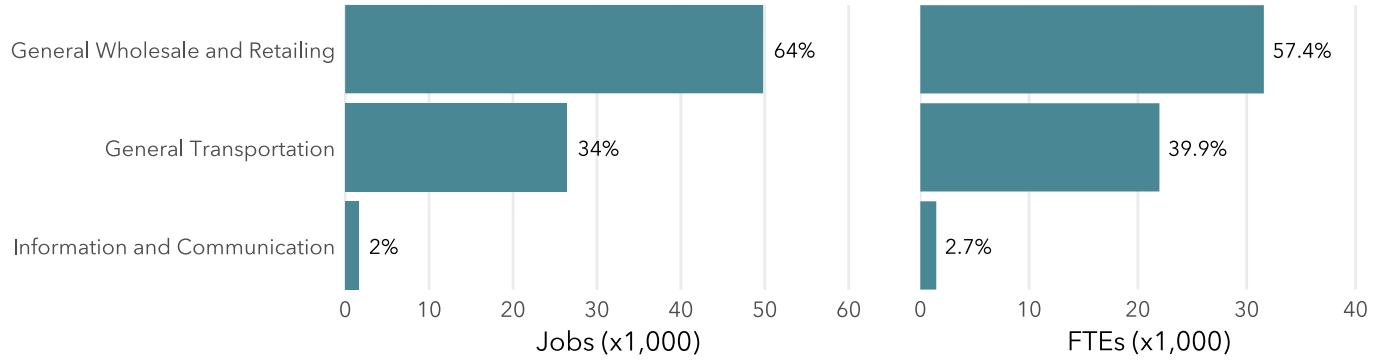
Figure 2.7 Gross value added by **subcategories** of Non-Dedicated Copyright Industries in 2022



Source: CBS Microdata (2025), analysis by SEO/IViR

In terms of employment (Figure 2.8), 'General Wholesale and Retailing' makes up almost two thirds of all jobs and FTEs. In total, Non-Dedicated Support Industries account for 77.8 thousand jobs and 55 thousand FTEs, which is about 0.8 percent and 0.7 percent of the total workforce in the Netherlands, respectively.

Figure 2.8 **Subcategories** of Non-Dedicated Copyright Industries: jobs and FTEs 2022



Source: CBS Microdata (2025), analysis by SEO/IViR

2.6 Robustness checks

In this paragraph three types of robustness checks are presented. Firstly, in this study we make use of the copyright factors used in the previous Dutch study (SEO, 2014). As a robustness check, the main results are also presented with copyright factors based on a conditional mean[6] of copyright factors used in recent country studies that have been published since the latest Dutch study. The results from this robustness check are presented in paragraph 2.6.1.

Secondly, in some country studies the copyright factors for Interdependent Copyright Industries are fixed at 100 percent, meaning that they are fully included in the study outcomes. This is not a realistic way to define the economic contribution of these industries, as per the definition of the WIPO Guide (2015), Interdependent Copyright Industries

[6] The copyright factors are determined by checking whether the copyright factor of each economic activity is within one standard deviation of the mean (above or below). Those copyright factors that fall outside this range are left out of the calculation of the mean, hence a conditional mean for each economic activity is calculated based on the copyright factors used in the other studies. The studies included are Moldova (2015), France (2016) Botswana (2019), Ghana (2020), Turkey (2020) and Finland (2022).

are not fully copyright relevant. However, quite a few country studies still choose to do so. As a robustness check, the main results are also presented with the copyright factors for Interdependent Copyright Industries set to 100 percent. The results from this robustness check are presented in paragraph 2.6.2.

Thirdly, we gauge the impact of potential measurement errors in the sector classifications, which may sometimes imperfectly depict the copyright-relevant industry. More precisely, some sector codes listed in the WIPO Guide also cover economic activities that the WIPO does not consider copyright relevant (the sector code is defined too broadly). These so-called 'partial' sectors (not to be confused with the category Partial Copyright Industries) are by default fully included in the baseline study outcomes. To control for this, the main results are also presented with these partial sectors excluded from the estimation. The results from this robustness check are presented in paragraph 2.6.2. For a detailed description of partial sectors and how they are accounted for in this study see Appendix B.3.

2.6.1 Pre-COVID-19 analysis

The most recent year for which data is available for this study (2022) could potentially still be affected by the COVID-19 pandemic and the subsequent global economic shock. To account for this, we repeat our baseline analysis using data from 2019, the year preceding the pandemic, which should not be influenced by any pandemic-related (economic) disruptions.

Table 2.14 presents the main results on the value added by copyright-relevant industries in 2019. The contribution to GDP was 60.3 million, which is about 5.7 percent. In 2022, the contribution of copyright-relevant industries to GDP was 6.0 percent. This suggests the copyright-relevant industry overall has demonstrated strong resilience by recovering quickly from the economic shock and have even grown from 2019 to 2022. Another explanation could be that copyright-relevant industries have been hit just as much (or even slightly less) as the rest of the economy, resulting in a growth in their contribution to GDP. It is also important to note that these figures reflect the overall performance of the sector, with variations in individual copyright-relevant activities likely offsetting each other.

Table 2.14 Value added of copyright-relevant industries in 2019

		Gross value added at market prices	
Category		**In mn euro**	**% of GDP**
1	Core Copyright Industries	40,006	4.2%
2	Interdependent Copyright Industries	4,484	0.5%
3	Partial Copyright Industries	3,834	0.4%
4	Non-Dedicated Copyright Industries	5,840	0.6%
	Copyright-relevant industries	**54,164**	**5.7%**
	Total Dutch economy	**949,120**	**100.0%**

Source: CBS Microdata (2025), analysis by SEO/IViR
Note: All monetary values are deflated to represent prices of 2022.

Table 2.15 shows that the potential lasting impact of the pandemic with regards to employment in the copyright industries has been small. In 2022 the contribution to the national workforce of copyright industries is 7.4 percent measured in jobs and 8.1 percent in FTEs. In 2019 this was 7.2 percent and 7.9 percent, respectively. From comparing Table 2.16 and Table 2.3, it can further be concluded that the share of self-employed workers in the

copyright-relevant industries hardly changed between 2019 and 2022. Hence, also in terms of employment the copyright-relevant sectors seem to have been resilient to the (economic) shock stemming from the pandemic. It is relevant to note here, moreover, that the Dutch government implemented several labour preservation programs during the pandemic (e.g. the NOW-scheme), which have proven to be effective in supporting the labour market (SEO, 2024).

Table 2.15 Employment in copyright-relevant industries in 2019

		Total employment (x1,000)		% of national employment	
Category		**Jobs**	**FTEs**	**Jobs**	**FTEs**
1	Core Copyright Industries	535.5	449.3	5.5%	6.1%
2	Interdependent Copyright Industries	31.8	27.5	0.3%	0.4%
3	Partial Copyright Industries	68.8	49.2	0.7%	0.7%
4	Non-Dedicated Copyright Industries	70.8	49.5	0.7%	0.7%
	Copyright-relevant industries	**706.9**	**575.5**	**7.2%**	**7.9%**
	Total Dutch economy	**9,599.4**	**7,197.0**	**100%**	**100%**

Source: CBS Microdata (2025), analysis by SEO/IViR

Table 2.16 Division of employment between employed and self-employed workers in 2019

		Employed (x1,000)		Self-employed (x1,000)	
Category		**Jobs**	**FTEs**	**Jobs**	**FTEs**
1	Core Copyright Industries	393.3 (73%)	335.5 (75%)	142.3 (25%)	113.8 (25%)
2	Interdependent Copyright Industries	29.3 (92%)	25.5 (93%)	2.4 (7%)	2.0 (7%)
3	Partial Copyright Industries	60.8 (88%)	42.9 (87%)	8.0 (13%)	6.3 (13%)
4	Non-Dedicated Copyright Industries	64.5 (91%)	44.9 (91%)	6.3 (9%)	4.6 (9%)
	Copyright-relevant industries	**547.9** (78%)	**448.8** (78%)	**159.0** (22%)	**126.7** (22%)
	Total Dutch economy	**8,553 (89%)**	**6,422 (89%)**	**1,045 (11%)**	**774 (11%)**

Source: CBS Microdata (2025), analysis by SEO/IViR

Despite the significant global impact of the pandemic on trade, the data presented in Table 2.17, indicates that the volume of trade in copyright-relevant goods was higher in 2022 than it was in 2019. The trade deficit in 2019 was also slightly smaller than in 2022, in absolute terms. This suggests that the worsening trade balance of copyright-relevant industries between 2019 and 2022 is not solely due to the pandemic. In fact, this trend has been evident since 2005, as is also illustrated in Figure 3.7.

Table 2.17 Trade balance of copyright-relevant industries in 2019

		Exports (in mn euro)	Imports (in mn euro)	Trade balance (in mn euro)	% of total trade balance
1	Core Copyright Industries	13,817	14,776	-960	-4.5%
2	Interdependent Copyright Industries	8,239	8,771	-531	-2.5%
3	Partial Copyright Industries	1,594	2,163	-568	-2.6%
4	Non-Dedicated Copyright Industries	4,276	5,134	-857	-4.0%
	Copyright-relevant industries	**27,926**	**30,844**	**-2,916**	**-13.6%**
	Total Dutch economy	**409,895**	**388,337**	**21,558**	**100%**

Source: CBS Microdata (2025), analysis by SEO/IViR
Note: All monetary values are deflated to represent prices of 2022.

In conclusion, copyright-relevant industries have demonstrated strong resilience by recovering quickly from the economic shock in terms of their contribution to GDP, employment, and trade. The development of these indicators between 2019 (pre-COVID-19) and 2022 (post-COVID-19) generally aligns with the expected long-term trends. Therefore, we consider our analysis of 2022 to provide a credible assessment of the economic contribution of copyright-relevant industries in the Netherlands, reflecting broader structural trends rather than just the impact of the pandemic.

2.6.2 Alternative copyright factors and robustness checks

Appendix C contains tables in which the results of the three robustness checks are presented. The results of the first robustness check (i.e. using an alternative set of copyright factors) indicate that the economic contributions as calculated from these alternative set of copyright factors is generally comparable to our baseline analysis. The contribution to GDP and employment slightly increases to 6.4 and 8.5 percent, respectively. While the goods trade deficit increases a bit more (in terms of percentage contribution) and ends up at a negative 8.9 percent contribution to the overall goods trade balance.

As expected, with the copyright factors of the Interdependent Copyright Industries set to 100 percent (the second robustness check) the economic contribution of the copyright industries increases, while with partial sectors excluded (the third robustness check) the contribution of copyright industries decreases. In terms of relative contributions, the share of GDP increases from 6.0 to 7.1 percent, employment from 8.1 to 9.0 percent, and the goods trade deficit from 6.9 to 12.2 percent. Conversely, when the partial sectors are excluded, the economic contribution of the copyright industries decreases to 5.2 percent in terms of GDP, 7.0 percent in terms of employment, and 6.6 percent in terms of the goods trade deficit.

To conclude, depending on assumptions regarding sector classifications and the methods used to determine copyright factors, the GDP contribution ranges from 5.2 to 7.1 percent, employment contribution from 7.0 to 9.0 percent, and the goods trade deficit contribution from 6.6 to 12.2 percent. These results suggest that our figures are generally robust, though somewhat less so for trade, which is inherently more volatile and subject to the data caveats previously discussed. Additionally, we believe there is a strong rationale for the specific sector classifications and copyright factors selected in our baseline analysis, further adding to the reliability of our findings.

3 Comparison with previous research

Over the 2011–2022 period, the contribution of copyright industries has remained stable, with a 6.0 percent share of GDP in both 2011 and 2022, and a slight increase in share of employment from 7.4 to 8.1 percent. Compared to international studies, the Dutch copyright industry ranks above the global average in both GDP and employment.

This chapter compares our findings with both international research and previous studies conducted in the Netherlands. First, we examine how our main findings align with the results of 28 international studies that utilised the WIPO guide (Section 3.1). Next, we analyse trends in the economic contribution of copyright industries, as established by our assessment for the years 2019 and 2022 and in previous Dutch studies for the years 2005 and 2011 (Section 3.2).

3.1 International studies

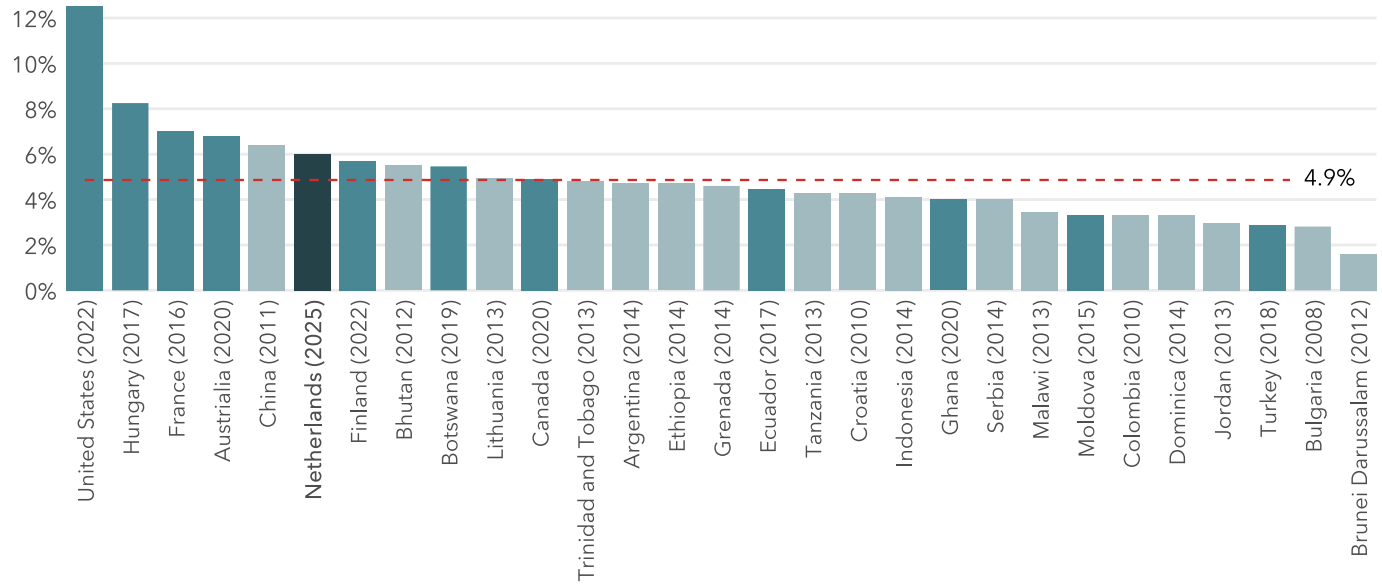
In this paragraph, the results of this study are compared with the results of 28 other international studies that have been conducted using the WIPO Guide. Although these studies have different measurement years, they should be comparable to some extent, as they have also followed the WIPO Guide.

Figure 3.1 shows for each study the contribution to the GDP of the copyright-relevant industries in the country concerned. The estimated contribution of Dutch copyright-relevant industries in this study is 6.0 percent, which is above the international average of 4.9 percent in the 28 countries concerned, as indicated by the red dotted line. Similarly, in the previous Dutch study (SEO, 2014), these industries accounted for 6.0 percent of GDP, which was also above the international average of 5.2 percent at the time. In both this study and the previous Dutch study, the Netherlands ranks among the countries with the highest contribution of copyright-relevant industries to GDP.

One thing to note is that, in general, the more recently conducted studies tend to find higher contributions to GDP from copyright-relevant industries as compared to older studies. In Figure 3.1 the studies published before 2015 are coloured lighter than the others. This pattern could be partly related to the revision of the WIPO Guide in 2015, in which a new selection of copyright-relevant industries is made.

Regarding the notably high contribution of copyright industries to the US economy in 2022, the underlying drivers of this cannot be determined exactly. Among other things, this is because the US study does not disclose the specific copyright factors used in its analysis. One possible explanation for the high contribution could be the significant size of the film and gaming industries, which are particularly prominent in the US. It is also worth noting that previous studies conducted in the US have reported similarly substantial contributions of copyright industries. For example, the 2018 US study reported a contribution of 11.6 percent of GDP, suggesting that the large economic impact of copyright industries in the US is structural rather than temporary.

Figure 3.1 Contribution to GDP of Dutch copyright-relevant industries above international average

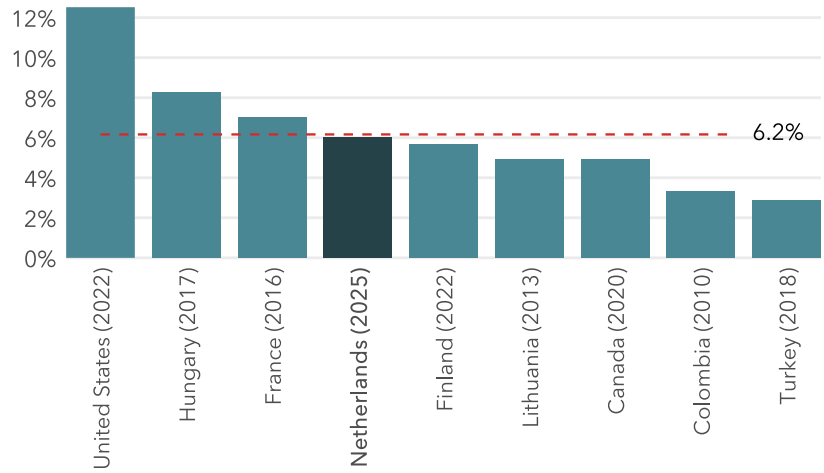


Source: WIPO (2025) and CBS Microdata (2025), analysis by SEO/IViR

Notes: 1) Red line indicates unweighted average of all studies in the figure. 2) Some countries have published multiple studies; in those cases the most recent study is included. 3) Year in brackets refers to year of publication. 4) dark blue bars represent studies conducted with the revised WIPO Guide (2015).

The comparison made in Figure 3.1 includes country studies published in 2010 or later, without any conditions about what kind of economy the country has or what part of the world the country is from. This makes that some of the countries included in comparison are very different from the Netherlands. To make a comparison with countries that are more similar to the economy of the Netherlands, Figure 3.2 only includes studies from countries in the Organisation for Economic Co-operation and Development (OECD). This results in a comparison of the current study with eight other studies. The figure shows that the value added of copyright-relevant industries in the Netherlands is very close to, but slightly below, the international average of all OECD countries.

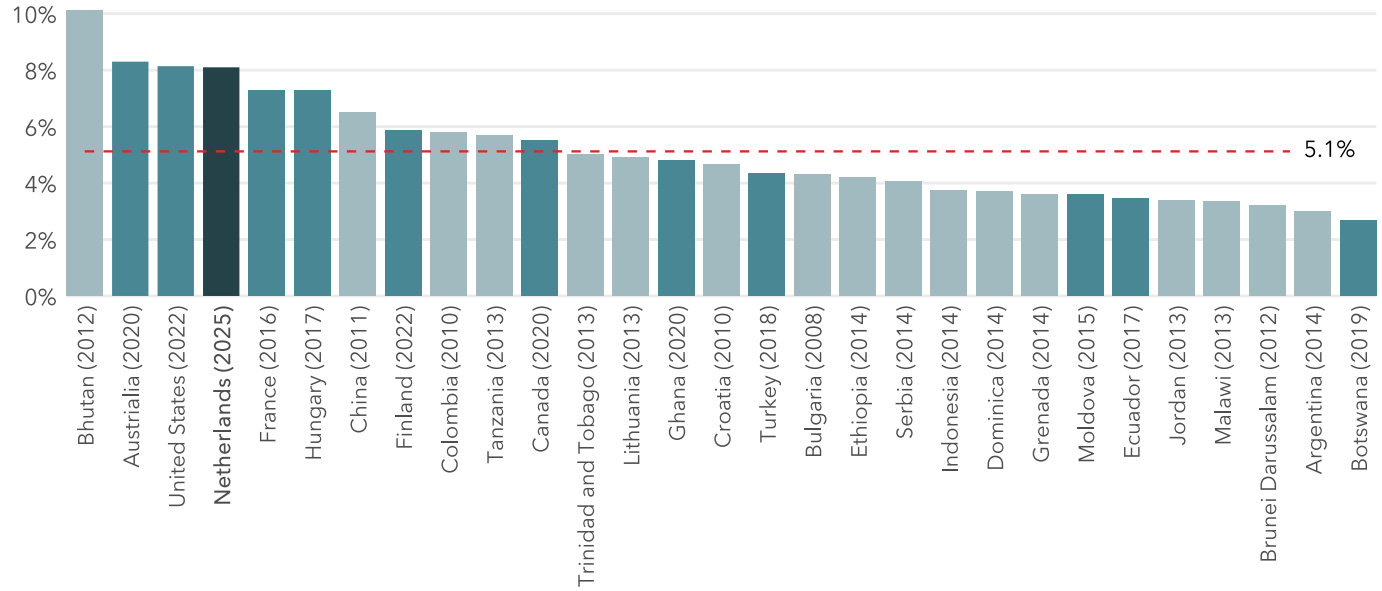
Figure 3.2 Contribution to GDP of Dutch copyright-relevant industries close to OECD average



Source: WIPO (2025) and CBS Microdata (2025), analysis by SEO/IViR

The international comparison is also made for the contribution of copyright-relevant industries to national employment. Figure 3.3 shows the results in terms of FTEs. The estimated contribution of the Dutch copyright-relevant industries in this study is 8.1 percent, which is well above the international average of 5.2 percent, as indicated by the red dotted line. In the previous Dutch study (SEO, 2014), copyright-relevant industries made up 7.4 percent of the GDP, which was also higher than the international average of 5.4 percent at that time. Also, in terms of employment, the Netherlands ranks among the countries with the highest contribution to national employment from copyright-relevant industries, on par with Australia and the United States, with only Bhutan surpassing it.

Figure 3.3 Contribution to national employment (FTEs) of Dutch copyright-relevant industries well above international average

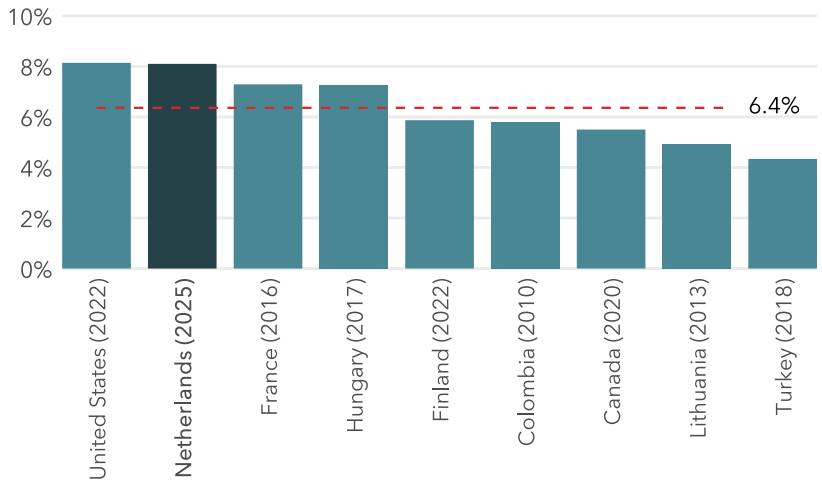


Source: WIPO (2025) and CBS Microdata (2025), analysis by SEO/IViR

Note: 1) Red line indicates unweighted average of all studies in the figure. 2) Some countries have published multiple studies; in those cases the most recent study is included. 3) Year in brackets refers to year of publication. 4) dark blue bars represent studies conducted with the revised WIPO Guide (2015).

In comparison with the other OECD countries, as in Figure 3.4, copyright-relevant industries the Netherlands have the highest contribution to national employment, together with the United States and followed by France and Hungary. The average among all OECD countries is equal to 6.4 percent.

Figure 3.4 Contribution to national employment of Dutch copyright-relevant industries well above OECD average



Source: WIPO (2025) and CBS Microdata (2025), analysis by SEO/IViR

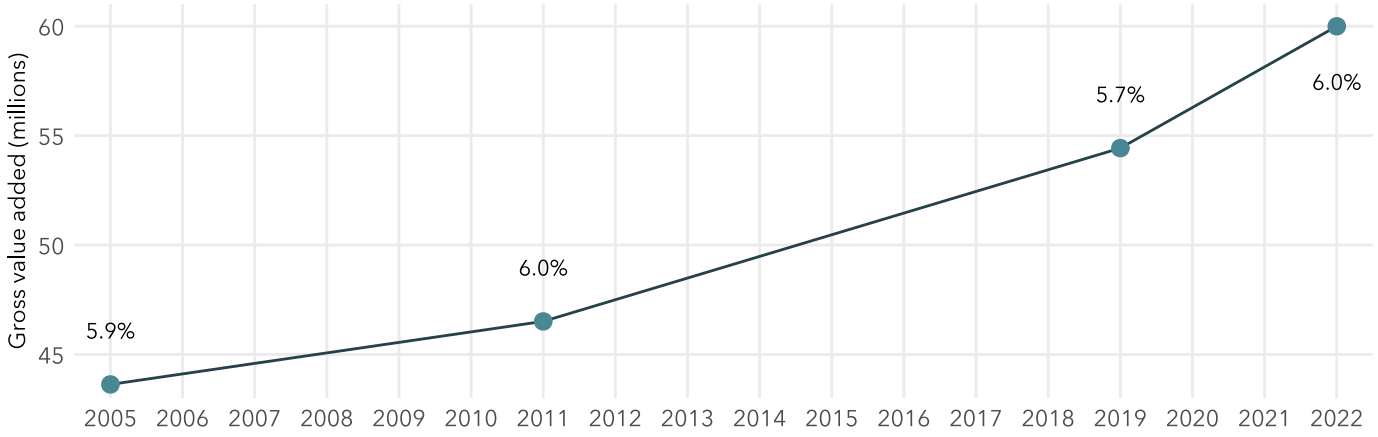
3.2 Previous Dutch studies

Research on the economic impact of copyright-related sectors in the Netherlands has a long-standing tradition. The first Dutch study on the economic contribution of copyright-relevant industries dates to 1986. The first time the WIPO Guide was applied to measure the economic significance of copyright industries in the Netherlands was in 2008 (SEO, 2008). Studies done before that time have not applied the WIPO Guide and, as an effect, are less comparable to more recent studies, in this comparison of previous Dutch studies those early studies will therefore not be considered. The latest study to assess the economic contribution of copyright-relevant industries in the Netherlands that is based on the WIPO Guide was done in 2014 (SEO, 2014).

While the previous Dutch studies from 2008 and 2014 also followed the WIPO Guide, this does not eliminate all comparability issues. Notably, the WIPO Guide was updated in 2015, meaning the 2008 study was conducted under different guidelines. Additionally, the 2008 study applied a different set of copyright factors for the Interdependent, Partial, and Non-dedicated Copyright Industries. In this study, both elements have been kept consistent with the 2014 study, enhancing the reliability of longitudinal comparisons since 2011. However, minor differences may still exist due to variations in statistical data processing and, in the case of employment figures, differences in data sources. That said, the results of the 2014 study and the current study are highly similar and appear to follow long-term trends, as illustrated in the upcoming figures.

Figure 3.5 shows the development of the value added of copyright-relevant industries in the Netherlands. The 2008 study is based on data of 2005, the 2014 study is based on data of 2011, and the current study is based on data of 2019 and 2022. The value added of the copyright-relevant industries in 2005, 2011, and 2019 have been corrected for inflation and are now in 2022 prices to make a fair comparison. From the figure we learn that gross value added by copyright-relevant industries has grown almost linearly from about 43 billion in 2005 to about 62 billion in 2022. As a percentage, copyright-relevant industries have remained rather stable contributors to the Dutch GDP over the years 2005, 2011 and 2022, with a small dip in 2019, likely reflecting significant growth in non-copyright industries in the years preceding the COVID-19 pandemic outbreak.

Figure 3.5 Development of gross value added of Dutch copyright-relevant industries



Source: SEO (2008, 2014) and CBS Microdata (2025), analysis by SEO/IViR

Table 3.1 presents the development from the latest Dutch study of 2014 until the current study in more detail, including a breakdown into the four categories of copyright-relevant industries. From the table we learn that most of the absolute growth of copyright-relevant industries is due to growth in Core Copyright Industries. In the period 2011 until 2022, copyright-relevant industries grew by about 13.45 billion in value added, of which 9.9 billion is due to the growth Core Copyright Industries. However, relative to GDP, there are hardly any developments visible.

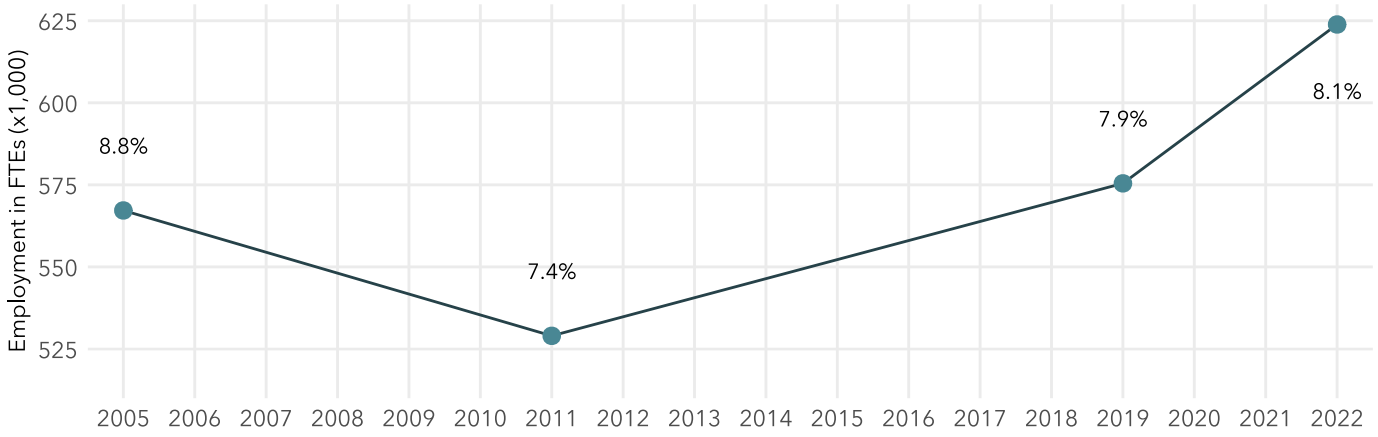
Table 3.1 Comparison of value added of copyright-relevant industries between 2011 and 2022

		Gross value added at market prices					
		In billion euros			As percentage of GDP		
Category		**2011**	**2022**	**Diff.**	**2011**	**2022**	**Diff.**
1	Core Copyright Industries	35.81	45.74	9.93	4.6%	4.6%	0.0%
2	Interdependent Copyright Industries	3.17	3.63	0.46	0.4%	0.4%	0.0%
3	Partial Copyright Industries	2.43	4.06	1.63	0.3%	0.4%	0.0%
4	Non-Dedicated Copyright Industries	5.04	6.56	1.52	0.6%	0.7%	0.1%
	Copyright-relevant industries	**46.45**	**60.00**	**13.45**	**6.0%**	**6.0%**	**0.1%**
	Total Dutch economy	**776.08**	**993.82**		**100%**	**100%**	

Source: SEO (2014) and CBS Microdata (2025), analysis by SEO/IViR
Note: All monetary values are deflated to represent prices of 2022.

In terms of employment, we see a slightly different pattern as compared to value added (Figure 3.6). In 2005, the number of FTEs related to copyright-relevant industries was about 567 thousand. It then decreased to about 529 thousand in 2011 before rising to 624 thousand in 2022. As compared to the percentage of the total workforce of the Netherlands involved in copyright-relevant industries, we see a similar development. In 2005 8.8 percent of all FTEs where related to copyright-relevant industries, decreasing to 7.4 percent in 2011, and rising again to 8.1 percent in 2022.

Figure 3.6 Development of employment in FTEs of Dutch copyright-relevant industries



Source: SEO (2008, 2014) and CBS Microdata (2025), analysis by SEO/IViR

Table 3.2 presents the development from the latest Dutch study of 2014 until the current study in more detail, including a breakdown into the four categories of copyright-relevant industries. Also, for employment the majority of absolute growth is due to growth in Core Copyright Industries. In the period 2011 until 2022, copyright-relevant industries grew by about 95.9 thousand FTEs, of which 77.9 thousand is due to the growth Core Copyright Industries. Relative to GDP, Core Copyright Industries grew by 1.5 percentage points over that period. The categories of Non-Dedicated Copyright Industries and Non-Dedicated Copyright Industries grew by 0.2 and <0.1 percentage points respectively. Employment in Partial Copyright Industries decreased by 2.5 thousand FTEs, corresponding to a decrease of the national workforce by about 0.1 percentage point.

Table 3.2 Comparison of employment in FTEs of copyright-relevant industries between 2011 and 2022

		Total employment in FTEs					
		x1,000			% of national employment		
Category		**2011**	**2022**	**Diff.**	**2011**	**2022**	**Diff.**
1	Core Copyright Industries	413	490.9	77.9	5.8%	6.3%	1.5%
2	Interdependent Copyright Industries	30	27.5	-2.5	0.4%	0.4%	-0.1%
3	Partial Copyright Industries	36	50.5	14.5	0.7%	0.7%	0.2%
4	Non-Dedicated Copyright Industries	49	55.0	6.0	0.7%	0.7%	0.0%
	Copyright-relevant industries	**528**	**623.9**	**95.9**	**7.5%**	**8.1%**	**0.6%**
	Total Dutch economy	**7,167**	**7,735**	**568**	**100%**	**100%**	

Source: SEO (2014) and CBS Microdata (2025), analysis by SEO/IViR

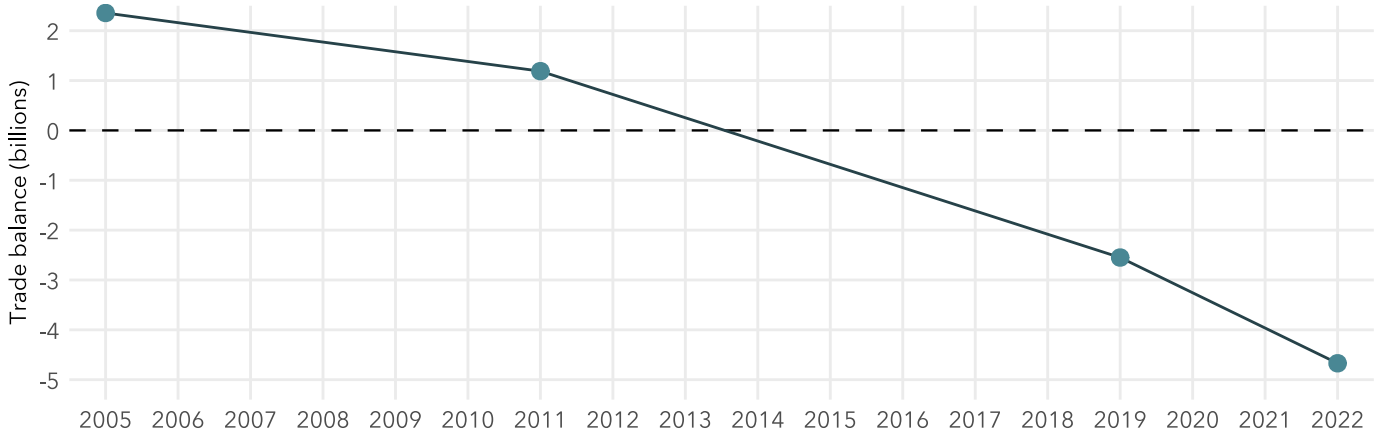
The fact that the copyright industries' contribution to GDP remained constant between 2011 and 2022, while their share of employment increased, suggests that these industries experienced below-average labour productivity growth during this period (as compared to non-copyright industries). This again can most likely be attributed to the labour-intensity and service-orientation of copyright industries.

Looking at the development of self-employed workers we see that between 2019 and 2022 (see also Table 2.3 and Table 2.16), the share of self-employed workers remained fairly stable, both within copyright-relevant industries and

within the total economy. Comparing the share of self-employed workers of 2022 with the shares found for 2011 in the previous study (see SEO, 2014), the current shares are slightly higher. In 2011 the share of self-employed workers in copyright-relevant industries was found to be about 22 percent. At about 10 percent, the share of self-employed workers in the economy as a whole was also found to be slightly lower. Overall, it is found that self-employment in copyright-relevant industries is high compared to the rest of the economy, however, the relative growth of self-employment in the rest of the economy is higher.

When comparing the trade balance of copyright-relevant industries over time, we see yet another pattern (Figure 3.7). Over the whole period of 2005 until 2022, we notice a downward trend, which seems to increase. In 2005 copyright-relevant industries still had a trade surplus of about 2.4 billion euro. Then in 2011, this trade surplus decreased to about 1.2 billion euro and turned into a trade deficit somewhere between 2011 and 2019. In 2022, the trade deficit of copyright-relevant industries was about 4.7 billion euro. These numbers have been corrected for inflation and are expressed in prices of 2022. We do not calculate the percentages of copyright-relevant industries of the total trade balance of the Netherlands. This number would be rather volatile seeing that it is dependent on the exports and imports of the Netherlands as a whole, which can vary substantially over time.

Figure 3.7 Development of trade balance of Dutch copyright-relevant industries



Source: SEO (2008, 2014) and CBS Microdata (2025), analysis by SEO/IViR

Table 3.3 presents a breakdown of the development of the trade balance of copyright-relevant industries for the year 2011, 2019 and 2022. All categories, except Non-Dedicated Copyright Industries tend towards a lower balance of trade over the whole timeframe. The biggest differences are seen between 2011 and 2019, which makes sense seeing as this a much longer time frame than 2019 and 2022. That being said the trade balance of Core Copyright Industries has deteriorated substantially in the short period of 2019 until 2022, even at a slightly higher rate than in the preceding period.

One explanation of this downwards trend in the trade balance of copyright-relevant industries could be the tertiarisation of the Dutch economy. The trade statistics used in this study only include trade in goods, as the data on trade in services is not sufficiently detailed to extract only trade in services that are copyright relevant. Consequently, the balance of trade of copyright-relevant industries in this study only covers trade in goods and therefore illustrates only part of the story. Tertiarisation of the Dutch economy is something that has been ongoing for a very long time but has rapidly increased in the last four decades or so, resulting in an economy with a share of the services industry of about 80 percent (CPB, 2023). It is therefore not a stretch that most copyright-relevant trade

is not included in the statistics applied in this study and to hypothesise that the not-included share is increasing over time, the results should therefore be interpreted carefully.

Table 3.3 Comparison of trade balance of copyright-relevant industries between 2011, 2019 and 2022

		Trade balance				
		In million euro			Differences	
Category		**2011**	**2019**	**2022**	**2011-2019**	**2019-2022**
1	Core Copyright Industries	2.432	-973	-2,187	-3.405	-1.343
2	Interdependent Copyright Industries	1.588	-582	-1,466	-2.170	-997
3	Partial Copyright Industries	-461	-781	-693	-320	-240
4	Non-Dedicated Copyright Industries	-2.020	-955	-325	1.065	603
	Copyright-relevant industries	**1,539**	**-3,285**	**-4,671**	**-4,824**	**-1,954**
	Total Dutch economy	**44,437**	**18,847**	**67,352**		

Source: SEO (2014) and CBS Microdata (2025), analysis by SEO/IViR
Note: All monetary values are deflated to represent prices of 2022.

4 Conclusions

This study assesses the economic impact of copyright industries in the Netherlands using the WIPO Guide, revealing a stable contribution to GDP and employment that exceeds international averages.

This study assesses the economic contribution of copyright-relevant industries in the Netherlands using the WIPO Guide (2015). The WIPO Guide categorises copyright-relevant industries into four groups: 'Core Copyright Industries', which directly create and distribute copyrighted content (e.g., literature, music and film, software and databases); 'Interdependent Copyright Industries', which produce utilities that supports core industries (e.g., computers and recording devices); 'Partial Copyright Industries', where only some activities involve copyrighted products (e.g., architecture and furniture); and 'Non-dedicated Copyright Industries', which facilitate the distribution or communication of copyrighted content (e.g., telecommunications and transport).

In 2022, these industries together accounted for 6.0 percent of GDP and 8.1 percent of total employment, highlighting their significant role in the Dutch economy. Over time, their relative GDP contribution has remained remarkably stable, with similar shares recorded in 2011 and 2005. However, their share of the national workforce has grown, rising from 7.4 percent of full-time equivalents (FTEs) in 2011. The fact that GDP contribution remained steady while employment grew between 2011 and 2022 suggests that these industries have experienced below-average labour productivity growth during this period. At the same time, self-employment is notably higher in copyright industries than in the overall economy, particularly in Core Copyright Industries, where 21 percent of FTE are self-employed compared to 13 percent across all sectors.[7]

Despite the economic shock of the COVID-19 pandemic, the relative contribution of copyright industries to GDP and employment remained stable from 2019 to 2022. This resilience likely reflects offsetting variations across different copyright-relevant activities. Compared to international studies that use the WIPO Guide, the Netherlands performs above average in terms of the GDP and employment contribution of copyright industries but lags in relative labour productivity as compared to other high-ranking countries.

[7] In addition to these main results, we also show that the copyright sector's goods trade balance has shifted over time, with a 4.7 billion euro of goods trade deficit recorded in 2022, reversing a surplus of 1.5 billion euro in 2011. However, as these figures exclude services trade due to data limitations, the overall trade position of copyright industries remains uncertain.

5 Further observations

Outside the scope and research question of this study, this section concludes with two observations based on the findings and process of our research that provide interesting avenues for further research by the copyright sector, relevant authorities and/or academia:

- For economies with a high degree of tertiarisation, such as the Netherlands, and in particular for service-oriented industries, such as copyright industries, studying trade statistics of solely goods is becoming increasingly irrelevant. In order to gain a more meaningful insight into trade balance developments in the copyright industries, future studies would need to include services for which more detailed data on service trade is needed.
- While since 2005, the economic contribution of copyright-relevant industries to GDP has remained stable in the Netherlands and its share in employment has grown, various current developments may lead to structural changes in the years to come. Most prominently, the global developments in generative AI may have effects on the employment in many copyright-relevant industries ranging from translation and journalism to music production, photography, and illustration. In addition, and at a national level, enforcement against 'covert employment' situations of self-employed workers (e.g. evidenced by a limited number of clients or by working alongside employed workers) may have an effect on these industries, given the high share of self-employed workers. Lastly, and more specifically, the new investment quota for audiovisual streaming services may have a positive effect on the audiovisual production industries. Since these developments may have a structural impact on subsectors of the copyright-relevant industries, continuous monitoring of the economic development of copyright-relevant industries appears warranted.

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Appendix A Copyright-relevant industries

A.1 Core Copyright Industries

Press and Literature

Economic Activity	NACE	SBI 4d		Description (NACE rev. 2)	SBI 5d	Description (SBI'08 5d)
Authors, writers, translators	90.03	90.03	(s)	Artistic creation		
	74.30	74.30		Translation and interpretation activities		
	82.99	82.99	(p)	Other business support service activities n.e.c. (incl. real-time, i.e. simultaneous, closed captioning of live television performances of meetings, conferences)	82.99.9	Other business services n.e.c.
Newspapers	58.13	58.13		Publishing of newspapers		
News and feature agencies etc.	63.91	63.91		News agency activities		
Magazines/periodicals	58.14	58.14		Publishing of journals and periodicals		
Book publishing	58.11	58.11		Book publishing		
Cards, maps, directories and other published material	58.12	58.12		Publishing of directories and mailing lists		
	58.19	58.19		Other publishing activities		
Pre-press, printing, and post-press of books, magazines, newspapers, advertising materials	18.11	18.11		Printing of newspapers		
	18.12	18.12	(s)	Other printing		
	18.13	18.13		Pre-press and pre-media services		
	18.14	18.14		Binding and related services		
	82.19	82.19		Photocopying, document preparation and other specialised office support activities		
Wholesale and retail of press and literature (bookstores, newsstands, etc.)	46.49	46.49	(s, p)	Wholesale of other household goods (incl. wholesale of stationery, books, magazines and newspapers)	46.49.7	Wholesale of paper and paperboard goods (not for packaging)
	46.49	46.49	(s, p)	Wholesale of other household goods (incl. wholesale of stationery, books, magazines and newspapers)	46.49.8	Wholesale of books, magazines and other printed matter
	47.61	47.61		Retail sale of books in specialised stores		
	47.62	47.62		Retail sale of newspapers and stationery in specialised stores		
	77.29	77.29	(s, p)	Renting and leasing of other personal and household goods (incl. books, journals and magazines)	77.29.1	Renting of magazines
	77.29	77.29	(s, p)	Renting and leasing of other personal and household goods (incl. books, journals and magazines)	77.29.9	Renting of other consumer goods n.e.c.
Libraries	91.01	91.01		Library and archives activities		

Music, Theatrical Productions, Operas

Economic Activity	NACE	SBI 4d		Description (NACE rev. 2)	SBI 5d	Description (SBI'08 5d)
Composers, lyricists, arrangers	90.03	90.03	(s)	Artistic creation		
Choreographers, writers	90.03	90.03	(s)	Artistic creation		
Directors, performers and other personnel	90.03	90.03	(s)	Artistic creation		
Artistic and literary creation and interpretation	90.03	90.03	(s)	Artistic creation		
Support activities to performing arts and operation of concert and theatre halls	90.02	90.02	(s)	Support activities to performing arts		
	90.04	90.04	(s)	Operation of arts facilities		
Printing and publishing of music	59.20	59.20		Sound recording and music publishing activities		
Production/manufacturing of recorded music	18.20	18.20	(s)	Reproduction of recorded media		
Wholesale, retail and rentals of recorded music (sale and rental)	46.43	46.43	(s, p)	Wholesale of electrical household appliances (incl. wholesale of recorded audio, CDs)	46.43.5	Wholesale of video and music recordings
	46.49	46.49	(s, p)	Wholesale of other household goods (incl. wholesale of musical instruments)	46.49.5	Wholesale of musical instruments
	47.63	47.63	(s)	Retail sale of music and video recordings in specialised stores		
	77.22	77.22	(s)	Renting of video tapes and disks		
	77.29	77.29	(s, p)	Renting and leasing of other personal and household goods (incl. jewellery, musical instruments, scenery and costumes)	77.29.2	Renting of clothing and household goods
					77.29.9	Renting of other consumer goods n.e.c.
Operation of concert and theatre halls	90.04	90.04	(s)	Operation of arts facilities		
Performances and allied agencies (bookings, ticket agencies, etc.)	90.01	90.01	(s)	Performing arts		
	90.02	90.02	(s)	Support activities to performing arts		
	79.90	79.90	(s)	Other reservation service and related activities (incl. ticket sales activities for theatrical, sports and other amusement and entertainment events)		

Motion Picture and Video

Economic Activity	NACE	SBI 4d		Description (NACE rev. 2)	SBI 5d	Description (SBI'08 5d)
Writers, directors, actors	90.03	90.03	(s)	Artistic creation		
Motion picture and video production and distribution	59.11	59.11	(s)	Motion picture, video and television programme production activities	59.11.1	Motion picture production (not for television)
	59.12	59.12	(s)	Motion picture, video and television programme post- production activities		
	59.13	59.13	(s)	Motion picture, video and television programme distribution activities		
	59.14	59.14		Motion picture projection activities		
Motion picture exhibition	77.22	77.22	(s)	Renting of video tapes and disks		
Video rentals and sales, video on demand	46.43	46.43	(s, p)	Wholesale of electrical household appliances (incl. wholesale of DVDs)	46.43.5	Wholesale of video and music recordings
Video rentals and sales, video on demand	47.63	47.63	(s)	Retail sale of music and video recordings in specialised stores		
Allied services	18.20	18.20	(s)	Reproduction of recorded media		

Radio and Television

Economic Activity	NACE	SBI 4d		Description (NACE rev. 2)	SBI 5d	Description (SBI'08 5d)
Television programme production activities	59.11	59.11	(s)	Motion picture, video and television programme production activities	59.11.2	Television programme production
	59.12	59.12	(s)	Motion picture, video and television programme post- production activities		
	59.13	59.13	(s)	Motion picture, video and television programme distribution activities		
National radio and television broadcasting companies	60.10	60.10		Radio broadcasting		
	60.20	60.20		Television programming and broadcasting activities		
Independent producers	59.11	59.11	(s)	Motion picture, video and television programme production activities	59.11.2	Television programme production

Photography

Economic Activity	NACE	SBI 4d		Description (NACE rev. 2)	SBI 5d	Description (SBI'08 5d)
Studios and commercial photography	74.20	74.20	(s)	Photographic activities	74.20.1	Photography

Software and Databases

Economic Activity	NACE	SBI 4d		Description (NACE rev. 2)	SBI 5d	Description (SBI'08 5d)
Programming, development and design, manufacturing	58.21	58.21		Publishing of computer games		
	58.29	58.29		Other software publishing		
	62.01	62.01		Computer programming activities		
	62.02	62.02		Computer consultancy and computer facilities management activities		
	62.03	62.03		Computer facilities management activities		
	62.09	62.09		Other information technology and computer service activities		
Wholesale and retail prepackaged software (business programs, video games, educational programs etc.)	46.51	46.51	(s)	Wholesale of computers, computer peripheral equipment and software		
	47.41	47.41	(s)	Retail sale of computers,… (incl. retail sale of non-customised software, including video games)		
Database processing and publishing	63.11	63.11		Data processing, hosting and related activities		
	63.12	63.12		Web portals		

Visual and Graphic Arts

Economic Activity	NACE	SBI 4d		Description (NACE rev. 2)	SBI 5d	Description (SBI'08 5d)
Artists	90.01	90.01	(s)	Performing arts		
	90.03	90.03	(s)	Artistic creation		
Art galleries and other wholesale and retail	90.02	90.02	(s)	Support activities to performing arts		
	90.04	90.04	(s)	Operation of arts facilities		
Picture framing and other allied services	74.20	74.20	(s)	Photographic activities		
Service activities related to printing	18.12	18.12	(s)	Other printing		
Graphic design	90.03	90.03	(s)	Artistic creation		
	18.12	18.12	(s)	Other printing (incl. artistic work)		
	74.10	74.10	(s)	Specialised design activities (incl. graphic designers)		

Advertising

Economic Activity	NACE	SBI 4d		Description (NACE rev. 2)	SBI 5d	Description (SBI'08 5d)
Agencies, buying services	73.11	73.11		Advertising agencies		
	73.20	73.20	(p)	Market research and public opinion polling (incl. marketing studies)		

Copyright Collecting Societies

Economic Activity	NACE	SBI 4d		Description (NACE rev. 2)	SBI 5d	Description (SBI'08 5d)
Copyright Collecting Societies	94.12	94.12	(p)	Activities of professional membership organizations (incl. associations of specialists engaged in cultural activities)		

A.2 Interdependent Copyright Industries

Economic Activity	NACE	SBI 4d		Description (NACE rev. 2)	SBI 5d	Description (SBI'08 5d)
TV sets, Radios, VCRs, CD Players, DVD Players, Cassette Players, Electronic Game Equipment, and other similar equipment	26.30	26.30	(p)	Manufacture of communication equipment (incl. radio and TV studio and broadcasting equip.)		
	26.40	26.40		Manufacture of consumer electronics (includes TVs, VCRs, DVDs, Hi-Fis, Consoles, ...)		
	46.43	46.43	(s, p)	Wholesale of electrical household appliances (incl. radio and television equipment)	46.43.3	Wholesale of audio and video equipment
	46.49	46.49	(s, p)	Wholesale of other household goods	46.49.4	Wholesale of toys
	47.43	47.43		Retail sale of audio and video equipment in specialised stores		
	77.29	77.29	(s, p)	Renting and leasing of other personal and household goods (incl. relevant electronic equipment for household use)	77.29.2	Renting of clothing and household goods
	77.39	77.39	(s, p)	Renting and leasing of other machinery, equipment and tangible goods n.e.c. (incl. profess. radio and TV equip., ...)	77.39.9	Renting and leasing of other machinery and equipment and of other goods (no vending and slot machines)
Computers and Equipment	26.20	26.20		Manufacture of computers and peripheral equipment		
	46.51	46.51	(s)	Wholesale of computers, computer peripheral equipment and software		
	47.41	47.41	(s)	Retail sale of computers, peripheral units, software and telecommunications equipment in specialised stores		
	77.33	77.33	(p)	Renting and leasing of other machinery, equipment and tangible goods (incl. computers and computer peripheral equipment)		
Musical Instruments	32.20	32.20		Manufacture of musical instruments		
	46.49	46.49	(s, p)	Wholesale of other household goods (incl. musical instruments)	46.49.5	Wholesale of musical instruments
	47.59	47.59	(s, p)	Retail sale of furniture, lighting equipment and other household articles in specialised stores (incl. musical instruments)	47.59.4	Shops selling musical instruments
	77.29	77.29	(s, p)	Renting and leasing of other personal and household goods (incl. instruments, scenery and costumes)	77.29.2	Renting of clothing and household goods
Photographic and Cinematographic Instruments	26.70	26.70	(p)	Manufacture of optical instruments and photographic equipment		
	46.43	46.43	(s, p)	Wholesale of electrical household appliances (incl. photographic and optical goods)	46.43.4	Wholesale of photographic goods
	47.78	47.78	(p)	Other retail sale of new goods in specialised stores (incl. photographic, optical and precision equipment)	47.78.1	Shops selling photographic equipment
	47.78	47.78	(p)	Other retail sale of new goods in specialised stores (incl. photographic, optical and precision equipment)	47.78.2	Shops selling optical articles
	77.39	77.39	(s, p)	Renting and leasing of other machinery, equipment and tangible goods n.e.c. (incl. motion picture production equipment)	77.39.9	Renting and leasing of other machinery and equipment and of other goods (no vending and slot machines)
Photocopiers	28.23	28.23	(p)	Manufacture of office machinery and equipment (incl. photocopy machines)		

Economic Activity	NACE	SBI 4d		Description (NACE rev. 2)	SBI 5d	Description (SBI'08 5d)
	46.66	46.66	(p)	Wholesale of other machinery and equipment (incl. office machinery and equipment)		
Blank Recording Material	26.80	26.80		Manufacture of magnetic and optical media		
	46.52	46.52	(p)	Wholesale of electronic and telecommunications equipment and parts (incl. blank material)		
Paper	17.11	17.11		Manufacture of pulp		
	17.12	17.12		Manufacture of paper and paperboard		
	17.21	17.21		Manufacture of corrugated paper and paperboard and of containers of paper and paperboard		
	17.22	17.22		Manufacture of household and sanitary goods and of toilet requisites		
	17.23	17.23		Manufacture of paper stationery		
	17.29	17.29		Manufacture of other articles of paper and paperboard		

A.3 Partial Copyright Industries

Economic Activity	NACE	SBI 4d		Description (NACE rev. 2)	SBI 5d	Description (SBI'08 5d)
Apparel, textiles and footwear	14.11	14.11		Manufacture of leather clothes		
	14.12	14.12		Manufacture of workwear		
	14.13	14.13		Manufacture of other outerwear		
	14.14	14.14		Manufacture of underwear		
	14.19	14.19		Manufacture of other wearing apparel and accessories		
	13.92	13.92		Manufacture of made-up textile articles, except apparel		
	15.20	15.20		Manufacture of footwear		
	46.41	46.41		Wholesale of textiles		
	46.42	46.42		Wholesale of clothing and footwear		
	47.51	47.51		Retail sale of textiles in specialised stores		
	47.71	47.71		Retail sale of clothing in specialised stores		
	47.72	47.72		Retail sale of footwear and leather goods in specialised stores		
	74.10	74.10	(s)	Specialised design activities		
Jewellery and coins	32.11	32.11		Striking of coins		
	32.12	32.12		Manufacture of jewellery and related articles		
	32.13	32.13		Manufacture of imitation jewellery and related articles		
	46.48	46.48		Wholesale of watches and jewellery		
	47.19	47.19	(s, p)	Other retail sale in non-specialised stores (incl. jewellery)		
	47.77	47.77		Retail sale of watches and jewellery in specialised stores		
	74.10	74.10	(s)	Specialised design activities		
Other craft	94.99	94.99	(p)	Activities of other membership organizations n.e.c. (incl. craft and collectors' clubs)		

Economic Activity	NACE	SBI 4d		Description (NACE rev. 2)	SBI 5d	Description (SBI'08 5d)
	47.19	47.19	(s, p)	Other retail sale in non-specialised stores (incl. handcrafts)		
	47.59	47.59	(s, p)	Retail sale of furniture, lighting equipment and other household articles in specialised stores (incl. handcrafts)	47.59.3	Shops selling various home furnishings
	47.59	47.59	(s, p)	Retail sale of furniture, lighting equipment and other household articles in specialised stores (incl. handcrafts)	47.59.5	Shops selling glassware, china and pottery
	47.59	47.59	(s, p)	Retail sale of furniture, lighting equipment and other household articles in specialised stores (incl. handcrafts)	47.59.6	Specialised shops selling other household goods n.e.c.
	47.59	47.59	(s, p)	Retail sale of furniture, lighting equipment and other household articles in specialised stores (incl. handcrafts)	47.59.7	Non-specialised shops selling household articles
	74.10	74.10	(s)	Specialised design activities		
Furniture	31.01	31.01		Manufacture of office and shop furniture		
	31.02	31.02		Manufacture of kitchen furniture		
	31.03	31.03		Manufacture of mattresses		
	46.47	46.47	(p)	Wholesale of furniture, carpets and lighting equipment	46.47.1	Wholesale of home furniture
	47.19	47.19	(s, p)	Other retail sale in non-specialised stores (incl. furniture)		
	47.59	47.59	(s, p)	Retail sale of furniture, lighting equipment and other household articles in specialised stores	47.59.1	Shops selling furniture
	74.10	74.10	(s)	Specialised design activities		
	77.29	77.29	(s, p)	Renting and leasing of other personal and household goods (incl. furniture)	77.29.2	Renting of clothing and household goods
Household goods, china and glass	23.11	23.11	(p)	Manufacture of flat glass		
	23.12	23.12	(p)	Shaping and processing of flat glass		
	23.13	23.13	(p)	Manufacture of hollow glass		
	23.14	23.14	(p)	Manufacture of glass fibres		
	23.19	23.19	(p)	Manufacture and processing of other glass, including technical glassware		
	13.91	13.91	(p)	Manufacture of knitted and crocheted fabrics		
	14.31	14.31		Manufacture of knitted and crocheted hosiery		
	14.39	14.39		Manufacture of other knitted and crocheted apparel		
	16.29	16.29	(p)	Manufacture of other products of wood		
	25.99	25.99	(p)	Manufacture of other fabricated metal products n.e.c.		
	46.44	46.44	(p)	Wholesale of china and glassware and cleaning materials	46.44.1	Wholesale of glassware, china and pottery
	47.52	47.52	(p)	Retail sale of hardware, paints and glass in specialised stores		
	47.59	47.59	(s, p)	Retail sale of furniture, lighting equipment and other household articles in specialised stores	47.59.2	Shops selling articles for lighting
	47.59	47.59	(s, p)	Retail sale of furniture, lighting equipment and other household articles in specialised stores	47.59.3	Shops selling various home furnishings
	47.59	47.59	(s, p)	Retail sale of furniture, lighting equipment and other household articles in specialised stores	47.59.5	Shops selling glassware, china and pottery
	47.59	47.59	(s, p)	Retail sale of furniture, lighting equipment and other household articles in specialised stores	47.59.6	Specialised shops selling other household goods n.e.c.
	47.59	47.59	(s, p)	Retail sale of furniture, lighting equipment and other household articles in specialised stores	47.59.7	Non-specialised shops selling household articles

Economic Activity	NACE	SBI 4d		Description (NACE rev. 2)	SBI 5d	Description (SBI'08 5d)
	74.10	74.10	(s)	Specialised design activities		
Wall coverings and carpets	13.93	13.93	(p)	Manufacture of carpets and rugs		
	17.24	17.24		Manufacture of wallpaper		
	47.53	47.53		Retail sale of carpets, rugs, wall and floor coverings in specialised stores		
	74.10	74.10	(s)	Specialised design activities		
Toys and games	32.40	32.40		Manufacture of games and toys		
	46.49	46.49	(s, p)	Wholesale of other household goods (incl. toys)	46.49.4	Wholesale of toys
	47.19	47.19	(s, p)	Other retail sale in non-specialised stores (incl. toys)		
	47.65	47.65		Retail sale of games and toys in specialised stores		
	74.10	74.10	(s)	Specialised design activities		
Architecture, engineering, surveying	71.11	71.11		Architectural activities		
	71.12	71.12	(p)	Engineering activities and related technical consult		
Interior design	74.10	74.10	(s)	Specialised design activities (incl. interior decorators)		
Museums	91.02	91.02		Museums activities		
	91.03	91.03	(p)	Operation of historical sites and buildings and similar visitor attractions		

A.4 Non-Dedicated Support Industries

General Wholesale and Retailing

Economic Activity	NACE	SBI 4d	Description (NACE rev. 2)	SBI 5d	Description (SBI'08 5d)
Wholesale on a fee or contract basis	46.11	46.11	Agents involved in the sale of agricultural raw materials, live animals, textile raw materials and semi-finished goods		
	46.12	46.12	Agents involved in the sale of fuels, ores, metals and industrial chemicals		
	46.13	46.13	Agents involved in the sale of timber and building materials		
	46.14	46.14	Agents involved in the sale of machinery, industrial equipment, ships and aircraft		
	46.15	46.15	Agents involved in the sale of furniture, household goods, hardware and iron-mongery		
	46.16	46.16	Agents involved in the sale of textiles, clothing, fur, footwear and leather goods		
	46.17	46.17	Agents involved in the sale of food, beverages and tobacco		
	46.18	46.18	Agents specialised in the sale of other particular products		
	46.19	46.19	Agents involved in the sale of a variety of goods		
Wholesale of household goods (non incl. in other CBIs)	46.45	46.45	Wholesale of perfume and cosmetics		
	46.46	46.46	Wholesale of pharmaceutical goods		
	46.61	46.61	Wholesale of agricultural machinery, equipment and supplies		
	46.62	46.62	Wholesale of machine tools		

Wholesale of machinery, equipment and supplies… (not included in other CBIs)	46.63	46.63	Wholesale of mining, construction and civil engineering machinery
	46.64	46.64	Wholesale of machinery for the textile industry and of sewing and knitting machines
	46.65	46.65	Wholesale of office furniture
	46.69	46.69	Wholesale of other machinery and equipment
Other specialised wholesale	46.71	46.71	Wholesale of solid, liquid and gaseous fuels and related products
	46.72	46.72	Wholesale of metals and metal ores
	46.73	46.73	Wholesale of wood, construction materials and sanitary equipment
	46.74	46.74	Wholesale of hardware, plumbing and heating equipment and supplies
	46.75	46.75	Wholesale of chemical products
	46.76	46.76	Wholesale of other intermediate products
	46.77	46.77	Wholesale of waste and scrap
Retail sale in non-specialised stores (non incl. in other CBIs)	47.11	47.11	Retail sale in non-specialised stores with food, beverages or tobacco predominating
Retail sale of information and communication equipment in specialised stores (non incl. in other CBIs)	47.42	47.42	Retail sale of telecommunications equipment in specialised stores
Retail sale of other household equipment in specialised stores (non incl. in other CBIs)	47.54	47.54	Retail sale of electrical household appliances in specialised stores
	47.64	47.64	Retail sale of sporting equipment in specialised stores
	47.73	47.73	Dispensing chemist in specialised stores
	47.74	47.74	Retail sale of medical and orthopaedic goods in specialised stores
	47.75	47.75	Retail sale of cosmetic and toilet articles in specialised stores
	47.76	47.76	Retail sale of flowers, plants, seeds, fertilisers, pet animals and pet food in specialised stores
	47.79	47.79	Retail sale of second-hand goods in stores
Retail sale via stalls and markets	47.81	47.81	Retail sale via stalls and markets of food, beverages and tobacco products
	47.82	47.82	Retail sale via stalls and markets of textiles, clothing and footwear
	47.89	47.89	Retail sale via stalls and markets of other goods
Retail trade not in stores, stalls or markets	47.91	47.91	Retail sale via mail order houses or via Internet
	47.99	47.99	Other retail sale not in stores, stalls or markets

General Transportation

Economic Activity	NACE	SBI 4d		Description (NACE rev. 2)	SBI 5d	Description (SBI'08 5d)
Land transport; transport via pipelines	49.10	49.10		Passenger rail transport, interurban		
	49.20	49.20		Freight rail transport		
	49.31	49.31		Urban and suburban passenger land transport		
	49.32	49.32		Taxi operation		
	49.39	49.39		Other passenger land transport n.e.c.		
	49.41	49.41		Freight transport by road		
	49.42	49.42		Removal services		
	49.50	49.50		Transport via pipeline		
Water transport	50.10	50.10		Sea and coastal passenger water transport		
	50.20	50.20		Sea and coastal freight water transport		
	50.30	50.30		Inland passenger water transport		
	50.40	50.40		Inland freight water transport		
Air transport	51.10	51.10		Passenger air transport		
	51.21	51.21		Freight air transport		
	51.22			Space transport		
Support activities for transportation	52.21	52.21		Service activities incidental to land transportation		
	52.22	52.22		Service activities incidental to water transportation		
	52.23	52.23		Service activities incidental to air transportation		
	52.24	52.24		Cargo handling		
	52.29	52.29		Other transportation support activities		
Postal and courier activities	53.10	53.10		Postal activities under universal service obligation		
	53.20	53.20		Other postal and courier activities		
Travel agency, tour operator and other reservation service and related activities	79.11	79.11		Travel agency activities		
	79.12	79.12		Tour operator activities		
	79.90	79.90	(s)	Other reservation service and related activities		

Information and Communication

Economic Activity	NACE	SBI 4d		Description (NACE rev. 2)	SBI 5d	Description (SBI'08 5d)
Telecommunications	61.10	61.10		Wired telecommunications activities		
	61.20	61.20		Wireless telecommunications activities		
	61.30	61.30		Satellite telecommunications activities		
	61.90	61.90		Other telecommunications activities		
	61.10	61.10		Wired telecommunications activities		

Appendix B Methodology and data

Appendix B.1 Copyright factors in other countries

	Economic activity	NLD2014	FRA2016	BOT2019	FIN2022	GHA2020	TUR2020	MOL2015
Partial	Apparel, textiles and footwear	0.058	0.14 – 0.87	0.0048	0.058	0.05	0.25	.005 - .01
	Jewellery and coins	0.26	0.01	0.1145	0.26	0.153	0.07	0.25
	Other crafts	0.393		0.415	0.393	0.026		0.4
	Furniture	0.088	.2 - .5	0.3036	0.088	0.031	0.45	.02 - .07
	Household goods, china and glass	0.009	0.05	0.0194	0.009	0.031	0.01	.2 - .4
	Wall coverings and carpets	0.02	0.02	0.0174	0.02	0.031	0.1	.02 - .2
	Toys and games	0.44	0.14	0.4392	0.44	0.031	0.03	0.45
	Architecture, engineering, surveying	0.081	0.69	0.0887	0.081	0.093	0.25	0.15
	Interior design	0.121		0.0887	0.121	0.093		0.05
	Museums	0.368	0.8	0.5	0.368	0.05	0.2	0.05
Interdependent	TV sets, Radios, VCRs, CD Players, DVD Players, Cassette Players, Electronic Game Equipment, and other similar equipment	0.325	0.8	1	0.325	1	1	1
	Computers and Equipment	0.325	0.8	1	0.325	1	1	1
	Musical Instruments	0.317	0.9	1	0.317	1	1	1
	Photographic and Cinematographic Instruments	0.317		1	0.317	1	1	1
	Photocopiers	0.3		1	0.3	1	1	1
	Blank Recording Material	0.25	0.8	1	0.25	1	1	1
	Paper	0.25	0.5	1	0.25	1	1	1
Non-dedicated	General Wholesale and Retailing	0.06	0.01	0.0534	0.0485	0.061	0.0547	
	General Transportation	0.06	0.01	0.0534	0.0485	0.061	0.0547	
	Information and Communication	0.06	0.01	0.0534	0.0485	0.061	0.13	

Source: SEO (2014)

Appendix B.2 Statistical data sources

For **value added** statistics, we use CBS' Production Statistics. These statistics report on the value added created in different industries. Production statistics are not compiled for all industries (the business functions R to S of the SBI classification are missing). Since these include copyright-relevant sectors, including the arts sector (SBI code 90), they have to be added. We do this by multiplying labour productivity (added value per FTE) from other similar sectors by the number of FTEs in the sectors for which the data are missing.

For **employment** statistics, we use the registration of all employee-employer relationships in the Netherlands available from CBS. We combine this with data on the number of self-employed workers, which are very relevant for this study given the large number active in many copyright sectors. Among other things, these data are linked to files with data on employers and firms to allocate employees and self-employed to (copyright-relevant) sectors. One

challenge is that the number of hours worked/waged for self-employed workers is not known. We calculate these – in line with SEO (2014) – based on sector-specific part-time factors of employees.

For **trade** statistics, we use CBS figures on international trade in goods between the Netherlands and other countries. Here, we start from the files compiled by CBS on imports and exports per firm, so that we can assign them to (copyright-relevant) sectors via these firms' industries. Part of the total imports and exports cannot be linked to firms in the Netherlands (because not all importing and exporting firms are economically active in the Netherlands).

Appendix B.3 Shared and Partial sector codes

Shared sectors

In the WIPO Guide, some 4-digit NACE-codes are listed multiple times under different economic activities. In order to avoid counting them double, the primary solution is to use 5-digit NACE-codes. For instance, the wholesale of press and literature is part of NACE/SBI code 46.49 Wholesale of other household goods, a code shared between Press and Literature and Music, Theatrical Productions and Operas (the latter for wholesale of musical instruments), but is also listed under Interdependent and Partial Copyright Industries. By narrowing this down to the wholesale of paper and paperboard goods (NACE/SBI 46.49.7) and of books, magazines and other printer matter (NACE/SBI 46.49.8) this economic activity is no longer shared between copyright industries.

Since 5-digit codes are not always defined for each 4-digit NACE/SBI-code, and if defined, not always available in the CBS-data, 5-digit NACE/SBI-codes are sometimes also shared between economic activities. When this happens, value added, employment and trade are distributed proportionally among the economic activities using the shared NACE/SBI-code.

Partial sector

In some cases, NACE/SBI-code are assigned to economic activity as defined by the WIPO Guide that are not fully copyright-relevant. In other words, these NACE/SBI-codes also encompass activities that are not considered copyright-relevant by the WIPO. Similar to solving the 'shared' sector codes problem, the primary solution to overcome this is to use underlying 5-digits NACE/SBI codes that are fully copyright-relevant and therefore eradicate the partiality of the 4-digit code. However, as mentioned previously, many 4-digit codes do not have underlying 5-digit codes. Moreover, 5-digit codes can be 'partial' themselves and therefore have to be examined in detail for the possible inclusion of non-copyright-relevant activities, using the detailed SBI documentation.

When the partiality cannot be solved using a 5-digit code, a coefficient is taken. This coefficient, ranging from 0 to 100 percent, denotes the share of copyright-relevant activities within the sector code. This coefficient should not be confused with the copyright factor, which is intended to reflect the contribution of copyright in the value chain of a given economic activity (good or service). Since statistical databases – by definition – do not offer empirical grounds to base the partiality coefficient on (the sector classification used in databases is not detailed enough), any value for the coefficient between 0 and 100 percent would be speculative. Put differently, the partiality coefficient cannot be estimated. Partial sectors are therefore by default fully included in the study outcomes (i.e., the partiality coefficient is set to 100 percent), providing an upper bound estimation of their contribution. Subsequently, in the robustness checks in, the partial sectors are left out completely (i.e., the partiality coefficient is set to 0 percent).

Appendix C Additional results

Alternative set of copyright factors

Tables C.1, C.2 and C.3 show the results when an alternative set of copyright factors is used. The alternative set of copyright factors is based on a conditional mean of copyright factors used in recent country studies that have been published since the latest Dutch study. The copyright factors are determined by checking whether the copyright factor of each economic activity is within one standard deviation of the mean (above or below). Those copyright factors that fall outside this range are left out of the calculation of the mean, hence a conditional mean for each economic activity is calculated based on the copyright factors used in the other studies. The studies included are Moldova (2015), France (2016) Botswana (2019), Ghana (2020), Turkey (2020) and Finland (2022).

Table C.1 Value added of copyright-relevant industries (alternative set of copyright factors)

		Gross value added at market prices	
Category		**In mn euro**	**% of GDP**
1	Core Copyright Industries	45,744	4.6%
2	Interdependent Copyright Industries	5,971	0.6%
3	Partial Copyright Industries	5,001	0.5%
4	Non-Dedicated Copyright Industries	6,967	0.7%
	Copyright-relevant industries	63,683	6.4%
	Total Dutch economy	**993,820**	**100.0%**

Source: CBS Microdata (2025), analysis by SEO/IViR , analysis by SEO/IViR

Table C.2 Employment in copyright-relevant industries (alternative set of copyright factors)

		Total employment (x1,000)		% of national employment	
Category		**Jobs**	**FTEs**	**Jobs**	**FTEs**
1	Core Copyright Industries	577.8	490.9	5.6%	6.3%
2	Interdependent Copyright Industries	50.7	44.3	0.5%	0.6%
3	Partial Copyright Industries	80.8	60.1	0.8%	0.8%
4	Non-Dedicated Copyright Industries	82.6	58.4	0.8%	0.8%
	Copyright-relevant industries	**791.9**	**653.7**	**7.7%**	**8.5%**
	Total Dutch economy	**10,048**	**7,610**	**100%**	**100%**

Source: CBS Microdata (2025), analysis by SEO/IViR

Table C.3 Goods trade balance of copyright-relevant industries (alternative set of copyright factors)

		Exports (in mn euro)	Imports (in mn euro)	Trade balance (in mn euro)	% of total trade balance
1	Core Copyright Industries	22,718	24,904	-2,187	-3.2%
2	Interdependent Copyright Industries	17,023	19,813	-2,791	-4.1%
3	Partial Copyright Industries	2,143	2,913	-770	-1.1%
4	Non-Dedicated Copyright Industries	6,786	7,131	-345	-0.5%
	Copyright-relevant industries	**48,670**	**54,761**	**-6,093**	**-8.9%**
	Total Dutch economy	**575,942**	**508,590**	**67,352**	**100%**

Source: CBS Microdata (2025), analysis by SEO/IViR

Note: The figures for the total Dutch economy represent 75-80% of the trade data that can be connected to specific companies that are economically active in the Netherlands.

Robustness checks

Tables C.4, C.5 and C.6 show the results when alternative allocation for Interdependent Copyright Industries and partial sectors is used. Specifically, the main results are also presented with the copyright factors for Interdependent Copyright Industries set to 100 percent and partial sectors excluded.

Table C.4 Value added of copyright-relevant industries (Interdependent 100%, partial sectors excluded)

		Interdependent 100%		Partial 0%	
		Value added (in mn)	% of GDP	Value added (in mn)	% of GDP
1	Core Copyright Industries	45,744	4.6%	43,136	4.3%
2	Interdependent Copyright Industries	12,643	1.3%	1,650	0.2%
3	Partial Copyright Industries	4,054	0.4%	1,666	0.2%
4	Non-Dedicated Copyright Industries	7,670	0.8%	5,706	0.6%
	Copyright-relevant industries	**70,111**	**7.1%**	**52,158**	**5.2%**
	Total Dutch economy	**993,820**	**100%**	**993,820**	**100%**

Source: CBS Microdata (2025), analysis by SEO/IViR

Table C.5 Employment in copyright-relevant industries (Interdependent 100%, partial sectors excluded)

		Interdependent 100%		Partial 0%	
		Total FTEs (x1.000)	% of national employment	Total FTEs (x1.000)	% of national employment
1	Core Copyright Industries	490.9	6.3%	459.9	5.9%
2	Interdependent Copyright Industries	94.8	1.2%	14	0.2%
3	Partial Copyright Industries	50.5	0.7%	20.8	0.3%
4	Non-Dedicated Copyright Industries	64.3	0.8%	47.8	0.6%
	Copyright-relevant industries	**700.5**	**9.0%**	**542.5**	**7.0%**
	Total Dutch economy	**7,610**	**100%**	**7,610**	**100%**

Source: CBS Microdata (2025), analysis by SEO/IViR

Table C.6 Goods trade balance of copyright-relevant industries (Interdependent 100%, partial sectors excluded)

		Interdependent 100%		Partial 0%	
		Trade balance (in mn euro)	% of total trade balance	Trade balance (in mn euro)	% of total trade balance
1	Core Copyright Industries	-2,187	-3.2%	-2,907	-4.3%
2	Interdependent Copyright Industries	-4,976	-7.4%	-567	-0.8%
3	Partial Copyright Industries	-6,93	-1.0%	-744	-1.1%
4	Non-Dedicated Copyright Industries	-380	-0.6%	-283	-0.4%
	Copyright-relevant industries	**-8,236**	**-12.2%**	**-4,501**	**-6.6%**
	Total Dutch economy	**67,352**		**67,352**	

Source: CBS Microdata (2025), analysis by SEO/IViR

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Roetersstraat 29
1018 WB, Amsterdam
The Netherlands

+31 20 399 1255
secretariaat@seo.nl
www.seo.nl/en/

seo • amsterdam economics