

The Economic Contribution of Copyright Industries in the Republic of Moldova



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Abbreviations

AGEPI	– State Agency for Intellectual Property Protection
CI	– copyright industry
CMO	– collective management organizations
CPA	– classification of products by activity
EC	– European Commission
EU	– European Union
FTE	– full-time equivalent
GDP	– gross domestic product
GVA	– gross value added
IT	– information technologies
LFS	– labor force survey
NACE	– Classification of Economic Activities in the European Community
NBM	– National Bank of Moldova
NBS	– National Bureau of Statistics
TRIPS	– Agreement on Trade-Related Aspects of Intellectual Property Rights
VAT	– value added tax
VP	– value of production
WIPO	– World Intellectual Property Organization

Glossary

Copyright activity denotes the sector of economic activity as defined by the four-digit NACE code classification. Codes are assigned (according to the WIPO Guide) either wholly, in the case of copyright types, or partially, in the case of the copyright industries.

Copyright factor measures the degree to which certain economic activities are attributed to copyright.

Copyright industries cover all production in the literary, scientific and artistic domains, whatever the mode or format of expression.¹ For the purpose of this report, the copyright industries include all economic activities mentioned in Annex A that bear any relation to copyright.

Copyright type refers to the agreement of the Working Group of Experts, which met in July 2002 in Helsinki, on a possible categorization of the copyright-based industries into four main groups: core copyright industries; interdependent copyright industries; partial copyright industries; and non-dedicated support industries.

FTE employment is used to ensure statistical comparability and to avoid double-counting the parts of the labor force that are employed in several simultaneous jobs. It is calculated using the ratio of the total hours of paid work to the total number of working hours for the same period. Thus, one FTE unit is equivalent to one employee working full-time.

Gross domestic product (GDP) is the key macroeconomic aggregate used by the System of National Accounts. It measures all production activity of resident productive units and thus encapsulates the total value of goods and services produced by these units for final consumption.

Gross value added (GVA) is a balancing item of the production account. It measures the difference between the value of goods and services for intermediate consumption (assessed using the purchaser's prices) and those finally produced (assessed using basic prices). It therefore represents the new value created in the production process. GVA includes both the formal and informal economy. As a result of data limitations, GVA estimates in this report do not include the Transnistrian region.

Intermediate consumption (IC) measures the value of goods and services (except the consumption of fixed capital) which are transformed or totally consumed during the production process. It incorporates the NBS's estimates for the informal economy. As a result of data limitations, IC estimates in this report do not include the Transnistrian region.

Labor Force Survey (LFS) is conducted in Moldova in line with current international recommendations for labor force statistics, adopted by the International Labor Organization (ILO). With some exceptions, the LFS methodology corresponds to the EU Regulation on Labor Force Survey for EU countries. The LFS is conducted on a quarterly basis as a continuous survey, collecting data describing the size and structure of the labor force. As a result of data limitations, LFS data in this report exclude the Transnistrian region.

Labor productivity measures value generated per employee and is calculated by dividing GVA by the number of employees in FTE employment.

Productivity index is similar to labor productivity. The only difference is that it is based on the ratio of a sector's share in total GVA to the sector's share of the labor force. The ratio is then multiplied by 100. It has better comparability than labor productivity across sectors and countries.

Sharing coefficient is used to account for those economic activities that are assigned to two or more types of copyright, otherwise known as 'shared activities'. The sharing coefficient therefore eliminates any double-counting by adjusting data in proportion to its contribution to output, employment or foreign trade.

¹ Guide on Surveying the Economic Contribution of the Copyright-Based Industries, WIPO, 2003.

Value of production (VP) is a measure of all goods manufactured and services rendered during a reporting period, including estimates for the informal economy. It is the sum of GVA plus the value of goods and services for intermediate consumption. As a result of data limitations, VP estimates in this report do not include the Transnistrian region.

WIPO Guide² provides information and recommendations for research teams and copyright professionals embarking on the stimulating and challenging study of the contribution of copyright-based industries to national economies. This publication is intended as a practical tool to facilitate national and regional surveys. The Guide sets out the main legal, economic and statistical concepts underpinning the survey.

² Guide on Surveying the Economic Contribution of the Copyright-Based Industries, WIPO, 2003.

Executive summary

This section summarizes the legal background of the copyright industries in Moldova, the methodology used in computing the economic contribution of the copyright industries, and the key findings and policy recommendations of this report.

Copyright legislation has undergone extensive transformation since the Republic of Moldova declared its independence in 1991. By proclaiming the private ownership of production factors and guaranteeing fundamental human rights, the Constitution also laid the foundation for the structural reform of the legal framework for copyright. Thus, only a few months after the Constitution came into force, the Law on Copyright and Related Rights was passed, based on provisions of international conventions and European Directives in force at the time. It subsequently began a continuous process of transformation that culminated in the 2010 adoption of a new Law on Copyright, incorporating the key European Union (EU) Directives applicable at that time. The process of harmonization with EU norms is ongoing and subject to the commitments of the recently signed Association Agreement between Moldova and the EU. Overall, Moldova has developed a relatively adequate legal framework for the protection of intellectual property rights. Hence, all economic activities that form the copyright industries are protected by Moldova's copyright regulations (see Annex A).

This report estimates the relative weight of Moldova's copyright industries in the nation's economy in terms of key macroeconomic indicators: gross domestic product, gross value added, employment and foreign trade (import-export) in goods and services. It is the result of intensive research and statistical analysis and offers a clear and comprehensive picture of the economic contribution of the copyright industries in Moldova. The usefulness of this exercise is fully actuated when applied to the design of appropriate economic and legal policies aimed at further developing the industry.

The estimates provided in the report were largely based on the methodology suggested in the WIPO Guide,³ adjusted only for data limitations and domestic peculiarities. The main reference for the report was a similar study conducted in Lithuania. The estimation process consisted of: (i) classifying copyright activities using the four types: core, interdependent, partial and non-dedicated support; (ii) collecting data; (iii) estimating sharing coefficients and copyright factors; and (iv) calculating the economic contribution of copyright industries. The key results are presented in Tables 1 and 2 below.

In 2013, the GVA of the copyright industries was approximately 3.33 billion lei (264.32 million US dollars). This represents 3.98 per cent of the total national GVA – a slight drop on the 2008 share of 4.07 per cent. The contribution of the copyright industries' GVA to GDP⁴ also declined slightly from 3.35 per cent in 2008 to 3.31 per cent in 2013. These levels are relatively low compared to other countries in the region, with Moldova outpaced by Romania, Russia and Hungary. The structure of the copyright industries in Moldova is also slightly different from comparable countries given the relatively high concentration of core activities (making up 66.86 per cent of total estimated GVA in 2013). At the same time, the contributions of interdependent, non-dedicated support and, especially, partial copyright activities are relatively low.

The copyright industries employ about 39,280 people (in FTE), according to the 2013 estimate. This represents a moderate increase over the period under analysis (2008 = 35,720 people). The industry therefore made up 3.58 per cent of the employed labor force, showing upward movement between 2008 and 2012 but then declining in 2013. Comparing this with other countries in the region, the figures appear relatively modest; indeed, Moldova is outsized by most countries in the region (e.g. Romania, Bulgaria and Russia). Of the four types of copyright industries, the main employers are the core copyright industries (69.29 per cent in 2013) followed by the non-dedicated support industries (15.07 per cent), the interdependent industries (9.26 per cent) and the partial industries (6.38 per cent). Despite their relatively small size, the Moldovan copyright industries have achieved gains in efficiency. Labor productivity is significantly higher than the national average and is rising strongly, especially since 2011. Moreover, again taking its relatively small size into account, labor productivity in the copyright industries is close to the regional mean.

³ Guide on Surveying the Economic Contribution of the Copyright-Based Industries, World Intellectual Property Organization, 2003.

⁴ The share of GVA in GDP is smaller than the share of GVA in total GVA, because GDP is net of the taxes that are included in GVA and thus the denominator is larger. Unfortunately, it is not possible to estimate net tax at such a high level of disaggregation. Hence, the authors followed the approach of most similar studies, computing the share of GVA generated by the copyright-based industries in GDP of the country.

The analysis of foreign trade highlighted significant differences between copyright goods and copyright services. The copyright goods industry faces urgent competitiveness issues and suffers from high sensitivity to external shocks. In 2014, total exports of copyright goods generated approximately 399.80 million lei (28.48 million US dollars), accounting for a tiny share of GDP (0.36 per cent in 2014, down from 0.61 per cent in 2008) and posting a mediocre performance during the review period. However, Moldova imports 14 times more copyright goods than it exports. In 2014, the volume of copyright imports was valued at approximately 3.2 billion lei (227.54 million US dollars), which is equivalent to about 2.6 per cent of GDP. Unlike exports, the volume of imports of copyright goods also grew constantly over the same period. This widening gap between exports and imports has fueled a negative trade balance for the copyright industries of about 2.8 billion lei (199.06 million US dollars). There are also structural differences between the export and import of copyright goods. Partial copyright goods are the most exported copyright goods (65.42 per cent), followed by interdependent copyright goods (27.78 per cent) and core copyright goods (6.81 per cent). The interdependent copyright industries imported the largest proportion of copyright goods (69.46 per cent) in 2014, followed by the partial copyright industries (19.94 per cent) and the core copyright industries (10.60 per cent).

Unlike the foreign trade in copyright goods, the balance of trade in copyright services is positive and even increased during the review period, revealing competitiveness gains in the copyright services industry. By 2014, exports had surged to 3.6 times their 2008 volume, reaching 1.08 billion lei (76.96 million US dollars), equating to a two-fold increase in the contribution to GDP (0.5 per cent to 1.0 per cent). During the same period, imports also increased, albeit at a slower pace, only reaching 2.3 times their 2008 volume (2014 = 787.72 million lei, or 56.11 million US dollars), equating to an increase in GDP share from 0.4 per cent in 2008 to 0.7 per cent in 2014. The growing competitiveness of copyright services seen between 2008 and 2014 resulted entirely from the Computer and Information Services sector, which accounted for 92.64 per cent of total exports of copyright services in 2014. These exports were 2.7 times higher over the period. The Computer and Information Services sector also imports the greatest proportion of copyright services (75.69 per cent), 3.59 times higher during the 2008-2014 period.

Table 1: Contribution of CI to GDP, GVA, employment and foreign trade, per cent

	2008	2009	2010	2011	2012	2013	2014
Gross value added	4.07	4.02	3.91	3.69	4.00	3.98	N/A
Gross domestic product	3.35	3.38	3.26	3.06	3.34	3.31	N/A
Employment	3.02	3.41	3.60	3.71	3.78	3.58	N/A
Exports	4.69	5.70	6.08	6.76	7.46	7.53	8.63
Exports of goods	2.24	1.54	1.46	1.47	1.43	1.36	1.21
Exports of services	3.39	4.74	5.27	5.90	6.59	6.82	8.02
Imports	6.61	8.27	8.76	8.07	9.32	9.48	9.54
Imports of goods	4.24	4.48	4.82	4.60	4.38	4.25	4.33
Imports of services	2.91	4.24	4.42	3.93	5.38	5.70	5.67

Source: Calculated by the authors based on NBS data.

Table 2: Size of CI GVA, employment and foreign trade compared to the national economy

	2008	2009	2010	2011	2012	2013	2014
Gross value added (CI), billion MDL	2,106.19	2,041.38	2,340.19	2,522.45	2,949.07	3,327.95	N/A
Gross value added (total economy), billion MDL	51,773.55	50,809.19	59,920.69	68,389.56	73,686.10	83,719.48	N/A
Employment (CI), thousands (FTE)	35.72	37.86	38.60	41.96	40.98	39.28	N/A
Employment (total economy), thousands (FTE)	1,183.48	1,110.50	1,071.33	1,131.14	1,083.0	1,098.45	N/A
Exports (CI), million MDL	678.05	583.57	729.82	990.42	1,105	1,269.89	1,479.59
Exports of goods (CI), million lei	381.22	228.71	285.99	393.77	384.93	421.81	399.80
Exports of services (CI), million lei	296.83	354.86	443.83	596.65	720.07	848.08	1,079.79
Imports (CI), million lei	2,387.05	1,970.26	2,647.82	3,157.47	3,319.17	3,620.35	3,982.12
Imports of goods (CI), million lei	2,134.07	1,634.36	2,263.54	2,775.08	2,737.42	2,923.01	3,194.40
Imports of services (CI), million lei	252.98	335.90	384.28	382.39	581.75	697.34	787.72
Exports (total economy), million lei	25,867.78	22,227.24	28,081.64	36,838.81	37,917.85	43,487.27	46,481.77
Exports of goods (total economy), million lei	17,100.08	14,746.70	19,667.73	26,734.19	26,992.52	31,050.68	33,019.96
Exports of services (total economy), million lei	8,767.70	7,480.54	8,413.91	10,104.62	10,925.33	12,436.59	13,461.81
Imports (total economy), million lei	59,313.24	44,326.69	55,817.89	70,148.17	73,225.52	80,842.5	87,804.55
Imports of goods (total economy), million lei	50,616.50	36,404.39	47,114.12	60,411.98	62,410.90	68,602.07	73,899.68
Imports of services (total economy), million lei	8,696.74	7,922.30	8,703.77	9,736.19	10,814.62	12,240.43	13,904.87

Source: Calculated by the authors based on NBS data.

These estimates have important policy implications. The key policy recommendations are as follows:

- Policy measures in the copyright sector should primarily focus on raising efficiency and boosting value added. This focus is especially relevant for copyright goods, which are significantly less competitive than copyright services.
- Efficiency improvements are most needed in the core copyright industries and could be introduced either by increasing value added or by optimizing employment in industries with largely state-owned capital (especially press and literature and radio and television).
- As a large share of copyright activities are already concentrated in the core copyright industries compared to other countries in the region, policy measures aimed at the other three types of copyright industries (interdependent, partial and non-dedicated support) should focus on increasing their size (e.g., added value, employment and exports).
- In addressing software and database copyright activity (the largest copyright industry in Moldova in terms of GVA and the second largest in terms of employment), adjustments need to be made to the existing tax structure, with a greater focusing on incentives to invest and to improve efficiency.

- In addressing press and literature (the second largest copyright activity in terms of GVA and the largest in terms of employment), bold policy measures should aim to reform the structure of the industry (i.e., improving investment attractiveness, boosting productivity and competitiveness, with a focus on increased value added in the library and archives sector).
- Advertising services (the third largest copyright industry in terms of GVA and the fourth largest in terms of employment), as with other copyright industries, could benefit greatly from horizontal policy measures related to the enforcement of copyright regulations and a more effective protection of intellectual property rights.
- Other more specific recommendations include improving copyright statistics, conducting annual assessments of the economic contribution of the copyright industries, intensifying research in the field of copyright factors, strengthening the institutional setting for copyright protection, developing the National Strategy on Creative Industries Development, providing support to small and medium enterprises that deal with copyright, strengthening tax legislation and the Law on Copyright and Related Rights and developing the collective management of copyright.

Introduction

This section presents the background, purpose and objectives of the study, as well as some notes on its structure and methodology. It also explains the importance of adequately measuring the copyright industries' contribution to the national economy.

The copyright industries are gaining increased attention in the context of global digitalization, technological and cultural change and globalization, all of which directly affect the Republic of Moldova. The leading economic and social roles played by information technology, software and hardware, and by the creative and cultural industries, are fueling the rising need for efficient copyright protection.

Moreover, in an increasingly competitive world, the sustainability of any economic system is directly related to a country's capacity to generate, integrate and ameliorate innovation and play an active role in technological development. This is especially important for countries with small domestic markets and limited resources, such as Moldova. Given these constraints, the best approach is to encourage technological progress, which is of course conditional on the level of copyright protection.

The importance of the copyright sector for Moldova is two-fold. Firstly, it has great potential to generate value added, decent jobs, exports and tax revenue. Secondly, it is a vital national instrument for modernizing technology and enhancing competitiveness.

Policies are therefore needed to draw benefit from both of these functions. In order to help unleash the industry's potential and to leverage systemic spillovers from the copyright sector for the entire economy, policies should be grounded on a clear set of indicators measuring the trends and performance of the copyright industries.

The World Intellectual Property Organization (WIPO) has supported countries in compiling statistics on their copyright industries and measuring the contribution to economies by financing national studies with those specific objectives. It also provides policy makers and local researchers with methodological assistance in measuring the size of copyright industries and their impact on economic growth. Hence, in 2003, it developed the WIPO Guide on Surveying the Economic Contribution of the Copyright-based Industries.⁵ To date, the WIPO Guide and technical and financial assistance have helped 44 countries undertake efforts to measure the size and economic contribution of their national copyright industries. The Republic of Moldova will be the 45th country to do so.

The purpose of the study is to delineate the economic characteristics of the copyright industries in Moldova and thereby encourage evidence-based policies aimed at the sustainable development of the sector.

The **specific objectives** of the study are as follows:

- Estimate the contribution of copyright industries to the national economy, specifically to gross domestic product, gross value added, employment and foreign trade;
- Analyze the performance and development of the copyright industries in recent years;
- Provide a feasible and transparent methodology for estimating and monitoring the performance of copyright industries and their contribution to economic growth (one which could be replicated in other countries);
- Identify the strongest copyright industries in order to fine-tune specific policies in this area; and
- Identify policy recommendations for strengthening the copyright sector and increasing the economic role of copyright industries in Moldova.

This is the first study to provide a comprehensive view of the economic role of the copyright industries in the Republic of Moldova through the lenses of GDP, employment and foreign trade, estimated using a robust methodology. The report is data-rich and can therefore serve as a sound basis for the government to design a development strategy for the copyright sector and other sector-specific policies, laws and regulations.

⁵ Guide on Surveying the Economic Contribution of the Copyright-Based Industries, World Intellectual Property Organization, 2003.

Moreover, the report can be used to raise awareness and for advocacy centering on the importance of the copyright sector and the protection of intellectual property rights.

The study is based on the methodology set out in the WIPO Guide, which has been adapted to data constraints and domestic peculiarities. Thus, the copyright industries have been classified according to four types: (i) core; (ii) interdependent; (iii) partial; and (iv) non-dedicated support. Each type comprises the specific economic activities as defined by the four-digit NACE classification (rev. 1.1).

The principal source of data was the National Bureau of Statistics, which made a substantial contribution to estimating the economic contribution of copyright-based industries. Additionally, the authors referred to the analytical approaches of similar studies conducted in comparable countries, especially Lithuania, Bulgaria and Romania.

The report is divided into three main chapters. The first chapter provides a brief history and current overview of the copyright industries, the legal framework, the government's international commitments and the institutional landscape of the area.

The second chapter provides data analysis regarding the contribution of the copyright industries to: (i) gross domestic product and gross value added; (ii) employment; and (iii) foreign trade (exports and imports) in goods and services.

The third chapter describes the three most important copyright sectors: (i) software and databases; (ii) press and literature; and (iii) advertising services. Individual calculations of the contribution to GDP, GVA, employment and foreign trade are presented for each of the sectors.

Additionally, a fourth chapter sets out key conclusions and policy recommendations based on data from the second and third chapters. Their overarching aim is the elimination of development constraints and the strengthening of the copyright sector.

The report also contains several annexes. Annex A provides detailed methodological notes with descriptions of the datasets, all of the estimation steps and the adjustments to the WIPO methodology made in light of data availability and other constraints. Annex B provides statistical tables with estimates of contributions to GDP, GVA, employment and foreign trade of goods and services for each copyright activity for the 2008-2013 period (2008-2014 for foreign trade statistics). Annexes C, D and E present estimates on copyright factors related to apparel, textiles and footwear products, footwear and other partial copyright activities.

1. The Copyright Industries in Moldova: An Overview

This section considers copyright regulation in the Republic of Moldova, describing its evolution, offering a functional assessment, discussing its correlation with EU directives and analyzing the relevance of the current regulatory framework protecting economic activities with a direct or partial contribution to the copyright industries.

1.1 A brief history of copyright in the Republic of Moldova

Until the declaration of Moldova's independence in 1991 and the adoption of national legislation, the legal copyright regime had been regulated by Title 4 of the Civil Code of the Moldavian Soviet Socialist Republic.⁶ The code provided for a low level of protection for authors of works but no rights at all for performers and subjects of related rights. At the same time, while it contained detailed procedures for standardized copyright contracts, it ignored the legal status of some copyright objects, exceptions and limitations relating to economic rights, collective management systems and legal measures for copyright protection.

The introduction of private ownership of production factors and the guarantee of fundamental human rights facilitated the radical reform of the copyright legal framework. Only a few months after the entry into force of the Constitution of the Republic of Moldova, the Law on Copyright and Related Rights⁷ was adopted. The law borrowed from the provisions of international conventions and European directives in force at the time. The resulting framework made authors the main subjects of copyright relations by guaranteeing their moral rights, granting them the exclusive economic rights to their creations, and regulating the mechanisms to protect their rights.

The first significant adjustments to this copyright law followed Moldova's ratification of the Rome Convention and the WIPO Treaties in 1996. The new provisions were crafted to correspond to the 'digital era', in particular through the introduction of new categories of rights related to the use of works (including interactive works) in the digital environment, an extension to the level of protection, the systematization of legal norms and the incorporation of limitations and exceptions.

On July 2, 2010, the Law on Copyright and Related Rights⁸ was adopted (hereinafter 'the Law on Copyright'). The legal framework for copyright in the Republic of Moldova also comprises other laws and regulations (such as the Law on the Distribution of Copies of Works and Phonograms,⁹ the Regulation on the State Registration of the Works Protected by Copyright and Related Rights¹⁰ and the Regulation on Minimum Rates of Copyright Remunerations,¹¹ and others¹²).

1.2 International and EU copyright and related rights legislation

At the time of writing, the Republic of Moldova was party to several international conventions governing copyright and related rights (see Table 3).

⁶ Civil Code of the Moldavian Soviet Socialist Republic, December 26, 1964.

⁷ Law on Copyright and Related Rights, November 23, 1994, Official Gazette No. 13/1995.

⁸ Law on Copyright and Related Rights, July 2, 2010, Official Gazette No. 191-193 / 2010.

⁹ Law on Distribution of Copies of Works and Phonograms, November 14, 2002, Official Gazette No. 11-13/2003.

¹⁰ Government Decision on Registration of Objects of Copyright and Related Rights, February 10, 2012, Official Gazette No. 34-37/2012.

¹¹ Government Decision on Minimum Rates of Copyright Remunerations, 12 July 2001, Official Gazette No. 81-83/2001.

¹² Law on Publishing, Law on Architectural Activity, Law on Advertising, Law on Press, Law on Cinematography, Law on Libraries, Customs Code, Broadcasting Code, etc.

Table 3: The international conventions governing CI signed by Moldova

	Name of international treaty	Date of signature	Date of enactment by Moldova	Act of ratification
Multilateral treaties				
1	Berne Convention for the Protection of Literary and Artistic Works	September 9, 1886	November 2, 1995	Parliament Decision No. 511/1995
2	Universal Copyright Convention	September 6, 1952	June 23, 1997	Parliament Decision No. 1318/1993
3	International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations	October 26, 1961	December 5, 1995	Parliament Decision No. 510/1995
4	Convention Establishing the World Intellectual Property Organization	July 14, 1967	December 25, 1991	Parliament Decision No. 1328/1993
5	Convention for the Protection of Producers of Phonograms against Unauthorized Duplication of their Phonograms	October 29, 1971	July 17, 2000	Parliament Decision No. 796/2000
6	Brussels Convention Relating to the Distribution of Program-Carrying Signals Transmitted by Satellite	May 21, 1974	October 28, 2008	Law No. 117/2008
7	Agreement on Trade Related Aspects of Intellectual Property Rights	April 15, 1994	July 26, 2001	Law No. 218/2000
8	WIPO Copyright Treaty	December 20, 1996	March 6, 2002	Parliament Decision No. 1452/1998
9	WIPO Performances and Phonograms Treaty	December 20, 1996	May 20, 2002	Parliament Decision No. 1452/1998
10	Beijing Treaty on Audiovisual Performances	June 24, 2012	Not in force	Not ratified
11	Marrakesh Treaty to Facilitate Access to Published Works by Visually Impaired Persons and Persons with Print Disabilities	June 27, 2013	Not in force	Not ratified
Regional treaties				
12	Agreement on Cooperation in the Field of Protection of Copyright and Neighboring Rights	September 24, 1993	May 9, 1999	Parliament Decision No. 206/1998
13	Agreement on Cooperation for Combating Violations in the Area of Intellectual Property	March 6, 1998	November 20, 2001	Parliament Decision No. 1245/2001
14	Agreement on Cooperation in the Field of Legal Protection and Defense of Intellectual Property and Creation of the Interstate Council on Legal Protection and Defense of Intellectual Property	November 19, 2010	June 24, 2011	Parliament Decision No. 442/2011

The government therefore has a wide range of international commitments in the copyright sector, which augurs well for the further strengthening of Moldova's copyright protection system. Extant copyright law also encompasses the following elements of European legislation:

1. Council directive 93/83/EC of September 27, 1993 on the Coordination of Certain Rules Concerning Copyright and Rights Related to Copyright Applicable to Satellite Broadcasting and Cable Retransmission.
2. Directive 96/9/EC of the European Parliament and of the Council of March 11, 1996 on the Legal Protection of Databases.
3. Directive 2001/29/EC of the European Parliament and of the Council of May 22, 2001 on the Harmonization of Certain Aspects of Copyright and Related Rights in the Information Society.
4. Directive 2001/84/EC of the European Parliament and of the Council of September 27, 2001 on the Resale Right for the Benefit of the Author of an Original Work of Art.

5. Directive 2004/48/EC of the European Parliament and of the Council of April 29, 2004 on the Enforcement of Intellectual Property Rights.
6. Directive 2006/115/EC of the European Parliament and of the Council of December 12, 2006 on Rental Right and Lending Right and on Certain Rights Related to Copyright in the Field of Intellectual Property.
7. Directive 2006/116/EC of the European Parliament and of the Council of December 12, 2006 on the Term of Protection of Copyright and Certain Related Rights.
8. Directive 2009/24/EC of the European Parliament and of the Council of April 23, 2009 on the Legal Protection of Computer Programs.

The harmonization of copyright legislation with EU standards is an ongoing process. On July 2, 2014, Moldova signed an Association Agreement¹³ with the European Union, thereby committing itself to the progressive assimilation of EU legislation in the field of copyright and related rights and to its effective implementation.

1.3 Subject matter of copyright protection

The Law on Copyright governs the relations that arise from the creation and use of literary, artistic and scientific works (copyright), performances, phonograms, videograms and broadcasts (related rights) and other rights acknowledged as being connected to intellectual activity in the field of literature, arts and science.

To be protected by the copyright system, a work must be original or be the result of creative activity and be embodied in a form of expression. National legislation protects intellectual creations regardless of the means of creation, the form of expression, the value or importance of the work. No other criteria, such as any quantitative, qualitative or aesthetic characteristics are applied in determining eligibility for protection.

Under the Law on Copyright, the originality of the work lies not only in reflecting a minimum intellectual effort, but also in bearing the stamp of the author's personality. Establishing originality is a factual matter and is at the sole discretion of a judge.

Literary, artistic and scientific works can be expressed in written format (manuscripts, scores), oral format (public recitations), audio or video format (mechanical, digital recordings), figurative format (drawings, sketches, plans), three-dimensional format (sculpture, mock-up) or any other possible format.

Article 7 of the Law on Copyright lists the protectable intellectual creations, including literary works, scientific works, dramatic works, musical works, choreographic works, audiovisual works, works of fine art, works of architecture, town planning and park and garden design, works of applied arts, photographic works, maps, plans, sketches and three-dimensional works relating to geography, topography, architecture and other scientific fields.

In line with Article 10 of the TRIPS Agreement, computer programs are protected as literary works and enjoy the same legal status. Components protected by copyright include the preparatory design material, the source code, the object code and the user manual.

Photographic works are a combination of mechanical, physical and chemical characteristics, the result of which is transposed onto a physical medium. Photographs are protected to the extent that they show originality and are the expression of the author's personality. At the same time, the creation, reproduction, modification and distribution of photographic works containing portraits is allowed only with the consent of the individual represented.

Works of applied art benefit from double protection. They are artistic creations that use aesthetic elements to confer identity to industrially produced utilitarian goods. Protection is granted to cover the external aspects as determined by features such as lines, contours or shape. Any component part or other element of the work (including the title or characters within the work) embodying an intellectual creation is also protected by copyright.

¹³ Law ratifying the Association Agreement between the Republic of Moldova, on the one hand, and the European Union and the European Atomic Energy Community and the Member States, on the other hand, 2 July 2014, Official Gazette No. 185-199/2014.

Without prejudice to the rights of the author of the original work, copyright protection is also granted to any derived or composite works based on one or more works or other materials, namely translations, adaptations and other transformations of works and collections of literary, artistic or scientific works (encyclopedias, compilations, including databases), provided they are the result of intellectual activity.

At the same time, copyright law clearly sets forth that protection extends neither to ideas, theories, scientific discoveries, procedures, methods of functioning or mathematical concepts as such, nor to the inventions comprised in a work, regardless of the mode of capture, explanation or expression. Also, copyright protection is not granted to official normative, administrative or political documents or the official translations thereof, state emblems and official signs, folklore expressions, daily news or various facts of simple informational nature.

1.4 Author of the work

According to the legal definition, the author is deemed to be the natural person whose intellectual activity led to the creation of a work. This status arises at the time of the creation of the work and no registration, notification or other formality is required for the existence and exercise of copyright. A legal entity cannot hold authorship, given its lack of creative ability. By virtue of the transfer of rights, however, it can manage the economic rights to a work.

The copyright to a work that is the result of a joint creative effort of two or more persons is shared among the authors, whether the work forms an indivisible whole or a composition of parts. Each of the authors maintains copyright to the part of the work that he/she created, and if that part is independent, it may be used as its author sees fit. A part of a work is considered to be independent if it can be recovered independently from the rest of the composite work. The relations between the joint authors are regularly covered by a contract. In the absence of such a contract, all the authors enjoy a joint share of the copyright and the corresponding remuneration is divided in proportion to each individual contribution, where ascertainable. Where the individual contributions of joint authors cannot be determined, remuneration is divided equally.

For audiovisual works, the principal directors, scriptwriters, dialogue-writers, composers, camera operators, set decorators and other authors contributing in a creative manner to the production of a work are recognized as joint authors. Unless otherwise covered by law or a contract, the creation of an audiovisual work implies that the joint authors assign all exclusive rights of exploitation of the audiovisual work to its producer in exchange for equitable remuneration.

The moral rights to a work created during the completion of a task by an employee or service provider (service creation) belong to the author of the work. The author of the work is not, however, granted the right to prohibit the employer from publishing or making the work available to the public by other means. In the case of service creations, however, the copyright is assigned to the employer, unless otherwise agreed in a contract.

In the case of collective works (such as encyclopedias, dictionaries or other similar publications, newspapers, magazines and other periodicals), the economic rights go to the natural person or legal entity behind the initiative and direction and under whose name or designation it has been published. Nevertheless, unless otherwise stipulated in their contracts, the authors of works included in collective works keep the rights to their own work and may exploit it independently of the collective work.

The public can be informed of the rights of a copyright holder through the use of the copyright notice (i.e., the © symbol, alongside the name of the holder of the exclusive rights and the year of the first publication of the work), which should appear on every copy of the work.

The holder of exclusive rights in a work, published or otherwise, may also enforce those rights by means of an entry in an official register at any time during the term of copyright protection. The act of registration, however, does not imply the presumption of authorship.

1.5 Moral rights and economic rights

'Moral right' is the legal term describing the link that unites the work and its creator. Moral rights are assigned exclusively to natural persons and cannot be waived or assigned, even where the author has assigned the

economic rights. Moral rights are protected without limitation in time and may be exercised as long as the work is used and remains in people's memory. Furthermore, given that non-economic copyrights are intangible, they are implicitly inalienable.

Article 10 of the Law on Copyright assigns to the author the following moral rights:

- The right to disclose the work;
- The right of authorship;
- The right to be named;
- The right to respect for the integrity of the work; and
- The right to withdraw the work.

Economic rights are linked to the person of the author but may be assigned or licensed to third parties. The legal nature of these rights confers exclusivity for a limited period of time. While not necessarily the most important benefit, material gain is one of the motives for creative activity, hence copyright law assigns to the author or copyright holder the exclusive right to perform, authorize or prohibit the exploitation of the work through the following acts:

- Reproduction of the work;
- Distribution of the original or copies of the work;
- Rental of copies of the work;
- Lending copies of the work;
- Importing copies of the work for the purposes of distribution;
- Presentation of the work in public;
- Public performance of the work;
- Communication of the work to the public;
- Simultaneous retransmission of the work without modifications;
- Making the work interactive and available to the public;
- Translation of the work; and
- Transformation or other modification of the work.

Works of graphic or plastic art (pictures, collages, paintings, drawings, engravings, prints, lithographs, sculptures, tapestries, ceramics, glassware and photographs) differ considerably, as the author enjoys two additional economic rights. The right of access can be exercised by the author, where necessary, to reproduce the work. The right of resale entitles the author or his/her successor to a remuneration amounting to five per cent of the resale price, for each resale of an original work of art, subsequent to the initial transfer by the author. The resale right is inalienable during the author's lifetime and may only be transferred to legal or testamentary heirs of the author, for the duration of copyright protection.

1.6 Limitations and exceptions

The existence of exceptions and limitations is subject to compliance with the 'three-step test' of copyright law. These three cumulative conditions stipulate that exceptions and limitations must: (i) be limited to special cases; (ii) not contravene the normal use of a work or enter into economic competition with the exercise of rights by the rightholders; and (iii) not prejudice the legitimate interests of the rightholders.

'Limitation' means that a right, although in force, is reduced in a particular aspect and that the right of the author is restricted to the payment of remuneration.

Reproducing a work without the consent of the author is referred to as private copying. It is subject to the payment of an equitable remuneration, provided it is done by a natural person exclusively for his/her own use and for purposes that are neither directly nor indirectly commercial. Only collective management organizations are entitled to collect this remuneration and do so from the producers and importers of equipment (audio, video recorders, disk drives) and media (CD, DVD) used for such reproduction.

The remuneration is then to be distributed among the holders of rights whose works are deemed to have been reproduced for personal use. Private copying cannot be applied to electronic databases, computer programs, works of architecture in the forms of buildings, complete books or audiovisual works during public performance.

Reprographic reproduction refers to the facsimile reproduction of the original of a literary or graphic work, whether in the same format, enlarged or reduced, by means of photocopying or with the aid of other similar technical means, except those of publishing. Reprographic reproduction does not include recording in electronic (including digital) or optical formats or in any other machine-readable format. Libraries, archives and educational institutions can perform reprographic reproduction without the consent of the author and without the payment of remuneration, but subject to the inclusion of a mention of the name(s) of the author(s) and of the lender of the original, and even then only to the extent justified by the institution's aims. Reprographic reproduction can be performed by other types of institution without the consent of the author but a payment of remuneration is due from the producers and importers of the equipment (copiers, scanners) as well as users of equipment in public places.

'Exception' to copyright means that a right, set forth by law, is not applicable in certain cases. In these cases, copying neither requires the consent of the author nor entails the payment of remuneration. Exceptions to copyright ensure the balance between copyright and the public interest in culture, education, humanitarianism, justice and an informed society.

Article 28 of the Law on Copyright provides for the use of the following works without the consent of the author and without payment of remuneration: (i) short quotations in other works for such purposes as criticism or review; (ii) works used for illustration in educational publications; (iii) public speeches as well as extracts of public lectures; (iv) works used to ensure public security and the proper performance and reporting of parliamentary, administrative or judiciary proceedings; (v) works benefiting persons with visual impairment; (vi) works of architecture or sculpture located permanently in public places; and (vii) works used for caricature, parody, etc.

1.7 Transfer of rights

The Law on Copyright provides general rules on the transfer of rights. By means of a copyright contract, however, the authors or other holders of a copyright may assign the exclusive economic rights and the rights to remuneration to a third party. The assignment makes the assignee the holder of the rights. In addition, exclusive economic rights can be assigned so as to grant either exclusive or non-exclusive licenses. If a license contract does not expressly stipulate that it grants exclusivity, it will be understood to grant a non-exclusive license. Exclusive licenses restrict use of the work to the licensee and to the limits laid down in the contract. Within those limits, the licensee also has the right to authorize or prohibit the use of the work by other persons. Non-exclusive licenses allow the licensee to use the work in the same way as other persons who have obtained authorization to use it, and also within the limits laid down in the contract. In this case, however, the licensee does not have the right to authorize or prohibit the use of the work by other parties.

Article 31 of the Law on Copyright establishes that a copyright contract must be concluded in written form and set out: (i) the uses of the work it covers; (ii) the period of its validity; (iii) the applicable territory; (iv) the amount of remuneration or the basis for determining the amount for each use of the work; (v) the conditions and time limits for payment of the remuneration; and (vi) any other conditions considered essential by the parties. Any clause in a copyright contract that restricts the author's future faculty to create works on a given subject or in a given field is null and void.

1.8 Term of protection

The moral rights of authors are protected perpetually and the monitoring of compliance passes eventually to the author's heirs, collective management societies or other duly authorized institutions. Nevertheless, national legislation provides for the expiration of economic rights at the end of a certain period. In general, this term of protection covers the lifetime of the author and extends for 70 years following his/her death. Throughout that 70-year period, the heirs alone enjoy the material advantages resulting from the exploitation of the author's work and have exclusive monopoly on its use.

Table 4: Protection of property rights and related rights in Moldova

No.	Objects of copyright and related rights	Term	The term starts as of
1	Literary, artistic or scientific work, with the exceptions below	70 years	the death of the author
2	Works of joint authorship	70 years	the death of the last surviving joint author
3	Anonymous work	70 years	the first publication
4	Critical or scientific publication of a work having fallen into the public domain	30 years	the first publication
5	Work of applied art	25 years	the creation of the work
6	Work having fallen into the public domain, previously unpublished	25 years	the first publication
7	Performance	50 years	the first performance
8	Phonogram	50 years	the first printing
9	Videogram	50 years	the first printing
10	Broadcast of a broadcasting organization	50 years	the first broadcasting

At the time of writing, the State Agency on Intellectual Property (hereinafter AGEPI) was preparing a draft amendment to the Law on Copyright to extend the term of protection for the economic rights of performers and producers of phonograms and videograms and broadcasting organizations. This would bring it into line with Directive 2006/116/EC of the European Parliament and of the Council of 12 December 2006 on the Term of Protection of Copyright and Certain Related Rights.

The expiration of the term of protection of economic rights assigns to the work a new special legal regime, whereby the work falls into the public domain. The work is then considered to be part of world heritage and the regime therefore prohibits holders from invoking the exclusive use of the work and the collection of remuneration. The free use that comes with this change of regime does not, however, imply the right to violate the moral rights of the author.

1.9 Collective management of rights

The collective management of copyright and related rights is governed by the Law on Copyright and Government Decision No. 641/2001 on Minimum Rates of Remunerations. Copyright and related rights can be managed independently by each author or performer, or collectively by means of a collective management organization (CMO). In most cases, rightholders in the Republic of Moldova manage their rights collectively, given the advantages the system offers.

At the same time, extended collective management may be used to manage: (i) the right to public performance, communications to the public by air or cable; (ii) the right of retransmission by air and of making interactive and available to the public musical and dramatico-musical works; (iii) the right of reproduction on phonograms of works in those cases where the rightholders concerned have already authorized such reproduction for a producer of phonograms; and (iv) the right of authors, performers and producers of phonograms of making available and interactive to the public their works, performances and phonograms.

The Law on Copyright also provides for the exclusive management by CMOs accredited by AGEPI (mandatory license) of: (i) the right to equitable remuneration for private copying and reprographic reproduction; (ii) the right to equitable remuneration after the transfer of their right of rental to producers of phonograms or audiovisual works; (iii) the right to equitable remuneration for each instance of performance and communication to the public of phonograms published for commercial purposes; (iv) the right to retransmission by cable; and (v) the right of resale.

Under Article 48 of the Law on Copyright, any copyright holder may establish a CMO to administer: (i) a specific type of right on behalf of different categories of rightholders; (ii) various rights on behalf of a single category of rightholders; or (iii) various rights for various categories of rightholders.

CMOs can operate only if they are legally registered as associations and accredited as CMOs by AGEPI. The request for accreditation must demonstrate that: (i) the majority of a candidate CMO's members or rightholders are citizens of the Republic of Moldova; (ii) it has entered into reciprocal representation agreements with similar organizations representing foreign rightholders; (iii) it has the capacity to manage collectively the economic rights concerned, including appropriate staff and technical equipment; (iv) it has at its disposal adequate mechanisms for the collection and distribution of authors' remunerations; (v) it guarantees equal treatment both to rightholders and users; and (vi) its statutes are in accordance with legislative provisions. If more than one CMO submits a request to manage collectively the same categories of rights pertaining to the same categories of rightholders, the AGEPI grants accreditation to the CMO most compliant with the abovementioned conditions.

According to legislation, the rates of royalties are to be negotiated between the CMO and the parties obliged to pay the remuneration or the associations representing them. They must not be less than the minimum rates of royalties, approved by the government or provided for by the Law on Copyright. Where the interested parties cannot agree on the amount of remuneration or other conditions of authorization, either party may apply to the Mediation or Arbitration Body, which is specialized in the field of intellectual property. CMO activity is monitored by AGEPI and in this respect CMOs provide it with copies of contracts concluded with foreign CMOs, decisions of general meetings, balance sheets, annual reports on remunerations paid (disaggregated by holder of copyright and related rights), audit statements, etc.

In addition, AGEPI carries out general annual reviews of CMO activity. Where a CMO is found to be failing to comply with the requirements or not functioning in accordance with the provisions of the law, AGEPI sets a reasonable deadline for the CMO to address the deficiencies. Where a CMO fails to meet the deadline, AGEPI may suspend its activities in accordance with the legislative provisions on public associations. At the time of writing, this measure had only been applied once.

1.10 Enforcement of copyright and related rights

The infringement of a right recognized and guaranteed by the Law on Copyright entails civil, administrative or criminal liability, as appropriate.

Civil measures grant to any physical person or legal entity rightfully claiming the use of an object of copyright, related rights or other protected rights: the right to institute proceedings before a competent judicial body or to inform an enforcement authority responsible for applying measures, procedures and remedies. The hearing and determination of disputes in the field of copyright and related sectors falls under the jurisdiction of the 45 district courts. Appeals against their decisions are heard by one of the four Courts of Appeal and thereafter by the Supreme Court of Justice.

The Law on Copyright vests judicial bodies with the authority to apply measures, procedures and remedies (measures for preserving evidence, information measures, provisional and precautionary measures, corrective measures, injunctions and alternative measures) in a fair and equitable manner. As such, no measure may be unnecessarily complicated or expensive, or entail unwarranted time limits or delays. The application of measures, procedures and remedies must be effective and proportionate, must not create any barriers to legitimate trade and must ensure the existence of safeguards against abuse.

In judicial proceedings, the rightholder may claim, where appropriate, the acknowledgement of their rights, a statement of infringement and compensation for damages. In determining the damages, the need to recover losses is taken into account, including lost profit. Any unfair profit is surrendered and an indemnity of between 25 and 25,000 euros is levied in respect of the infringed right. At the same time, the aggrieved rightholder may also claim material compensation for the moral prejudice. The most common disputes examined by national courts concern the infringement of the moral and economic rights of a rightholder and the relations that arise from works created in co-authorship or in the execution of duties.

In 2003, an **infringement liability** was introduced for violations of copyright and related rights (Article 96 of the Offences Code), and the responsibility to investigate and prosecute offences and apply punishments was transferred to the jurisdiction of the General Police Inspectorate.

Article 185(1) of the Criminal Code provides for cases where large-scale damages have been caused to a rightholder. The **criminal liability** for such a violation of copyright and related rights for a natural person

may incur punishment in the form of a fine of between 800 and 5,000 euros or imprisonment of three to five years. A legal entity will face a fine of between 2,000 and 10,000 euros and an injunction preventing it from practicing certain activities for a period of one to five years, or its liquidation. Furthermore, Article 246(2) of the Criminal Code regulates the offense of counterfeiting, that is, the manufacturing of products for marketing purposes without the accompanying documentation, documents of origin, quality and compliance with respect to products which are protected by copyright, partially or otherwise. In this case, a natural person may incur a fine of between 1,000 and 2,000 euros or imprisonment of up to one year, and a legal entity a fine of between 3,500 and 5,000 euros and an injunction preventing it from exercising its right to conduct certain activities for a period of one to five years.

National legislation also provides limited jurisdiction to the customs authority, entitling it to seize copies of works, phonograms and videograms imported or exported illegally. Where the copies of are found to be counterfeit, the court may apply to the violator any of the measures provided for by law.

In 2011, the Observatory on Enforcement of Intellectual Property Rights was created to: (i) collect and manage data on the enforcement of rights; (ii) ensure cooperation among public authorities and between them and rightholders; (iii) train representatives of public authorities; and (iv) raise awareness and educate society. The observatory publishes an annual National Report on the protection of intellectual property rights. This analytical publication is based on statistical data on counterfeiting and piracy in Moldova. Additionally, the observatory examines the challenges faced by public authorities and the private sector in protecting intellectual property rights and proposes relevant policy recommendations.

In conclusion, Moldova has developed a relatively adequate legal framework for the protection of intellectual property rights. Moldova's copyright regulations protect all economic activities listed in the WIPO Guide and hence the entire copyright industries (see Annex A). The current Law on Copyright is relatively new (adopted in 2010) and takes into account the key provisions of the relevant European Union Directives. Moreover, Moldova is a party to 11 international conventions and three regional treaties governing copyright and related rights. In line with the Association Agreement recently signed with the EU, it will continue to harmonize the legal framework with EU and international standards. This body of rules augurs well for the further development of the copyright sector in Moldova, making it more attractive for investment and integrating it into the national economy and foreign trade.

2. Economic Contribution of the Copyright Industries¹⁴

This chapter analyses the contribution of the copyright industries to the gross value added (GVA), gross domestic product (GDP), employment and foreign trade of Moldova from 2008 to 2013. The assessment is conducted following an internationally recognized methodology¹⁵ (Annex A) and it shows that while the share of the copyright industries within the national economy is significant, it is relatively low compared to that of other countries in the region. Furthermore, the foreign trade analysis reveals competitiveness flaws in the copyright goods industry but shows that Moldova has a competitive edge in copyright services.

2.1 Note on methodology

The estimates of the economic contribution of the copyright industries (CI) are largely based on the methodology found in the WIPO Guide, which was adjusted to accommodate data limitations and domestic peculiarities. A similar study conducted in 2012 for Lithuania was taken as a benchmark for determining the methodology. The estimation process consisted of the following key steps (see Annex A for more details on the methodology).

1. **Identification of copyright activities:** The list of copyright activities (4-digit NACE 1.1 codes) is based on the WIPO Guide and on the Lithuanian study, which was validated by AGEPI. In accordance with the WIPO Guide, each copyright activity was categorized under: (i) core; (ii) interdependent; (iii) partial; and (iv) non-dedicated support copyright industries.
2. **Data collection:** For each of the identified copyright activities, statistical data was compiled for GDP, GVA, employment and foreign trade in goods and services. The National Statistical Office provided the raw data, which was compiled and validated by the statistician.
3. **Estimation of the sharing coefficients and copyright factors:** Some economic activities are assigned to two or more copyright categories, and are thus named 'shared activities'. In order to avoid double-counting, specific sharing coefficients were assigned to every shared activity and used as a basis for sharing output, employment and foreign trade values under that activity among several copyright types. For the purposes of this study, the sharing coefficients have been replicated from the Lithuanian study, given the data constraints and similarities with the Moldovan economy. The copyright factors, which denote the extent to which certain economic activities are attributed to copyright, were estimated for two types of copyright industries, namely the partial and non-dedicated support copyright industries (the core and interdependent industries have a factor of 1, meaning that they are fully attributed to copyright). The copyright factors for the partial copyright industries were estimated with substantial assistance from AGEPI experts, who attributed copyright factors to each item produced by the top three companies among the major partial copyright activities. The rest of the copyright activities were disaggregated using four-digit NACE codes, to which copyright factors were assigned. The weighted averages of copyright factors for each partial copyright activity were then computed based on the respective production shares in total production. The copyright factors for the non-dedicated support copyright industries were estimated as follows: the value added of the first three types was divided by the gross value added, minus the value added of non-dedicated support copyright industries.
4. **Calculation of the economic contribution of copyright industries.** The compiled datasets were used to compute the contribution of the copyright industries to gross domestic product, gross value added, employment and foreign trade in goods and services for the 2008-2013 period (2008-2014 for foreign trade). In order to factor in inflation, at least partially, estimates have been provided in both Moldovan lei (MDL) and US dollars (USD).

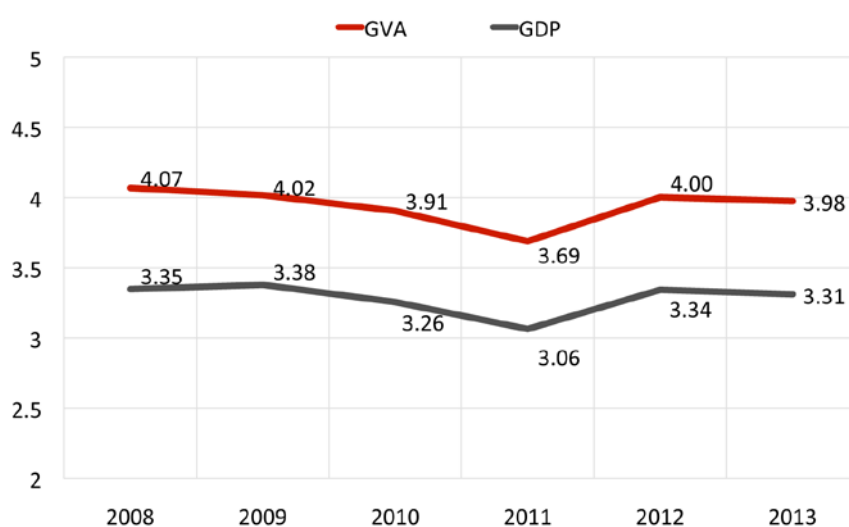
¹⁴ The statistical data and all computations do not cover the region of Transnistria, over which the constitutional authorities of the Republic of Moldova do not have de facto control.

¹⁵ Guide on Surveying the Economic Contribution of the Copyright-Based Industries, World Intellectual Property Organization, 2003.

2.2 Contribution to gross value added and gross domestic product

The gross value added created in the copyright industries in 2013 amounted to approximately 3.33 billion Moldavian lei (264.32 million US dollars), representing 3.98 per cent of total GVA generated by the Moldovan economy. This was a slight decline from 2008, when this share was 4.07 per cent. The share of the copyright industries in GDP¹⁶ followed a similar negative trend, also inching down from 3.35 per cent in 2008 to 3.31 per cent in 2013. Overall, CI contributions to GDP and GVA declined, which is an indication that the industry lags behind other industrial sectors in terms of economic growth. This downward trend further indicates that the copyright industries in Moldova follows rather than drives economic growth. Hence, the only growth episodes in its GVA and GDP shares occurred in 2009 (for GDP) and 2012 – years of negative economic growth (Chart 1).

Chart 1: CI contribution to GVA and GDP (%)



Source: Calculated by the authors based on NBS data

The most important component of the copyright industries is the core copyright sector. In 2013, core CIs generated 67.86 per cent of the industries' total GVA, followed by the non-dedicated support CIs (14.91 per cent), interdependent CIs (12.64 per cent) and partial CIs (5.59 per cent).

As shown in Table 4, core CIs generated approximately 2.22 billion lei in 2013 – a steady and clearly significant increase over the review period (2008-2013). The other types of CIs also increased in nominal terms, but at lower rates.

Table 5: CI GVA values by CI type (in thousand lei)

CI type	2008	2009	2010	2011	2012	2013
Core	1,316,951.2	1,326,500.0	1,535,464.0	1,660,633.8	2,033,272.5	2,224,970.8
Interdependent	277,418.2	228,438.1	280,497.7	312,707.7	302,846.9	420,799.6
Partial	149,126.4	146,114.5	155,655.9	148,566.3	157,532.4	186,062.0
Non-dedicated support	362,690.3	340,328.1	368,570.4	400,538.7	455,420.6	496,116.1
Total	2,106,186.1	2,041,380.6	2,340,188.1	2,522,446.5	2,949,072.4	3,327,948.5

Source: Calculated by the authors based on NBS data

¹⁶ The share of GVA in GDP is smaller than the share of GVA in total GVA, because GDP consists of GVA plus net taxes, and thus the denominator is larger. Unfortunately, it is not possible to estimate net taxes at a high level of disaggregation. Hence, the authors followed the approach of most similar studies by computing the share of GVA generated by the copyright-based industries within the GDP of the country.

Expressed in US dollar terms (to partially adjust for inflation), the overall copyright industries grew by 30.38 per cent in 2013 compared to 2008, with the largest contributions coming from the core and interdependent CIs (+39.41 per cent and +25.17 per cent respectively). The partial and non-dedicated support industries posted modest growth of 2.96 per cent and 12.87 per cent respectively during the same period. The 30.38 per cent growth of the copyright industries during the review period happened despite the national currency depreciating 18 per cent against the US dollar (Table 5).

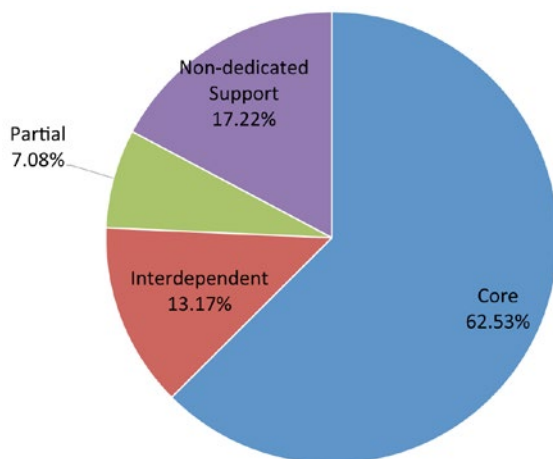
Table 6: CI GVA values by industry type (in thousand US dollars)

Industry type	2008	2009	2010	2011	2012	2013
Core	126,757.9	119,360.4	124,165.2	141,487.1	167,869.8	176,715.4
Interdependent	26,701.8	20,555.2	22,682.4	26,642.9	25,003.5	33,421.5
Partial	14,353.6	13,147.6	12,587.1	12,657.9	13,006.1	14,777.7
Non-dedicated, support	34,909.3	30,623.2	29,804.4	34,126.2	37,600.2	39,403.4
Total	202,722.6	183,686.4	189,239.1	214,914.1	243,479.5	264,318.0

Source: Calculated by the authors based on NBS data

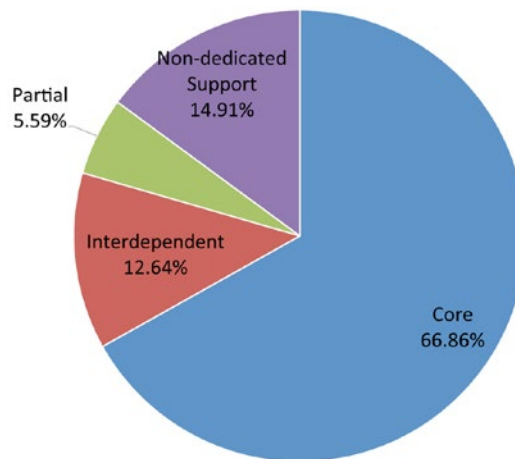
Thus, during 2008-2013, the core copyright sector was the driving force behind the entire copyright sector, increasing its share from 62.53 per cent in 2008 to 67.86 per cent in 2013. During the same period, the respective shares of the other CIs declined from 17.22 to 14.91 per cent for non-dedicated support CIs; from 7.08 to 5.59 per cent for partial CIs; and from 13.17 to 12.64 per cent for interdependent CIs (Chart 2 and Chart 3).

Chart 2: GVA by CI type in 2008



Source: Calculated by the authors based on NBS data

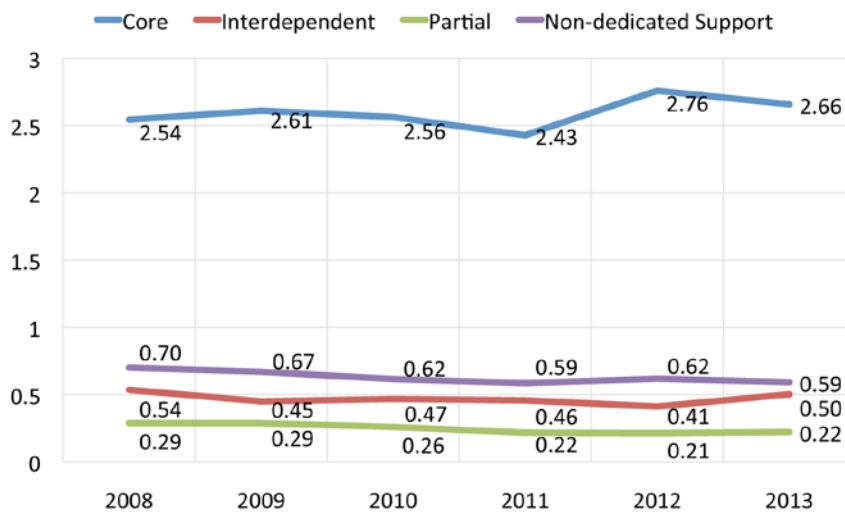
Chart 3: GVA by CI type in 2013



Source: Calculated by the authors based on NBS data

Chart 4 confirms the concentration within the copyright sector: the value added share of core CIs in total GVA increased from 2.54 per cent in 2008 to 2.66 per cent in 2013. At the same time, the shares of the other three CI types declined, thus accounting for the decline in the economic contribution of the entire copyright sector.

Chart 4: CI GVA shares by industry type (%)



Source: Calculated by the authors based on NBS data

The analysis of the GVA share of CIs in GDP, presented in Table 4, reveals a similar trend: the economic importance of core CIs has been increasing (from 2.09 per cent of GDP in 2008 to 2.21 per cent in 2013) whereas the shares of the other three CI types have declined.

Table 7: CI contribution to GDP by industry type (%)

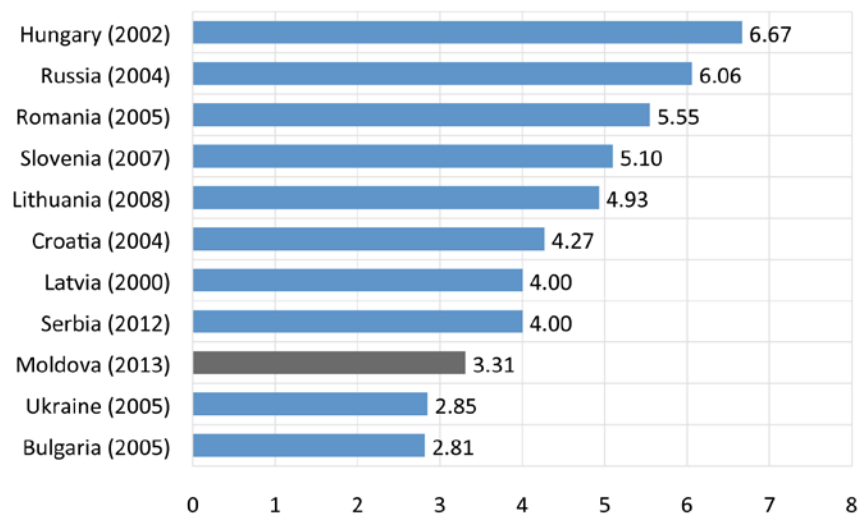
Industry type	2008	2009	2010	2011	2012	2013
Core	2.09	2.20	2.14	2.02	2.30	2.21
Interdependent	0.22	0.17	0.17	0.13	0.15	0.15
Partial	0.15	0.12	0.12	0.15	0.09	0.12
Non-dedicated support	0.00	0.00	0.00	0.00	0.00	0.00

Source: Calculated by the authors based on NBS data

2.2.1 Regional comparison

CI contribution to the country's GDP is relatively small compared to the situation in other countries of the region. Moldova's CI contribution to GDP is higher than that of Ukraine (2.85 per cent) and Bulgaria (2.81 per cent), and lower than that of Romania (5.55 per cent), Russia (6.06 per cent), Hungary (6.67 per cent) and many other countries (Chart 5). However, the comparability of these estimates is somehow tainted by the fact that various countries provide data for different years.

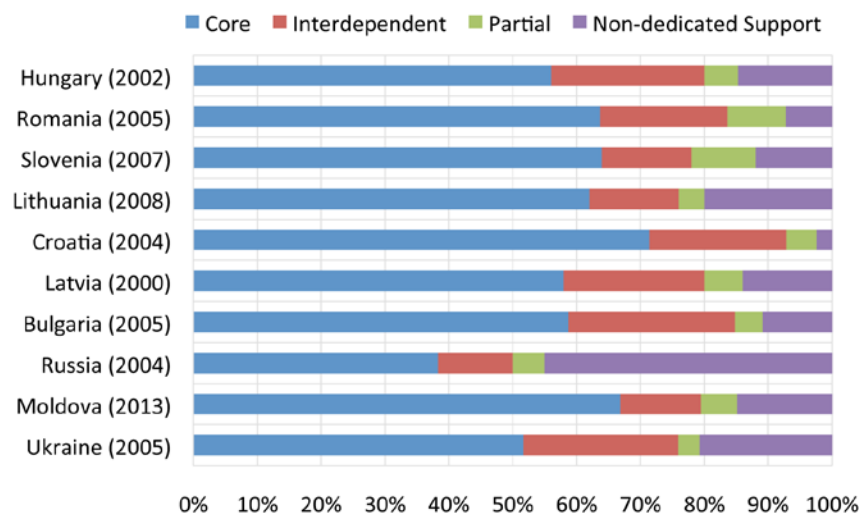
Chart 5: CI contribution to in GVA (%)



Source: WIPO and authors' calculations

The copyright industry structure in Moldova is slightly different from the structure in other comparable countries. The key difference is the relatively high concentration of core CIs (67.3 per cent of the total GVA, estimated for 2013), while interdependent, non-dedicated support and, especially, partial CIs make a relatively low contribution (Chart 6).

Chart 6: CI GVA by industry type



Source: WIPO and authors' calculations

2.2.2 Core CI contribution to GVA and GDP

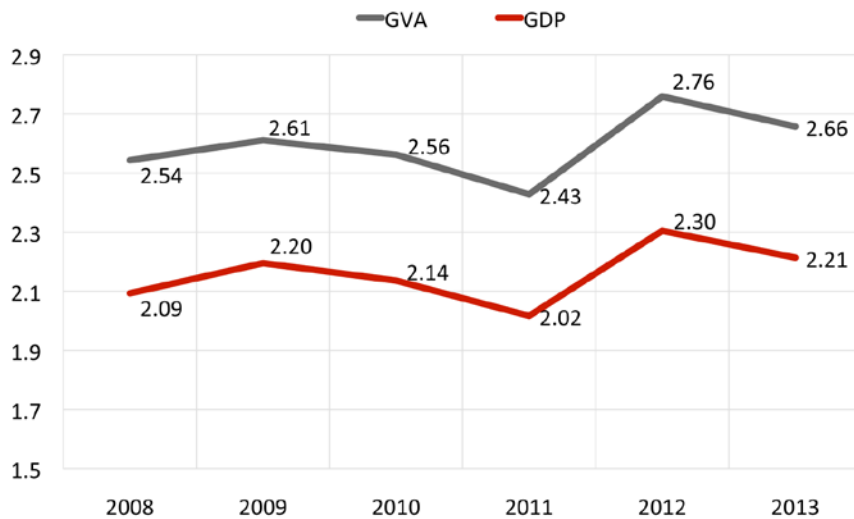
Core CIs are industries that are wholly engaged in the creation, production and manufacturing, performance, broadcast, communication and exhibition, or distribution and sale of works and other protected subject matter.¹⁷

Core CIs account for approximately 66.86 per cent of the overall copyright industries GVA, generating approximately 2.2 billion lei (176.7 million US dollars) (2013) in total. They equally account for 2.66 per cent of the economy's total GVA and 2.21 per cent of the country's GDP. Although these shares grew from 2008, the

¹⁷ Guide on Surveying the Economic Contribution of the Copyright-Based Industries, WIPO, 2003.

time series analysis reveals that this growth happened only in two years – 2009 and 2012 – when Moldova’s GDP contracted by 6 per cent and 0.7 per cent respectively (Chart 7). Hence, core CIs were relatively resilient to both economic recessions that hit the Moldovan economy during the reference period. This resulted in a structural increase of their share in GDP and GVA. Meanwhile, the decline in the contribution of core CIs during other years suggests that the industry does not generally benefit enough from economic growth.

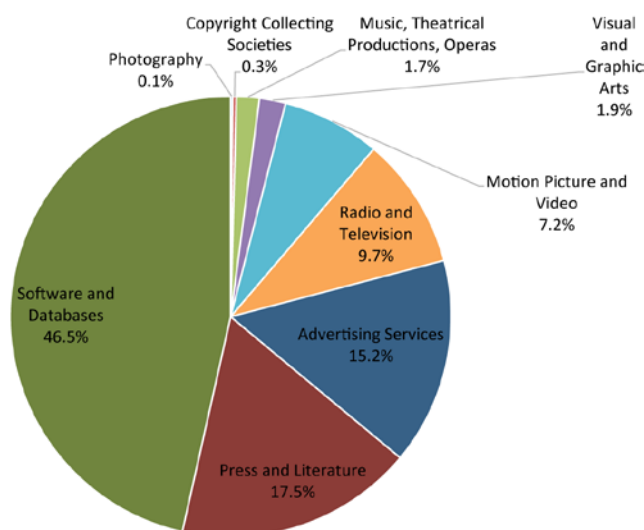
Chart 7: Core CI contribution to GVA and GDP (%)



Source: Calculated by the authors based on NBS data

Each CI category is composed of a series of specific copyright sectors. As shown in Chart 8, the core copyright industry is relatively concentrated, with the software and databases sector accounting for 46.5 per cent of CI GVA, followed by press and literature with 17.5 per cent, advertising services with 15.2 per cent, radio and television with 9.7 per cent and motion picture and video with 7.2 per cent. Other industries form a tiny part of the core CI.

Chart 8: Core CI GVA by sector, 2013 (%)

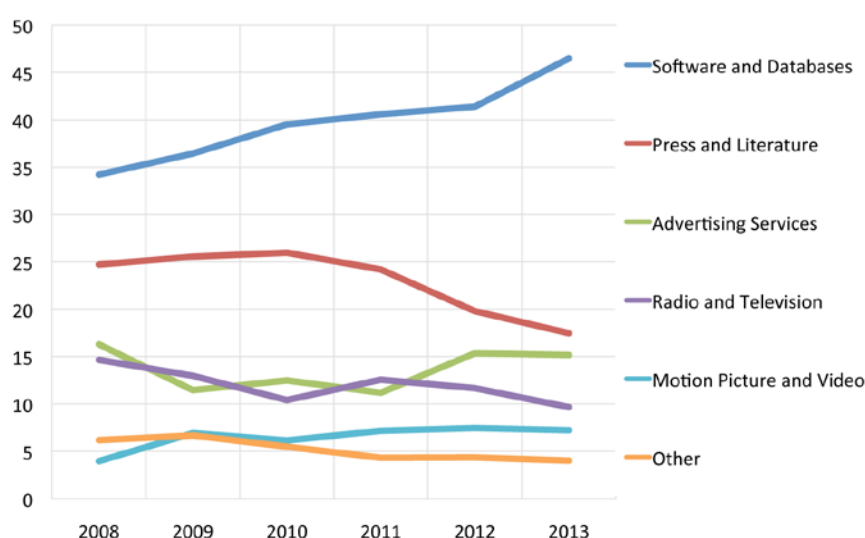


Source: Calculated by the authors based on NBS data

During the 2008-2013 period, the largest core CI sector, namely software and databases, consolidated its position, by increasing its core CI GVA from 34.2 per cent in 2008 to 46.5 per cent in 2013 (Chart 9). Compared to other core copyright industries, it posted the most significant growth, which is an indication of

the competitiveness of this industry. Other copyright industries posted a decline in their share of core CI GVA. For instance, press and literature posted the most significant decline (from 24.7 per cent in 2008 to 17.5 per cent in 2013). Overall, the robust growth of the software and databases sector and the corresponding parallel decline of the press and literature sector are driven by the on-going digitization process in Moldova.

Chart 9: Core CI GVA by sector (%)



Source: Calculated by the authors based on NBS data

The same patterns are evident in the contribution of core CI GVA to total GVA (Table 8). For instance, during the 2008-2013 period, the software and databases sector increased its GVA contribution from 0.87 to 1.24 per cent. Another core CI that recorded good performance was the motion picture and video sector which increased its share in GDP from 0.1 to 0.19 per cent. Meanwhile, other sectors either stagnated or suffered a decline.

Table 8: Core CI contribution to GVA (%)

Sector	2008	2009	2010	2011	2012	2013
Software and databases	0.87	0.95	1.01	0.99	1.14	1.24
Press and literature	0.63	0.67	0.67	0.59	0.55	0.46
Advertising services	0.41	0.30	0.32	0.27	0.42	0.40
Radio and television	0.37	0.34	0.27	0.30	0.32	0.26
Motion picture and video	0.10	0.18	0.16	0.17	0.21	0.19
Visual and graphic arts	0.07	0.06	0.06	0.05	0.05	0.05
Music, theatrical productions, operas	0.06	0.09	0.06	0.04	0.05	0.04
Copyright collecting societies	0.01	0.01	0.01	0.01	0.01	0.01
Photography	0.02	0.01	0.01	0.01	0.01	0.00
Total	2.54	2.61	2.56	2.43	2.76	2.66

Source: Calculated by the authors based on NBS data

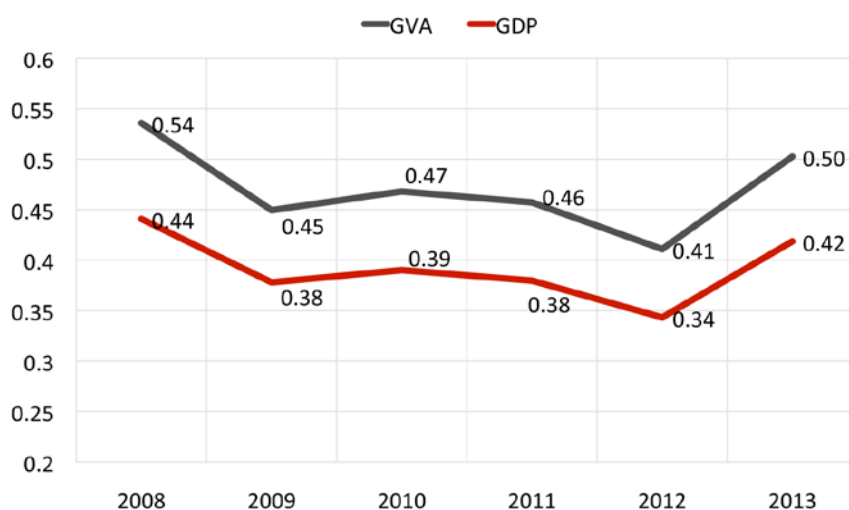
2.2.3 Contribution of interdependent CIs to GVA and GDP

Interdependent CIs are industries that are engaged in the production, manufacture and sale of equipment whose function is wholly or primarily to facilitate the creation, production or use of works and other protected subject matter.¹⁸

Interdependent CI GVA accounted for 12.64 per cent of the total copyright GVA and remained close to the 2008 level (13.17 per cent). In 2013, it amounted to 420.8 million lei (33.4 million US dollars), representing 0.5 per cent of national GVA and 0.42 of GDP (Chart 10).

Unlike core CIs, interdependent CIs follow a clear pro-cyclical trend. Accordingly, the largest slumps in their shares of total GVA and GDP were recorded during the crisis years (2009 and 2012). This shows that interdependent CIs are highly sensitive to prevailing economic conditions and appear to bear the brunt of economic recessions.

Chart 10: Contribution of interdependent CIs to GVA and GDP (%)

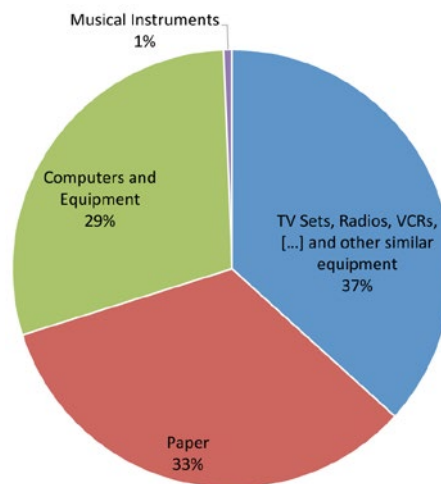


Source: Calculated by the authors based on NBS data

The GVA for interdependent CIs is distributed almost equally among three sectors: TV sets, radios, VCRs, CD players, DVD players, cassette players, electronic gaming equipment and other similar equipment (37 per cent); paper (33 per cent); and computers and equipment (29 per cent). The production of musical instruments is insignificant, accounting for only 1 per cent of the GVA for interdependent CIs (Chart 11).

¹⁸ Guide on Surveying the Economic Contribution of the Copyright-Based Industries, WIPO, 2003.

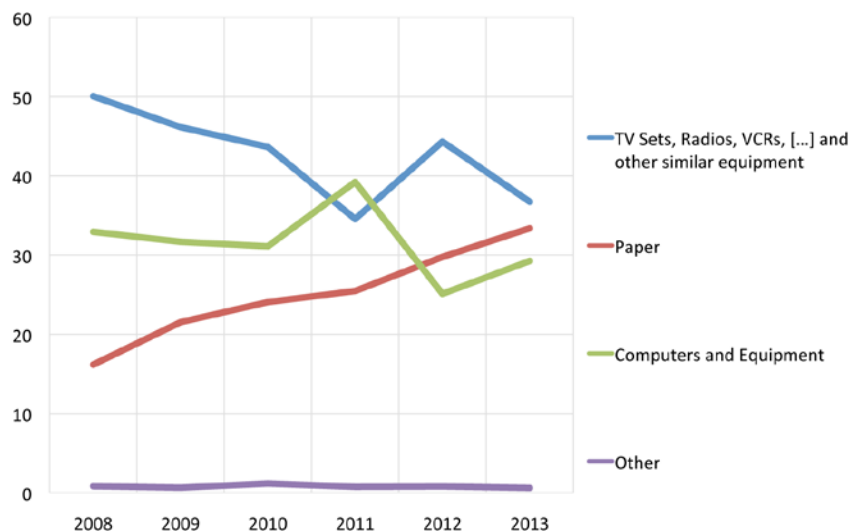
Chart 11: Interdependent CIs by sector, 2013 (%)



Source: Calculated by the authors based on NBS data

During the 2008-2013 period, the only sector that increased its share of GVA in interdependent CIs was paper production (from 16.17 per cent in 2008 to 33.39 per cent in 2013). This growth was paralleled by declining shares in all other sectors. For instance, although half of the interdependent CI GVA in 2008 had been generated by TV sets, radios, VCRs, [...] and other similar equipment (50.06 per cent), this share plummeted to 36.73 per cent in 2013. The contribution of computers and equipment to the GVA of interdependent CIs also declined from 32.94 per cent in 2008 to 29.26 per cent in 2013. Other economic activities remained at insignificant levels (Chart 12).

Chart 12: Interdependent CI GVA by sector (%)



Source: Calculated by the authors based on NBS data

As shown in Table 9, the contribution of the paper sector to the economy's GVA increased from 0.09 per cent in 2008 to 0.17 per cent in 2013. Meanwhile, the contributions of all other sectors declined. Hence, the contribution of the largest interdependent CI sector – namely, TV sets, radios, VCRs, [...], and other similar equipment – decreased from 0.27 per cent in 2008 to 0.18 per cent in 2013. The share of computers and equipment also decreased from 0.18 per cent in 2008 to 0.15 per cent in 2013.

Table 9: Interdependent CI contribution to GVA (%)

Interdependent CIs	2008	2009	2010	2011	2012	2013
TV sets, radios, VCRs, [...] and other similar equipment	0.27	0.21	0.20	0.16	0.18	0.18
Computers and equipment	0.18	0.14	0.15	0.18	0.10	0.15
Musical instruments	0.0036	0.0025	0.0033	0.0031	0.0030	0.0031
Photocopiers	0.0008	0.0004	0.0015	0.0003	0.0003	0.0
Photographic and cinematographic instruments	0.0001	0.0	0.0006	0.0	0.0	0.0
Paper	0.09	0.10	0.11	0.12	0.12	0.17
Total	0.54	0.45	0.47	0.46	0.41	0.50

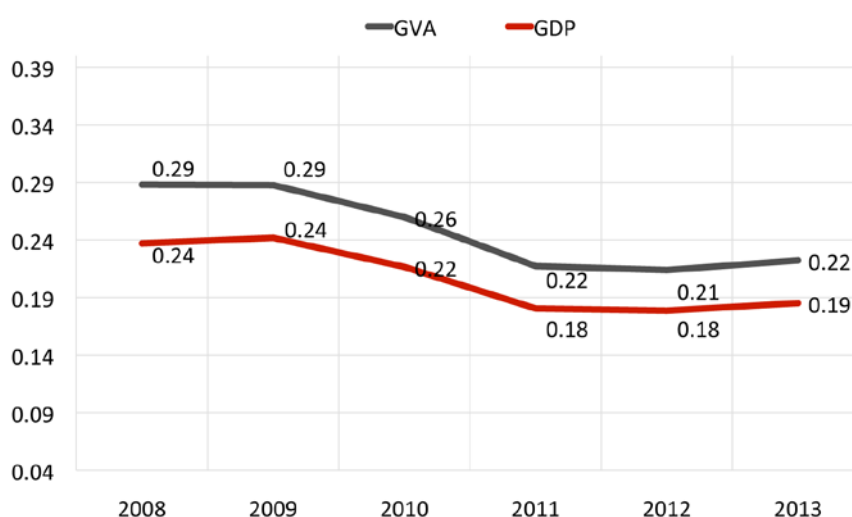
Source: Calculated by the authors based on NBS data

2.2.4 Contribution of partial CIs to GVA and GDP¹⁹

Partial CIs are industries in which a portion of the activities is related to works and other protected subject matter and may involve the creation, production and manufacturing, performance, broadcast, communication and exhibition or distribution and sales.²⁰

Partial CIs are the smallest type of copyright industry, contributing only 0.22 per cent to the country's total GVA and 0.19 per cent to GDP (2013). In 2013, their contribution amounted to approximately 186.06 million lei (14.78 million US dollars), accounting for only 5.59 per cent of the total GVA for CIs.

During the 2008-2013 period, partial CI contribution to GVA and GDP clearly declined from 0.29 per cent and 0.24 per cent in 2008 to 0.22 per cent and 0.19 per cent in 2013 respectively (Chart 13). Hence, these CIs are apparently the weakest, since their contribution to the Moldovan economy is the smallest and in steady decline.

Chart 13: Contribution of Partial CIs to GVA and GDP (%)

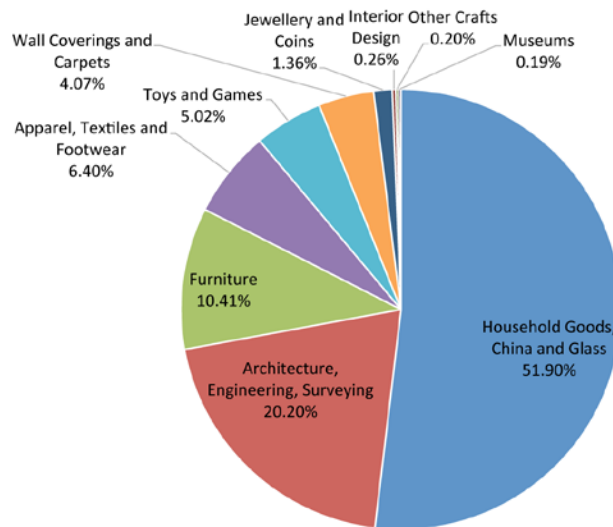
Source: Calculated by the authors based on NBS data

The largest partial CI sector is household goods, china and glass, which in 2013 accounted for 51.9 per cent of total CI GVA, followed by architecture, engineering and surveying with 20.20% and furniture with 10.41 per cent of total CI GVA. Other partial CI sectors are of very limited economic significance (Chart 14).

¹⁹ All estimates are presented after the application of the copyright factors (see Annex A for methodology).

²⁰ Guide on Surveying the Economic Contribution of the Copyright-Based Industries, WIPO, 2003.

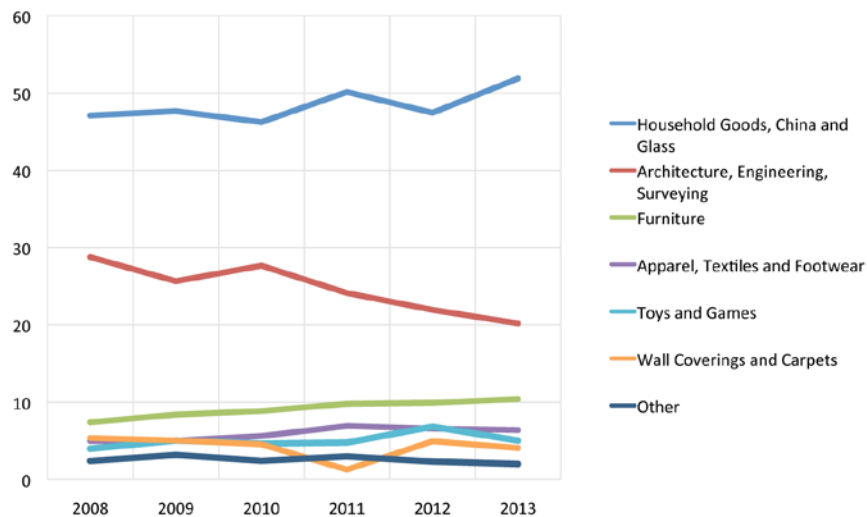
Chart 14: Partial GVA of CIs by sector, 2013 (%)



Source: Calculated by the authors based on NBS data

Chart 15 shows that the downward trend in partial CIs stems from the second largest sector – architecture, engineering, surveying – which decreased its contribution to the GVA of partial CIs from 28.78 per cent in 2008 to 20.20 per cent in 2013. Meanwhile, the contribution of most CI sectors to the partial GVA of CIs increased. Hence, the contribution of household goods, china and glass increased from 47.10 per cent in 2008 to 51.90 per cent in 2013, while that of furniture increased from 7.41 per cent in 2008 to 10.41 per cent in 2013.

Chart 15: Partial CI GVA by sector (%)



Source: Calculated by the authors based on NBS data

As shown in Table 10, the contribution of most partial CIs to total GVA declined during the 2008-2013 period. In particular, the GVA of the main sector – namely household goods, china and glass – inched down from 0.14 to 0.12 per cent, while that of architecture, engineering and surveying shrank from 0.83 per cent in 2008 to 0.045 per cent in 2013. The GVA of furniture remained at the same level, fluctuating between 0.21 and 0.23 per cent.

Table 10: Partial CI Contribution to GVA (%)

Partial CI	2008	2009	2010	2011	2012	2013
Apparel, textiles and footwear	0.014	0.014	0.015	0.015	0.014	0.014
Jewelry and coins	0.005	0.006	0.003	0.004	0.003	0.003
Other crafts	0.001	0.002	0.002	0.001	0.001	0.001
Furniture	0.021	0.024	0.023	0.021	0.021	0.023
Household goods, china and glass	0.136	0.137	0.120	0.109	0.101	0.115
Wall coverings and carpets	0.015	0.015	0.012	0.003	0.011	0.009
Toys and games	0.011	0.014	0.012	0.010	0.015	0.011
Architecture, engineering, surveying	0.083	0.074	0.072	0.052	0.047	0.045
Interior design	0.001	0.001	0.001	0.001	0.001	0.001
Museums	0.0004	0.0004	0.0004	0.0003	0.0004	0.0004
Total	0.288	0.288	0.260	0.217	0.214	0.222

Source: Calculated by the authors based on NBS data

Hence, partial CI contribution to total GVA declined during 2008-2013, driven by most of its components. The share of the top three partial CIs, (household goods, china and glass; architecture, engineering, surveying; and furniture) representing 82.51 per cent of the sector's GVA, followed a fluctuating trend. Overall, the sector remained highly concentrated and weak, making the smallest contribution to total GVA compared to other CI types.

2.2.5 The contribution of non-dedicated support CIs to GVA and GDP²¹

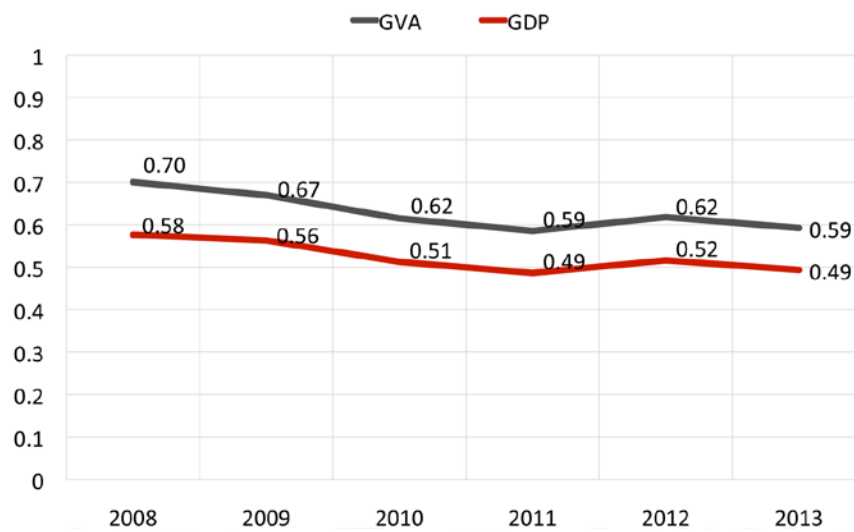
Non-dedicated support CIs are industries in which a portion of the activities is related to facilitating broadcast, communication, distribution or sales of works and other protected subject matter, and whose activities have not been included in the core copyright industries.²²

The non-dedicated support CI is the second-largest type of copyright industry in Moldova. In 2013, it accounted for 14.91 per cent of the overall CI GVA in 2013, generating approximately 496.12 million lei (39.40 million US dollars) and contributing 0.59 per cent to the country's total GVA and 0.49 per cent to GDP. Its contribution to national GVA and GDP declined steadily during the 2008-2013 period (Chart 16).

²¹ All estimates are presented after the application of the copyright factors (see Annex A for methodology).

²² Guide on Surveying the Economic Contribution of the Copyright-Based Industries, WIPO.

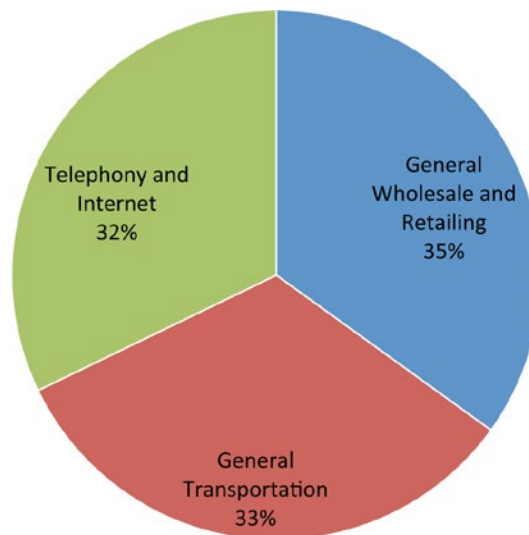
Chart 16: Non-dedicated support CI contribution to GDP and GVA (%)



Source: Calculated by the authors based on NBS data

As shown in Chart 17, the GVA generated by non-dedicated support CIs is distributed almost evenly across three sectors: general wholesale and retailing (35 per cent), general transportation (33 per cent) and telephony and internet (32 per cent).

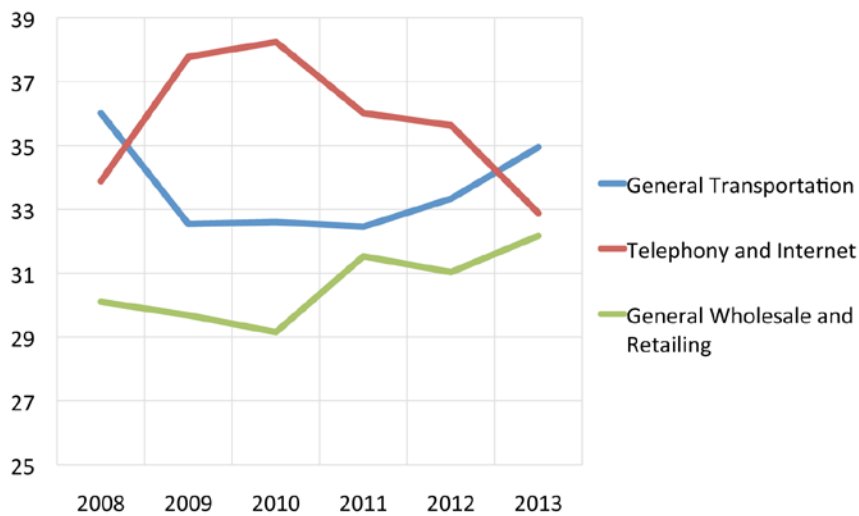
Chart 17: GVA of non-dedicated support CIs by sector, 2013 (%)



Source: Calculated by the authors based on NBS data

During the 2008-2013 period, the contribution of non-dedicated support CIs stemmed wholly from the copyright components of the telecommunications sector (telephony and internet), mainly due to the declining popularity of fixed telephony.

Chart 18: Non-dedicated support CI GVA by sector (%)



Source: Calculated by the authors based on NBS data

The contribution of telephony and internet to national GVA also declined from 0.54 per cent in 2008 to 0.44 per cent in 2013. General wholesale and retailing, as well as general transportation also recorded declines in their contribution to national GVA, albeit at a slower rate (Table 11).

Table 11: Contribution of non-dedicated support CI to GVA (%)

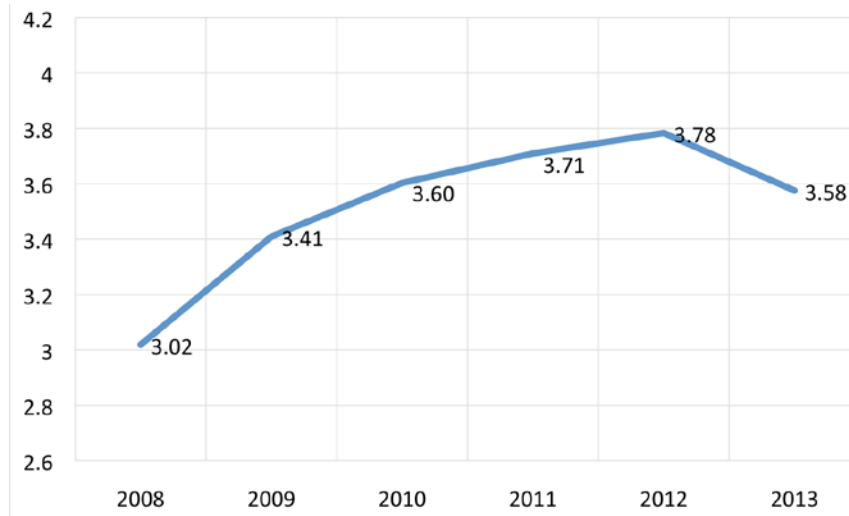
Non-dedicated support CIS	2008	2009	2010	2011	2012	2013
General wholesale and retailing	0.21	0.20	0.18	0.18	0.19	0.19
General transportation	0.25	0.22	0.20	0.19	0.21	0.21
Telephony and internet	0.24	0.25	0.24	0.21	0.22	0.19
Total	0.70	0.67	0.62	0.59	0.62	0.59

Source: Calculated by the authors based on NBS data

2.3 Contribution to employment

The copyright industries employ approximately 39,280 people (in FTE), according to 2013 estimates, which represents a moderate increase over the review period (35,720 people in 2008). In 2013, the CI workforce accounted for 3.58 per cent of the total employed labor force, representing a steady increase over the 2008-2012 period (Chart 19).

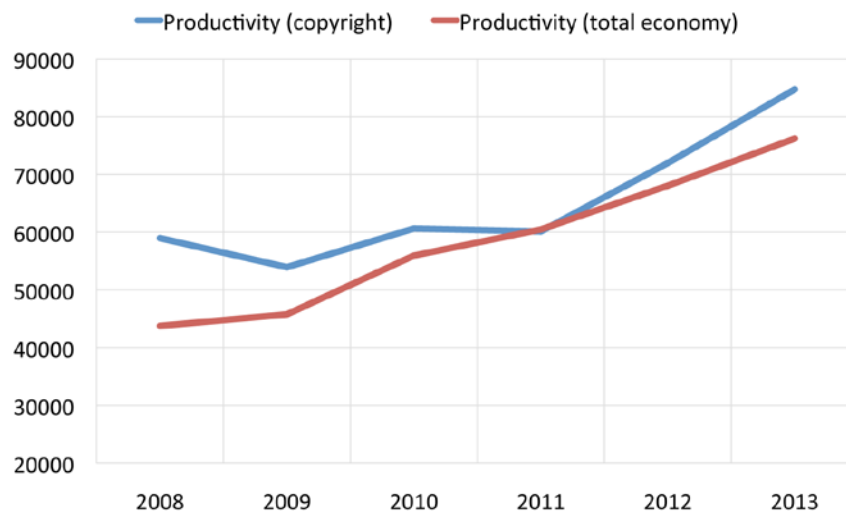
Chart 19: CI contribution to the total labor force (%)



Source: Calculated by the authors based on NBS data

The share of CIs in total employment is smaller than their share in GVA. This is an indication that the copyright industries record higher productivity levels than the national economy. Hence, the ratio between GVA and employment (FTE) for CIs has constantly outpaced the national average. Moreover, it has maintained a constant upward trend, and CI productivity outpaced that of the entire economy from 2012.

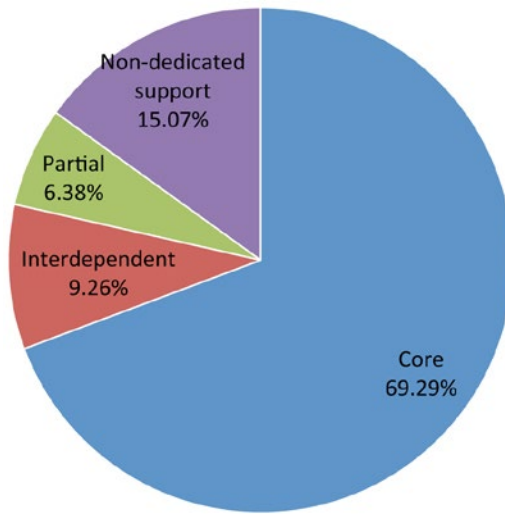
Chart 20: Productivity of CIs and the national economy (in lei)



Source: Calculated by the authors based on NBS data

In terms of employment, the copyright industries depend even more on core CIs than they did with regard to GVA. Hence, core CIs employed 69.29 per cent of the total workforce in 2013, followed by the non-dedicated support CIs (15.07 per cent in 2013), interdependent CIs (9.26 per cent) and partial CIs (6.38 per cent) (Chart 21).

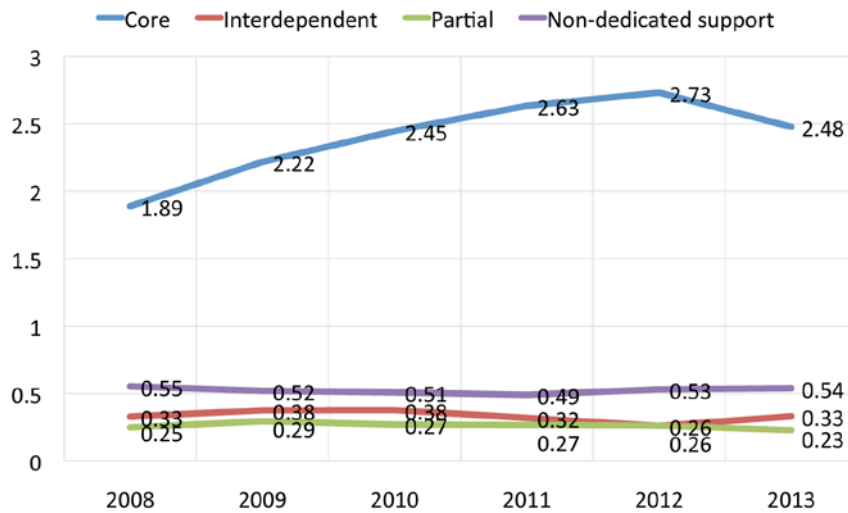
Chart 21: Employment by CI type, 2013 (%)



Source: Calculated by the authors based on NBS data

Considering the high concentration of the copyright industries, their contribution to total employment clearly shows that the sector is highly dependent on core CIs. Hence, CI contribution to total employment, as analyzed over the 2008-2013 period, fully reflects core CI trends: their share increased gradually from 1.89 per cent in 2008 to 2.73 per cent in 2012 and declined in 2013 to 2.48 per cent. The other CI types did not record any significant changes during the review period (Chart 22).

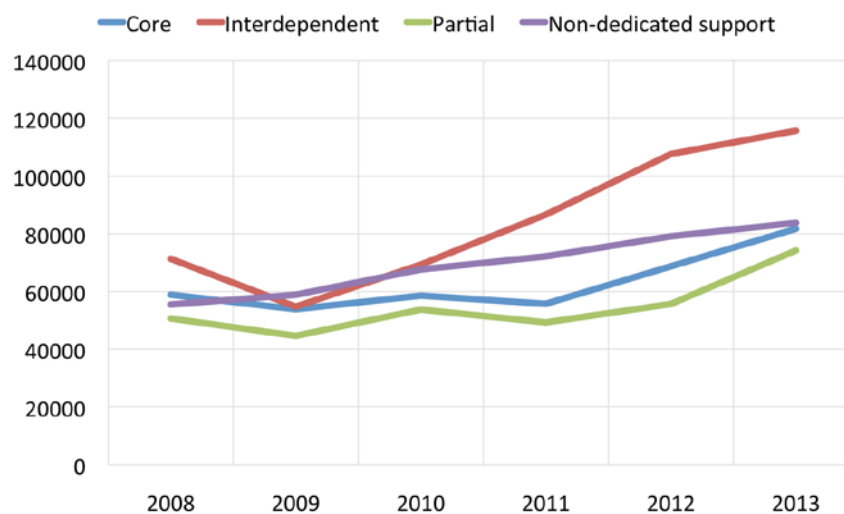
Chart 22: Employment by CI type as a percentage of the total labor force (%)



Source: Calculated by the authors based on NBS data

The labor productivity analysis paints a completely different picture from that of employment. For instance, core CIs, which constitute the absolute lead category among all four CI types in terms of employment, are ranked third in terms of productivity. Meanwhile, interdependent CIs, which only make a modest contribution to employment, appear to be the most productive of all four CI types and recorded the most rapid productivity growth during the 2009-2013 period. Overall, Chart 23 shows that all copyright industries experienced growth during the review period. These trends bode well for the further development of the industry and further confirm that the economic importance of the copyright industries does not lie solely in GVA or employment levels but also in constant efficiency gains for the entire economy.

Chart 23: Labor productivity by types of CI (in lei)



Source: Calculated by the authors based on NBS data

2.3.1 Regional comparison

Compared to the situation in other countries of the region, CI contribution to total employment in Moldova is relatively modest. Thus, Moldova, with a 3.58 per cent contribution to total employment, only outpaces Ukraine (1.9 per cent). It lags behind Romania (4.19 per cent), Bulgaria (4.92 per cent) and Russia (7.3 per cent). Nevertheless, the structure is similar, with core CIs being the largest employer among all four CI types (Chart 24).

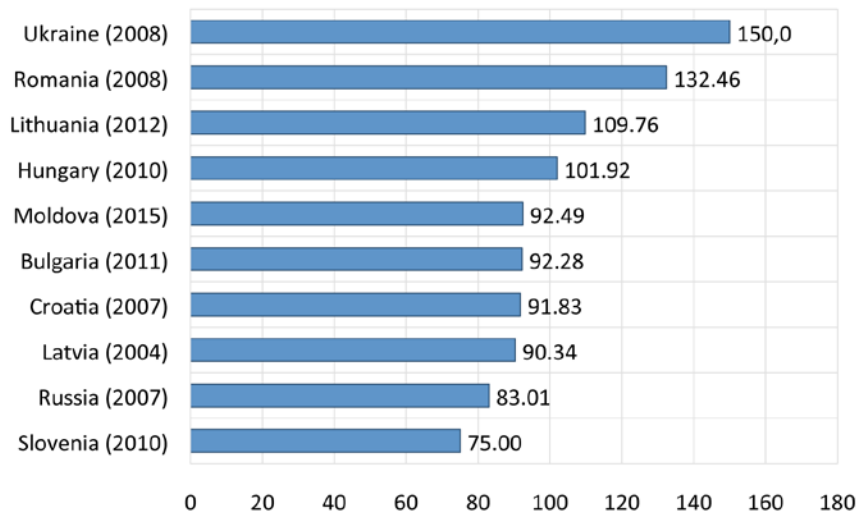
Chart 24: Contribution to employment by CI type (%)



Source: WIPO and authors' calculations

Although it is relatively small, the Moldovan copyright sector records efficiency gains. The productivity index (ratio between contribution to GDP and employment, multiplied by 100) of the copyright industries in Moldova is close to the regional mean (Chart 25). Thus, Moldova outpaces countries like Slovenia, Russia and Latvia in terms of productivity. Still, the industry's contribution to total GDP is lower than its contribution to employment, revealing huge potential for further improvements in labor productivity indicators. Developing this potential further could move Moldova closer in the rankings to countries like Ukraine, Romania and Lithuania in terms of productivity.

Chart 25: CI productivity index

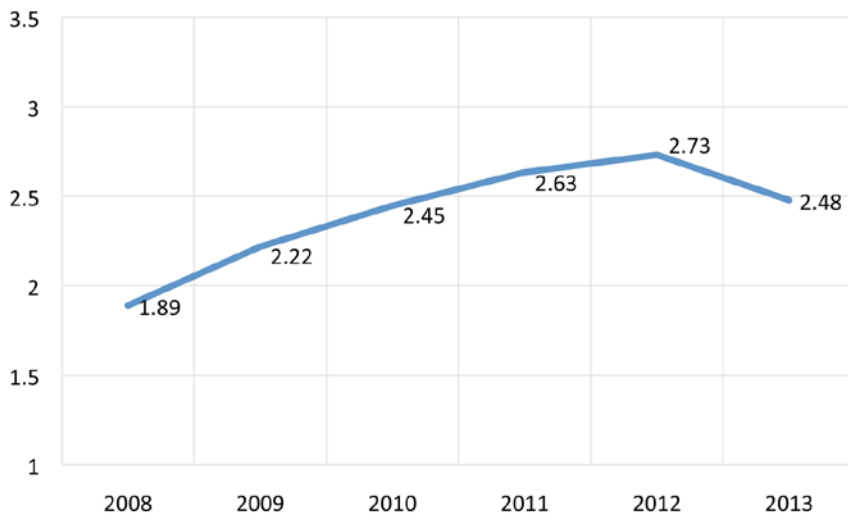


Source: WIPO and author's calculations

2.3.2 Contribution of the core copyright industries

Core CIs employ 27,200 people (2013) in FTE, thus accounting for 69.29 per cent of total CI employment and 2.48 per cent of overall employment. During the 2008-2012 period, their contribution to total employment increased steadily, but declined in 2013 (Chart 26).

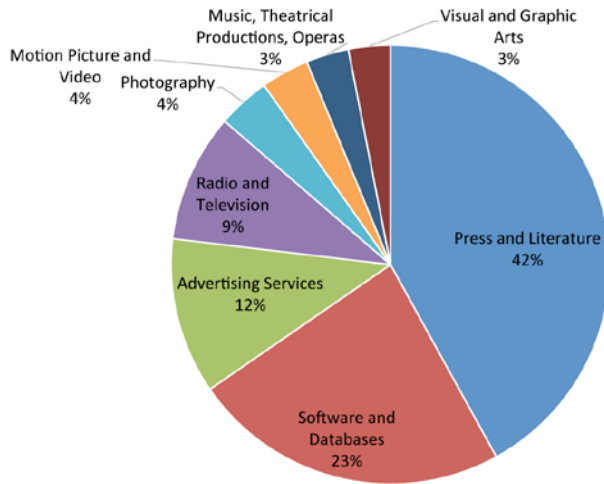
Chart 26: Core CI contribution to the total labor force (%)



Source: Calculated by the authors based on NBS data

The largest employer among core CIs is press and literature, which employs 42 per cent (2013) of the total CI workforce. This is hardly an indication of sector performance; it is rather a reflection of the fact that approximately half of these employees work in libraries financed with public funds. The second largest employer is software and databases (23 per cent), followed by advertising services (12 per cent) and radio and television (9 per cent). Other copyright sectors have insignificant shares (Chart 27).

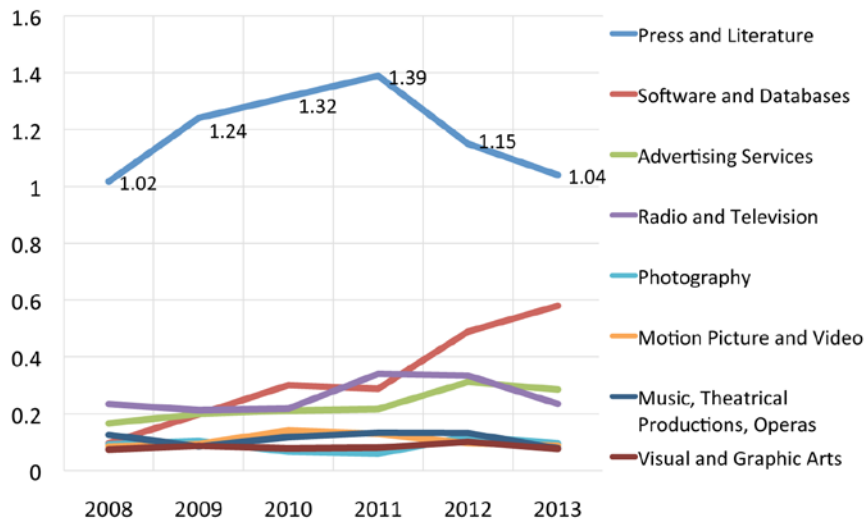
Chart 27: Employment by core CI sector, 2013



Source: Calculated by the authors based on NBS data

In recent years, the share of press and literature has clearly declined, not because of the main component of this sector (libraries) but because of the decline in employment in retail sale of books, newspapers and stationery. On the contrary, software and databases experienced robust growth, increasing its contribution to total employment from 0.1 per cent in 2008 to 0.6 per cent in 2013 (Chart 28).

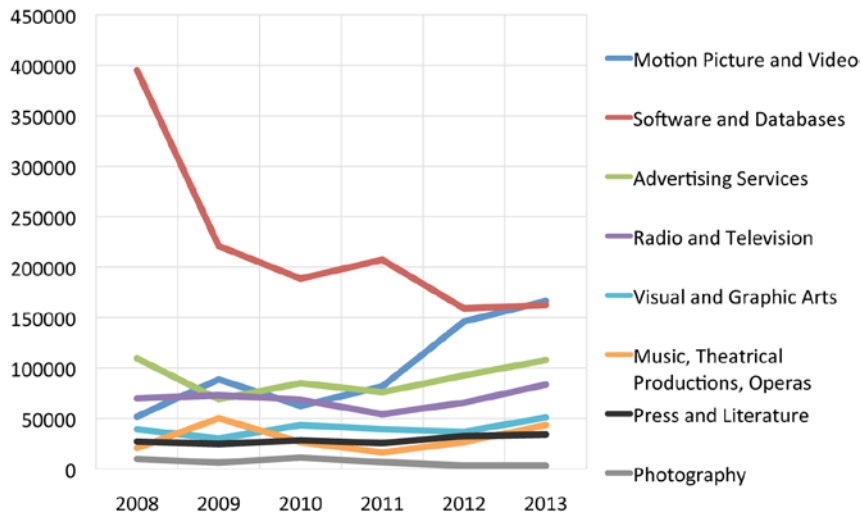
Chart 28: Employment by core CI sector (%)



Source: Calculated by the authors based on NBS data

Although the press and literature sector is the main employer among all core CI activities, it has one of the lowest productivity levels. Meanwhile, the software and databases sector is the second largest employer and has the second highest labor productivity levels. However, during 2008-2013, this sector suffered a decline; it used to be the leader in terms of productivity before 2013 but was outpaced by motion picture and video. Overall, apart from software and databases, photography and press and literature, all other core CI sectors have improved their productivity indicators over the last few years. Nonetheless, it should be a matter of serious concern to policymakers that the two largest core CI sectors – press and literature and software and databases – registered negative productivity trends during the review period (Chart 29).

Chart 29: Labor productivity by core CI sector (in lei)

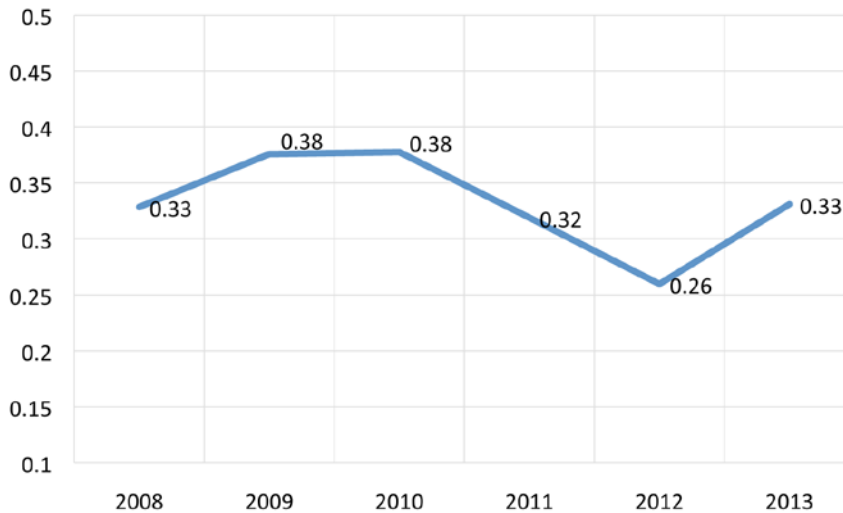


Source: Calculated by the authors based on NBS data

2.3.3 Contribution of the interdependent copyright industries

The interdependent CIs employ only 3,630 people (in FTE), representing 9.26 per cent of the CI workforce (2013). During the 2008-2013 period, its contribution to total employment fluctuated around the same mean of 0.3 per cent without any clear trend (Chart 30).

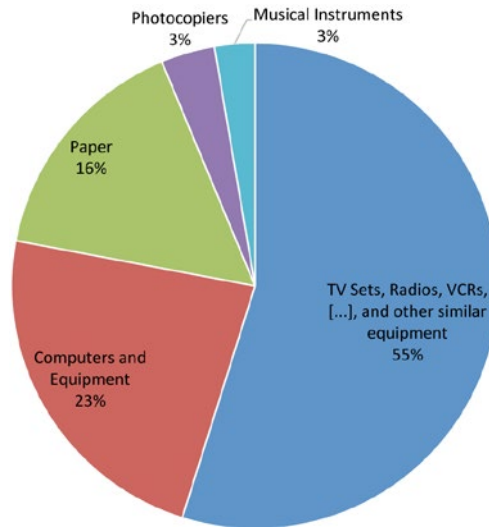
Chart 30: Interdependent CI contribution to total employment (%)



Source: Calculated by the authors based on NBS data

The majority (55 per cent in 2013) of employees in the interdependent copyright industries work in the wholesale and retail sale of TV sets, radios, VCRs, [...] and other similar equipment sector. Computers and equipment is the second major employer with 23 per cent of total interdependent CI employment, followed by paper with 16 per cent (Chart 31).

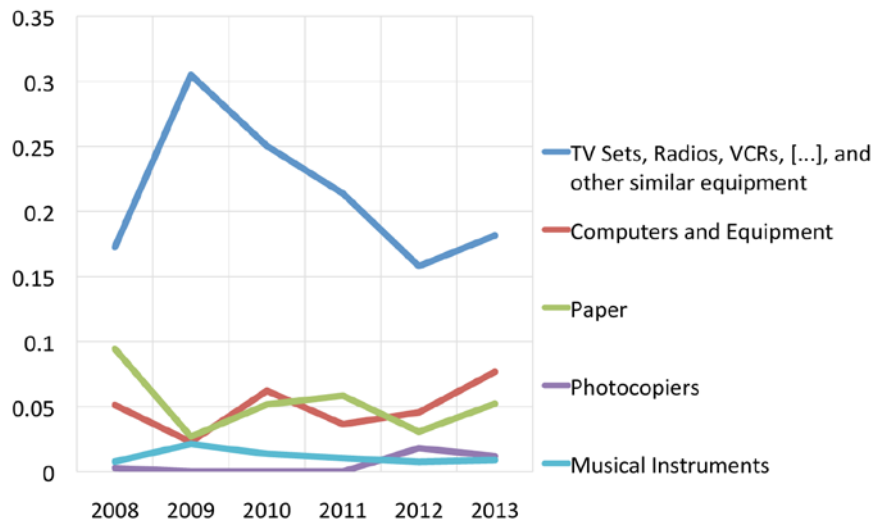
Chart 31: Interdependent CI employment, 2013



Source: Calculated by the authors based on NBS data

During 2008-2013, the contribution of the main interdependent copyright sector – TV sets, radios, VCRs, [...] and other similar equipment – followed a fluctuating trend, reaching 0.18 per cent of total employment in 2013. The only sector that recorded relatively pronounced growth was computers and equipment, whose contribution to total employment increased from 0.05 per cent in 2008 to 0.08 per cent in 2013. Other sectors did not show any noticeable trends (Chart 32).

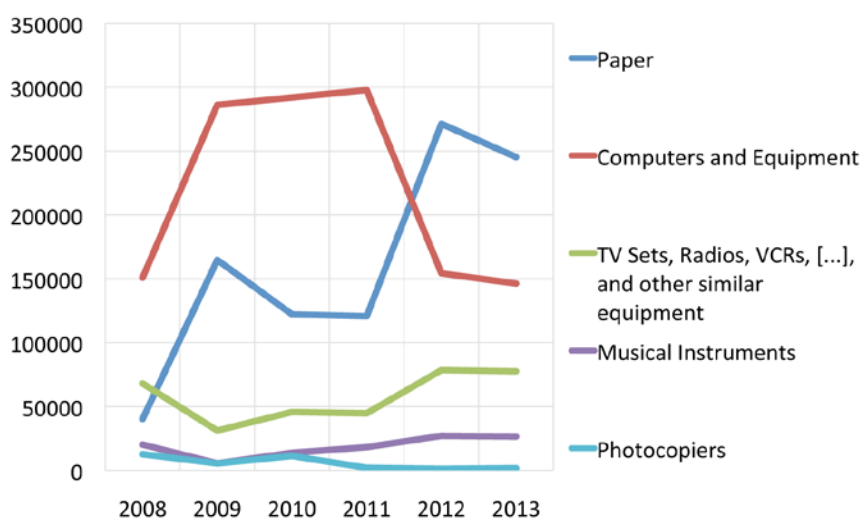
Chart 32: Interdependent CI employment by sector (%)



Source: Calculated by the authors based on NBS data

As was the case for core CIs, the largest sector is far from being the most productive. The TV sets, radios, VCRs, [...], and other similar equipment sector, which accounts for over half of interdependent CI employment, recorded mediocre labor productivity (third out of five interdependent copyright sectors). The largest productivity gains were recorded in paper production, which posted a clear upward trend and outpaced computers and equipment as the most productive interdependent copyright activity.

Chart 33: Labor productivity by interdependent CI sector (in lei)

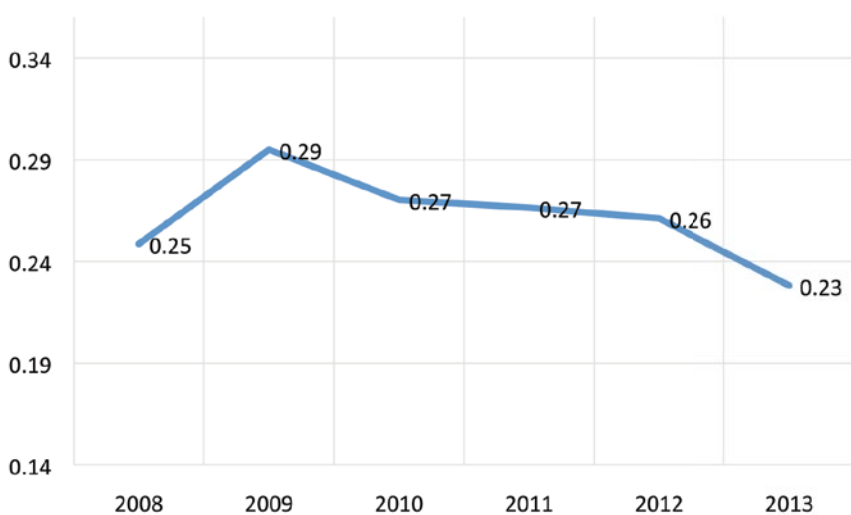


Source: Calculated by the authors based on NBS data

2.3.4 Contribution of the partial copyright industries²³

The partial copyright sector is the smallest of all CIs in terms of employment, with 2,510 people employed (in FTE). It represents 6.38 per cent of the total copyright employment and 0.23 per cent of total employment. In addition to being a small sector, it maintained a downward trend during the review period, revealing major development constraints for this type of copyright industry (Chart 34).

Chart 34: Partial CI contribution to total employment (%)

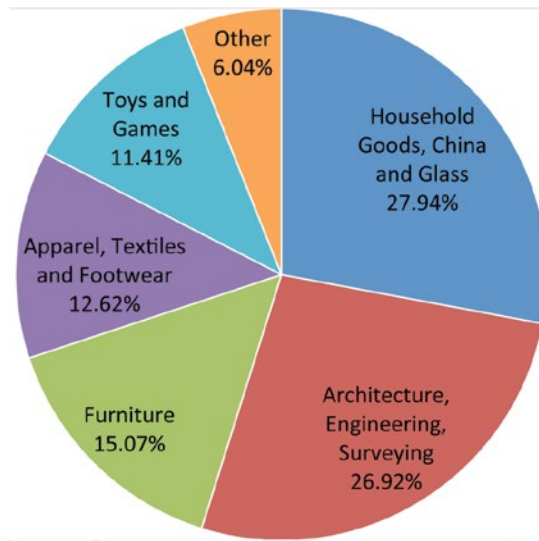


Source: Calculated by the authors based on NBS data

As shown in Chart 35, the key sectors in the partial copyright industries are: household goods, china and glass (27.94 per cent); architecture, engineering, surveying (26.92 per cent); and furniture (15.07 per cent), which all account for approximately 70 per cent of total partial CI employment.

²³ All estimates are after application of copyright factors (see Annex A for methodology).

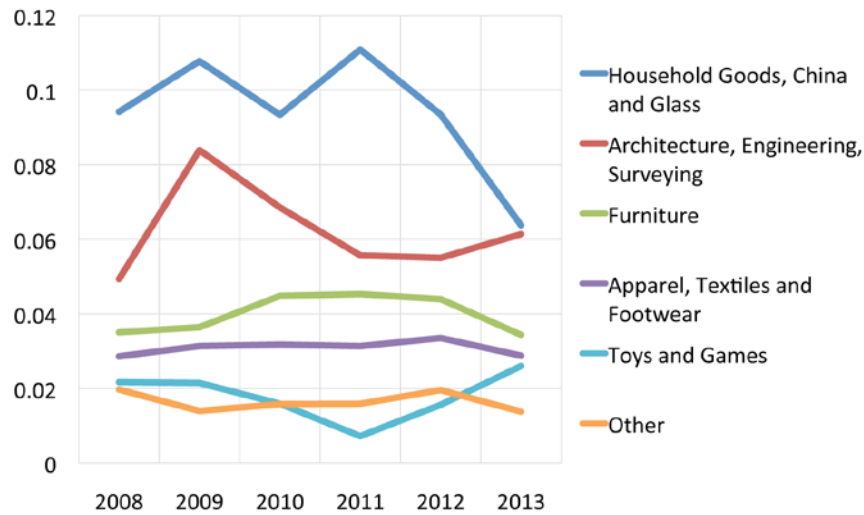
Chart 35: Employment by partial CI sector, 2013



Source: Calculated by the authors based on NBS data

The contribution to total employment by the largest partial CI sector – household goods, china and glass – noticeably declined in recent years. Other partial CI sectors experienced fluctuations, without clear trends either upward or downward (Chart 36).

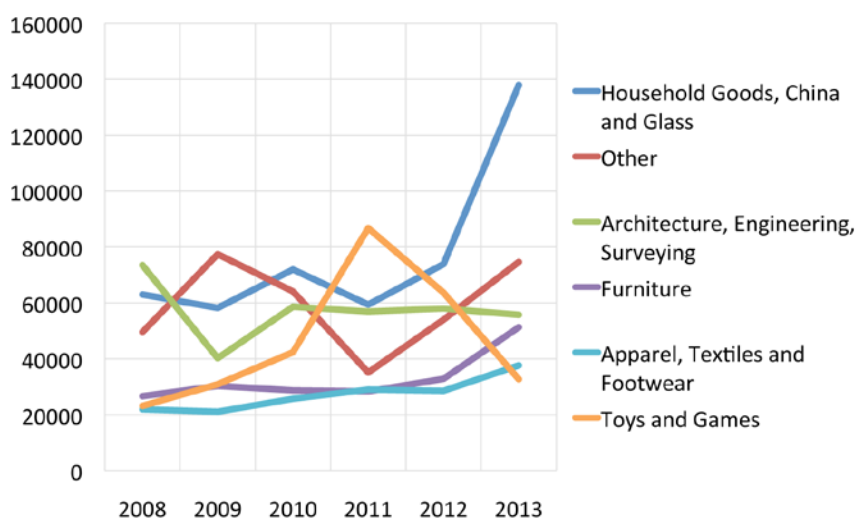
Chart 36: Employment by partial CI sector (%)



Source: Calculated by the authors based on NBS data

The largest partial CI sector in terms of employment – household goods, china and glass – also generates the greatest labor productivity. Moreover, during the review period (especially in 2013) it experienced robust growth. The second largest partial copyright employer kept its labor productivity indicators at constant levels. Toys and games registered a sharp decline in labor productivity during 2011-2013. However, this could be a temporary phenomenon, caused by rising employment indicators within the same period (Chart 36), which had not yet translated into higher GVA. All other partial CI sectors improved their productivity indicators, especially from 2011 (Chart 37).

Chart 37: Labor productivity by partial CI sector (in lei)

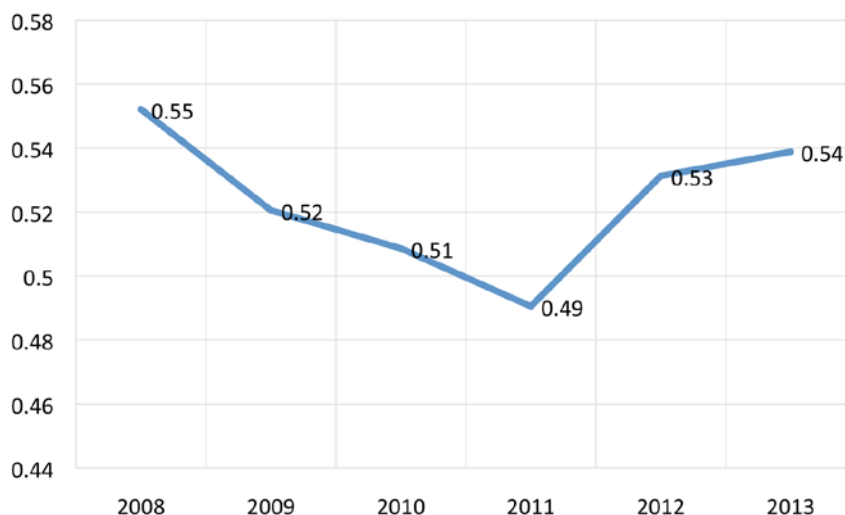


Source: Calculated by the authors based on NBS data

2.3.5 Contribution of the non-dedicated support copyright industries²⁴

The non-dedicated support copyright industries form the second largest employer among all of the CIs with 5,920 thousand employees, representing 0.54 per cent of total employment in 2013. During 2008-2011, it recorded a clear downward trend from 0.55 per cent in 2008 to 0.49 per cent in 2011 but consolidated its contribution to overall employment in 2012 and 2013 (Chart 38).

Chart 38: Non-dedicated support CI contribution to total employment (%)

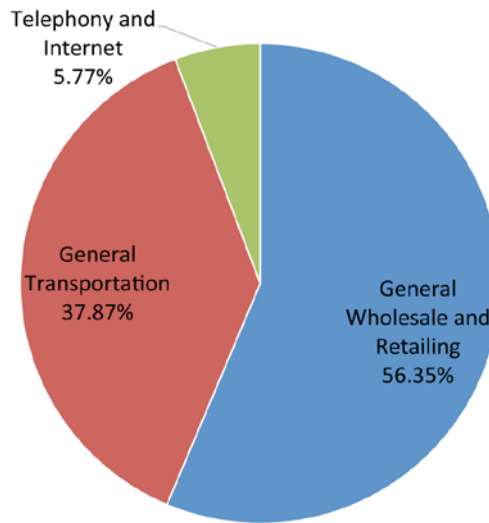


Source: Calculated by the authors based on NBS data

The majority of employees work in general wholesale and retailing (56.35 per cent) and general transportation (37.87 per cent), while telephony and internet have an insignificant share (5.77 per cent) (Chart 39).

²⁴ All estimates are presented after the application of the copyright factors (see Annex A for methodology).

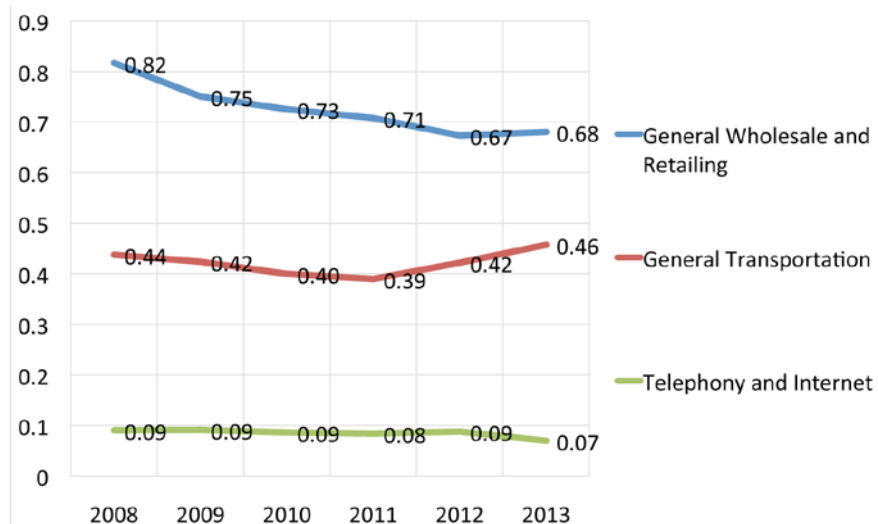
Chart 39: Employment by non-dedicated support CI type, 2013



Source: Calculated by the authors based on NBS data

During 2008-2013, general wholesale and retailing experienced a decline (from 0.82 per cent of total employment in 2008 to 0.68 per cent in 2013). At the same time, general transportation increased its contribution to total employment from 2011, thereby boosting the contribution of the entire non-dedicated support copyright industries. Telephony and internet experienced only mild fluctuations during the reference period (Chart 40).

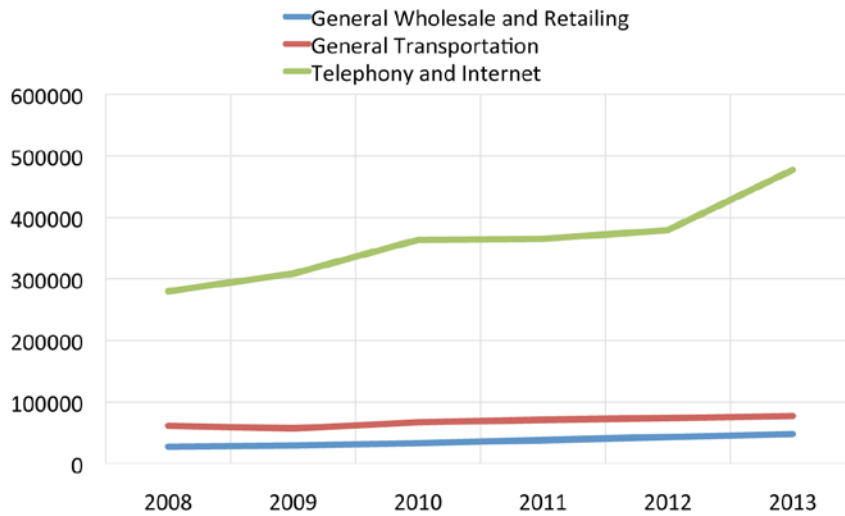
Chart 40: Employment by non-dedicated support CI sectors (%)



Source: Calculated by the authors based on NBS data

CIs recorded an increase in labor productivity. Still, the most significant growth was recorded by telephony and internet, mainly as a result of massive investments and transfer of know-how to this sector, primarily to improve the quality and accessibility of mobile telephony and internet (Chart 41).

Chart 41: Labor productivity by non-dedicated support CI sector (in lei)

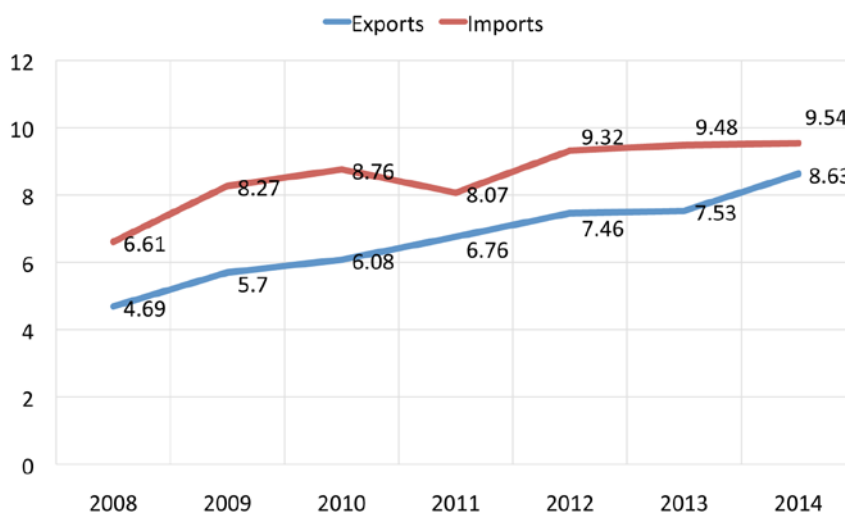


Source: Calculated by the authors based on NBS data

2.4 Contribution to foreign trade

During the review period (2008-2014), the copyright industries became increasingly open to foreign trade. Its contribution to total exports increased from 4.69 to 8.63 per cent, while the contribution to total imports grew from 6.61 to 9.54 per cent during the same period. In 2014, total copyright exports amounted to 1.48 billion lei (105.44 million US dollars) while total imports were 3.99 billion lei (283.64 million US dollars). Thus, imports were 2.69 times higher than exports, leading to an accumulated trade deficit of 2.51 billion lei (178.2 million US dollars).

Chart 42: CI contribution to foreign trade (%)



Source: Calculated by the authors based on NBS data

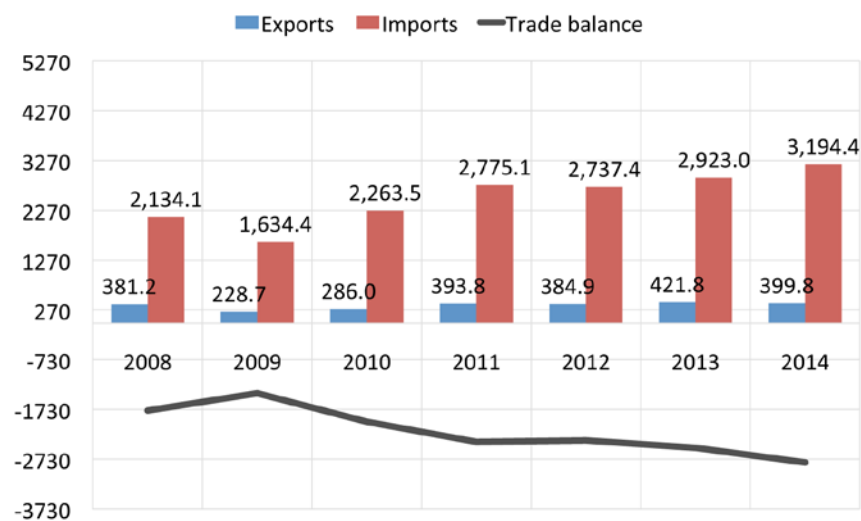
Such a large gap between imports and exports points to the pressing competitiveness issues faced by the copyright industries. Still, it is necessary to conduct separate analyses for foreign trade in copyright goods and copyright services respectively. As shown in the next sections, there are huge differences between the two: while copyright goods are less competitive (imports significantly exceed exports), copyright services tend to be competitive (trade balance is positive and trending upwards).

2.5 Contribution to foreign trade in goods

In 2014, total exports of copyright goods amounted to approximately 399.8 million lei (28.48 US dollars), reflecting a mediocre trend over the review period caused by pressing competitiveness issues and high sensitivity to external shocks (e.g. during the world economic crisis of 2009, exports of copyright products declined by 40 per cent). Exports of copyright goods account for a tiny share of GDP: 0.36 per cent in 2014, having declined from 0.61 per cent in 2008.

On account of the competitiveness issues affecting copyright goods, Moldova imports over 14 times more copyright products than it exports. In 2014, the volume of copyright imports amounted to approximately 3.2 billion lei (227.54 million US dollars), representing approximately 2.6 per cent of GDP. Unlike exports, the volume of imports of copyright products grew constantly over time (the only decline was recorded during the economic recession of 2009). The growing gap between exports and imports generated a negative trade balance of approximately 2.8 billion lei (199.06 million US dollars) (Chart 43).

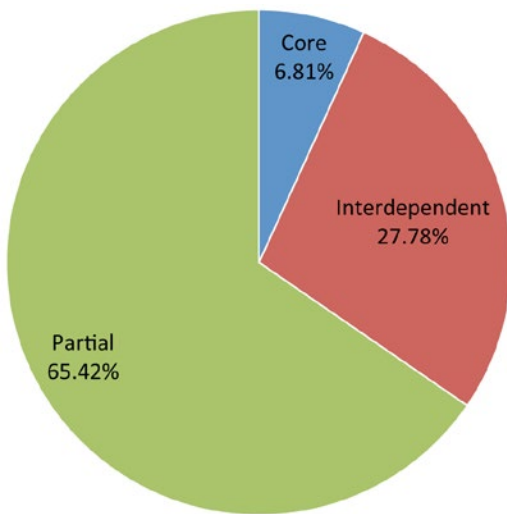
Chart 43: Foreign trade in CI goods, (in million lei)



Source: Calculated by the authors based on NBS data

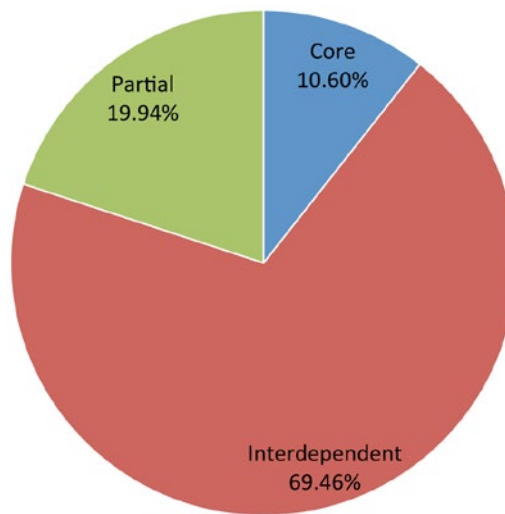
The structure of exports differs from that of imports. Partial CI products are the main copyright exports, with a share of 65.42 per cent, followed by interdependent copyright products (27.78 per cent) and core copyright products (6.81 per cent). Interdependent CIs make the largest contribution to total imports of goods (69.46 per cent in 2014), followed by partial CIs (19.94 per cent) and core CIs (10.60 per cent). No export activity was detected for non-partial support CIs (Chart 44 and Chart 45).

Chart 44: Exports of CI goods, 2014



Source: Calculated by the authors based on NBS data

Chart 45: Imports of CI goods, 2014

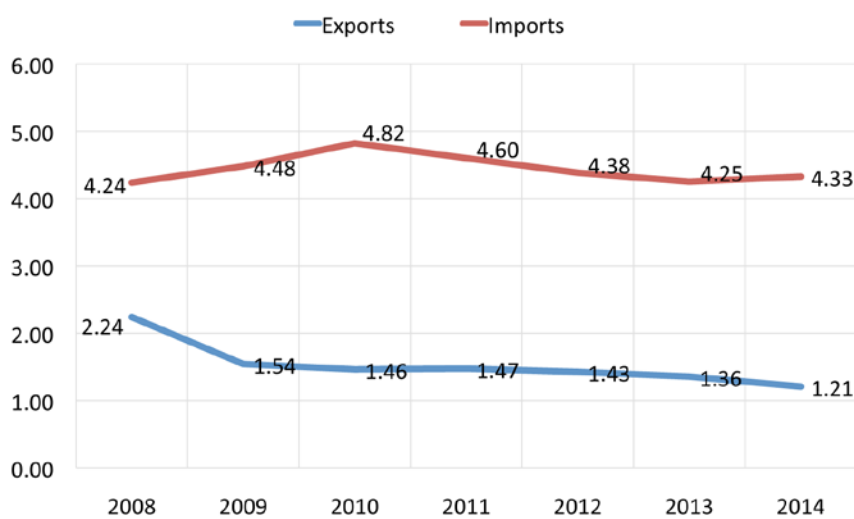


Source: Calculated by the authors based on NBS data

Interestingly, core CIs, which generate the greatest GAV and employment, among all the CI types, records only modest exporting activity. Additionally, the interdependent copyright sector, which has the highest labor productivity, also only makes a relatively modest contribution to export activity. This indicates the existence of huge untapped export potential in these industries, which should be unleashed through bolder policy measures focused on the elimination of domestic barriers to trade in copyright goods.

The copyright industries make a relatively modest contribution to total foreign trade in goods. In 2014, the copyright industries accounted for only 1.21 per cent of total goods exports but up to 4.33 per cent of total goods imports. During the review period (2008-2014), the copyright industry contribution to total goods exports declined from 2.24 to 1.21 per cent, whereas its contribution to total imports did not change significantly (Chart 46).

Chart 46: Contribution of CI to total foreign trade in goods (%)



Source: Calculated by the authors based on NBS data

The declining economic contribution of the copyright industries to total goods exports during the review period was caused by all of the CI types – core, interdependent and partial – which suffered a gradual decline in their respective contributions to total goods exports (Table 12). Hence, although it showed a clear downward trend, the structure of copyright industries exports did not change significantly.

Table 12: CI exports in total exports (%)

	Core	Interdependent	Partial
2008	0.23	0.72	1.29
2009	0.17	0.33	1.03
2010	0.11	0.33	1.02
2011	0.13	0.44	0.90
2012	0.14	0.39	0.89
2013	0.10	0.36	0.90
2014	0.08	0.34	0.79

Source: Calculated by the authors based on NBS data

The decline in the contribution of the copyright industries to total imports stemmed from core CI products, whose contribution to total imports declined from 0.56 per cent in 2008 to 0.46 per cent in 2014. At the same time, the share of interdependent CIs in total imports increased from 2.77 per cent in 2008 to 3 per cent in 2014, while the share of partial CIs remained almost unchanged (Table 13).

Table 13: CI imports in total imports (%)

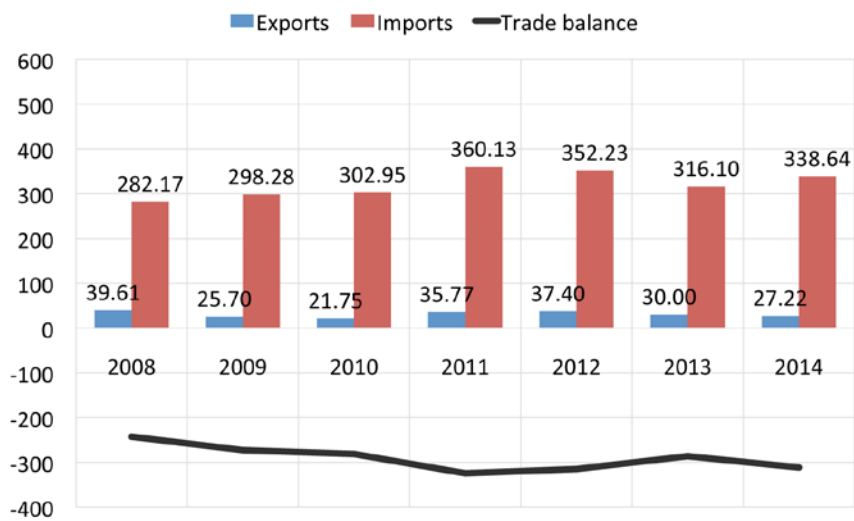
	Core	Interdependent	Partial
2008	0.56	2.77	0.91
2009	0.82	2.69	0.98
2010	0.65	3.26	0.92
2011	0.60	3.10	0.91
2012	0.56	2.94	0.88
2013	0.46	2.89	0.90
2014	0.46	3.00	0.86

Source: Calculated by the authors based on NBS data

2.5.1 Core CIs contribution to foreign trade in goods

In 2014, core CI exports amounted to approximately 27.22 million lei or 1.94 million US dollars, while imports amounted to 338.64 million lei (24.1 million US dollars). The trade balance is highly negative, with imports 12 times higher than exports. This discrepancy is indicative of signs of slow recovery from 2011. However, it results from the decline in imports rather than from any competitiveness gains in the industry (Chart 47).

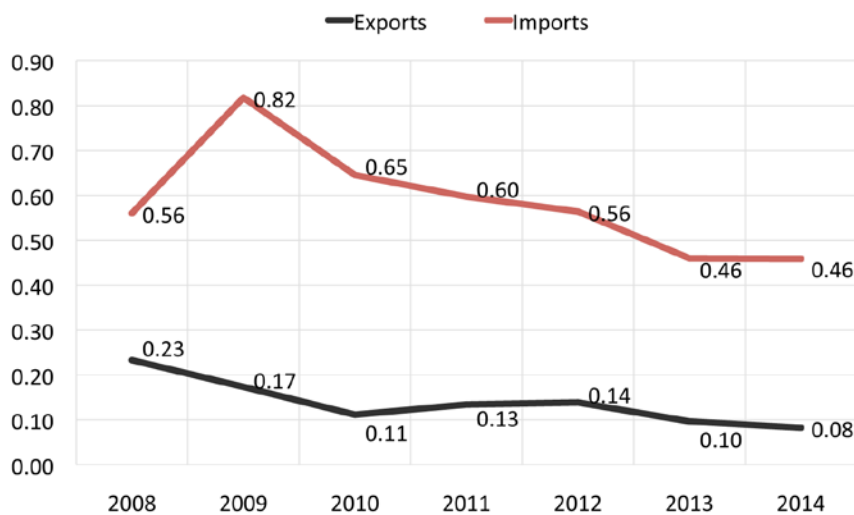
Chart 47: Foreign trade in core CI products (in million US dollars)



Source: Calculated by the authors based on NBS data

The competitiveness flaws of core CI products are highlighted by their declining contribution to total goods exports and imports (Chart 48). Thus, in 2014, core CIs contributed 0.08 per cent to total exports (down from 0.23 per cent in 2008) and 0.46 per cent to total imports (down from 0.56 per cent in 2008).

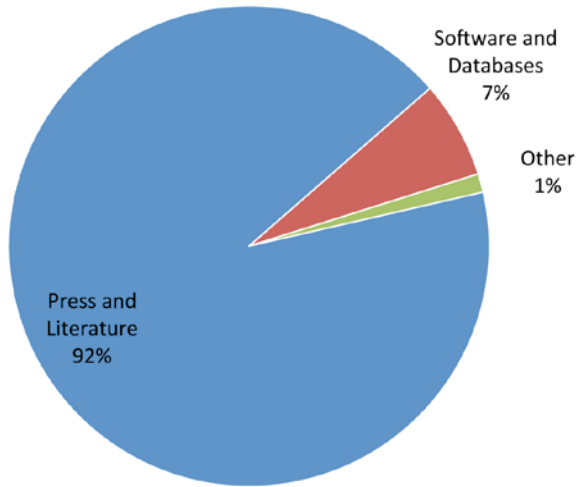
Chart 48: Core CI contribution to total foreign trade in goods (%)



Source: Calculated by the authors based on NBS data

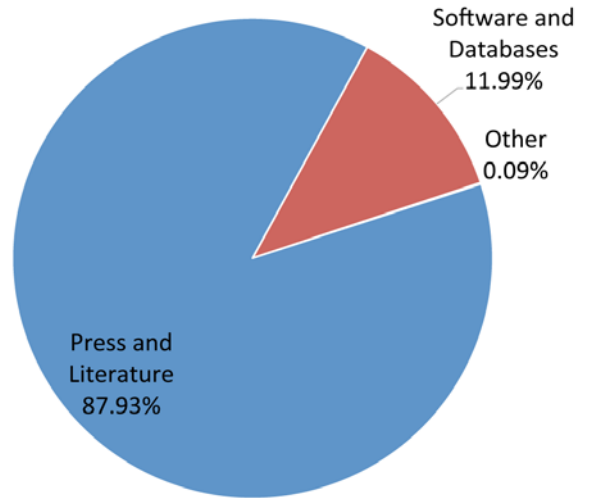
Of all the core CIs, press and literature made the greatest contribution to the foreign trade in goods. These were primarily books, journals and periodicals, which accounted for 92 per cent of total exports and 88 per cent of total imports of core copyright products (2014). The second greatest core CI contribution to foreign trade came from software and databases, which accounted for 7 per cent of exports and 12 per cent of imports of core copyright products (2014). Other core copyright economic sectors include music, theatrical productions, operas, motion picture and video, motion picture and video, visual and graphic arts, which made a negligible contribution to foreign trade in goods (Chart 49 and Chart 50).

Chart 49: Core CI exports by sector, 2014 (%)



Source: Calculated by the authors based on NBS data

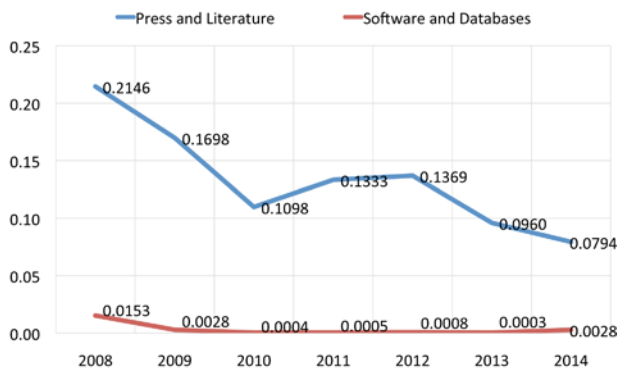
Chart 50: Core CI imports by sector, 2014 (%)



Source: Calculated by the authors based on NBS data

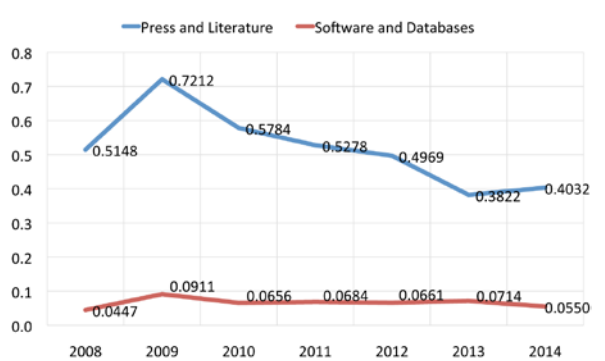
Charts 51 and 52 show that the declining core CI contribution to foreign trade in goods during 2008-2014 was caused by press and literature, whose contribution to total goods exports declined from 0.21 per cent in 2008 to 0.08 per cent in 2014. At the same time, the contribution of software and databases remained modest and did not change much.

Chart 51: Main core CI exports in total goods exports (%)



Source: Calculated by the authors based on NBS data

Chart 52: Main core CI imports in total goods imports (%)



Source: Calculated by the authors based on NBS data

2.5.2 Interdependent CI contribution to foreign trade in goods

Interdependent CI exports in 2014 amounted to 111.05 million lei (7.91 million US dollars), while imports amounted to 2.22 billion lei (158.04 million US dollars). Thus, as with core copyright products, the trade balance is highly negative, with imports being 20 times greater than exports. Moreover, this gap widened during the review period (Chart 53).

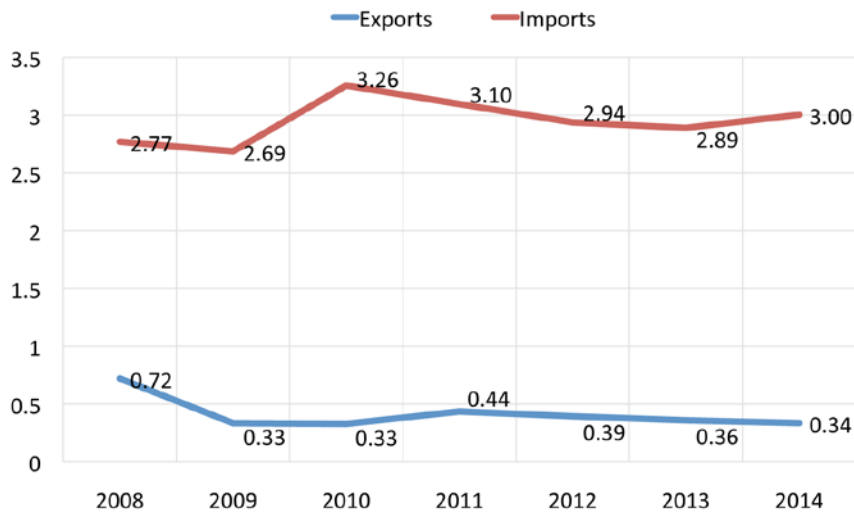
Chart 53: Foreign trade in interdependent CI products (in million lei)



Source: Calculated by the authors based on NBS data

Like the core CIs, interdependent CIs seem to have serious competitiveness flaws. Their contribution to total goods exports during 2009-2014 hovered around 0.3 per cent, on account of the industry's inability to recover from the economic crisis of 2009 (Chart 54).

Chart 54: Interdependent CIs contribution to foreign trade (%)

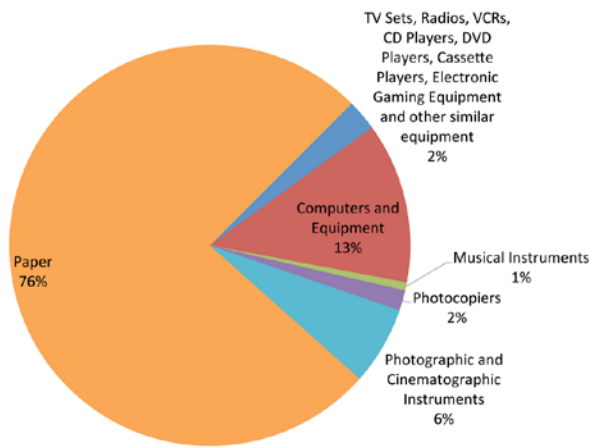


Source: Calculated by the authors based on NBS data

The structure of interdependent CI exports is slightly more diversified than that of core CI exports. In 2014, approximately 76 per cent of interdependent CI exports were essentially paper (Manufacture of Paper and Paperboard). Computers and equipment also made a significant contribution to the industry's exports (13 per cent in 2014) while the other sectors' contributions were negligible (Chart 55).

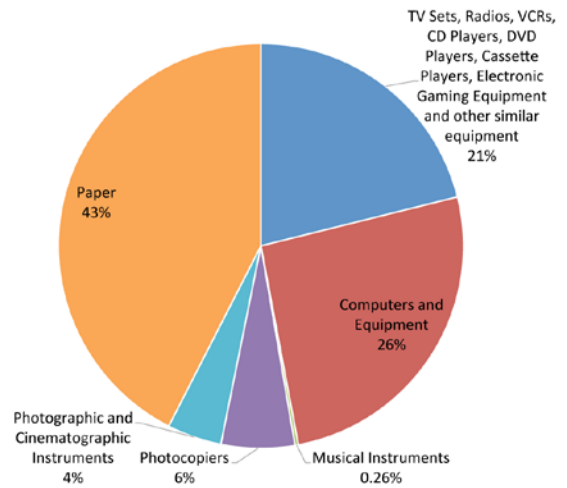
The Interdependent CI goods imports appear to be more diversified than exports (Chart 56). Imports of paper account for approximately 43 per cent of total interdependent CI imports, followed by imports of computers and equipment (26 per cent), and TV sets, radios and other similar equipment (21 per cent).

Chart 55: Interdependent CI exports by sector, 2014 (%)



Source: Calculated by the authors based on NBS data

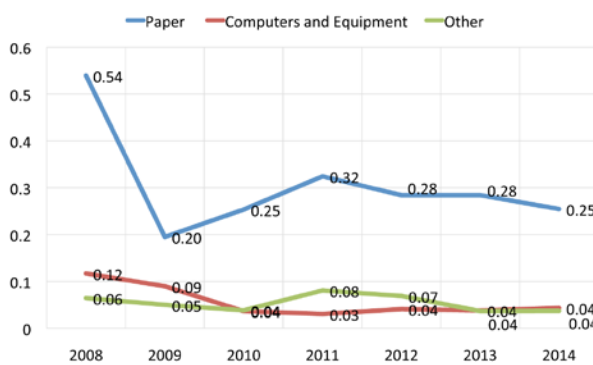
Chart 56: Interdependent CI imports by sector, 2014 (%)



Source: Calculated by the authors based on NBS data

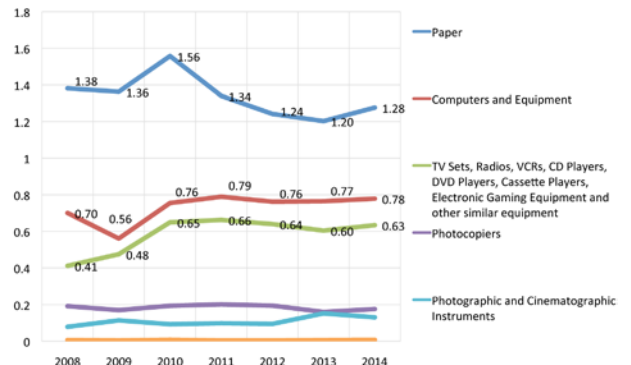
The share of the main interdependent CI goods (i.e. Paper) in total goods exports plummeted during the economic crisis of 2009 and did not recover again in subsequent years. Moreover, this industry's contribution to total goods exports began a steady decline from 2011. The share of computers and equipment in total goods exports also declined during 2008-2014 from 0.12 to 0.04 per cent. The contribution of Interdependent CI to total goods imports is slightly higher and exhibits better trends. Although the share of paper imports during 2008-2014 was quite volatile, the share of the second and third most important interdependent CI imports increased (Chart 57 and Chart 58).

Chart 57: Interdependent CI contribution to total goods exports (%)



Source: Calculated by the authors based on NBS data

Chart 58: Interdependent CI contribution to total goods imports (%)



Source: Calculated by the authors based on NBS data

2.5.3 Partial²⁵ CI contribution to foreign trade in goods

The exports of Partial CI exports in 2014 amounted to approximately 261.53 million lei (18.63 million US dollars), while imports amounted to 637.04 million lei (45.38 million US dollars). Compared to core and interdependent CIs, partial CIs appear to be more competitive. They account for approximately two thirds of total CI exports (2014), and the gap between partial CI exports and imports is much smaller: imports are 2.4 times greater than exports (Chart 59).

²⁵ All estimates are presented after the application of the copyright factors (see Annex A for methodology).

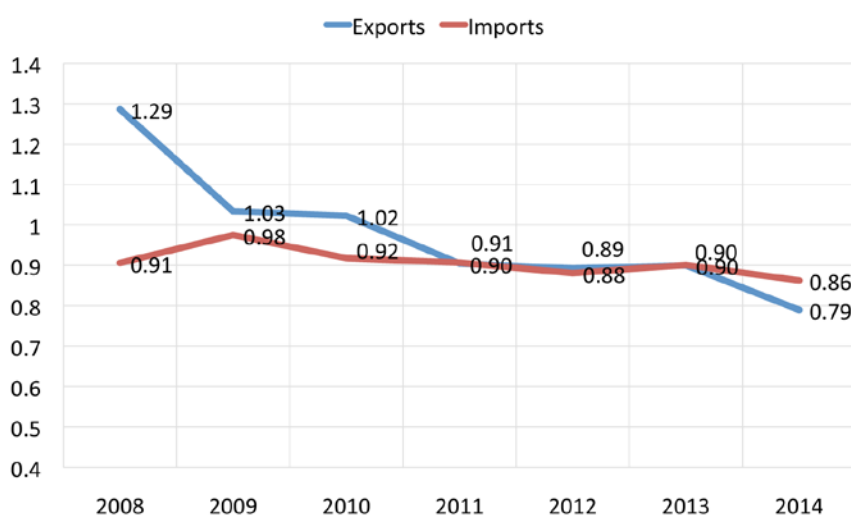
Chart 59: Foreign trade in partial CI products, million USD



Source: Calculated by the authors based on NBS data

Moreover, in terms of contribution to total foreign trade in goods, the gap is even smaller. However, during 2008-2012, the share of partial CI goods exports in total exports actually exceeded the CI share in total imports. Nevertheless, the steady decline in exports is disturbing and reflects losses in competitiveness during the review period (Chart 60).

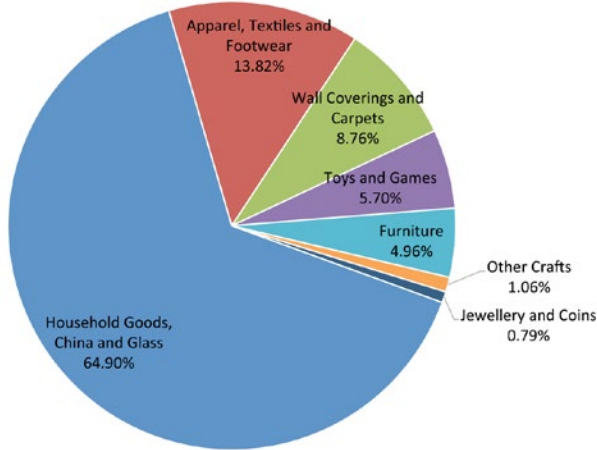
Chart 60: Partial CI contribution to foreign trade (%)



Source: Calculated by the authors based on NBS data

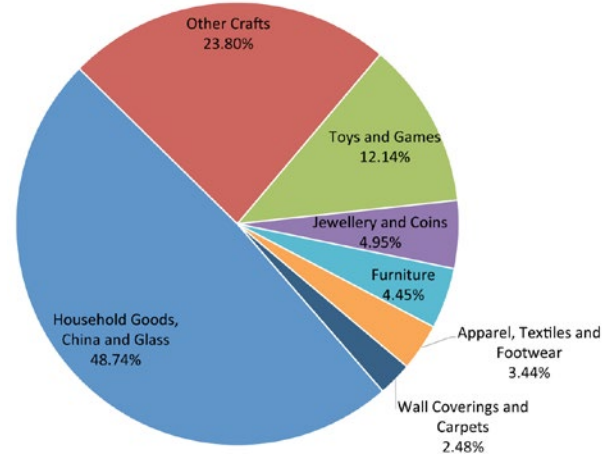
Partial CI exports are dominated by household goods, china and glass sector (64.90 per cent), followed by apparel, textiles and footwear (13.82 per cent) and wall coverings and carpets (8.76 per cent). The shares of other partial copyright sectors in total exports are insignificant (Chart 61). Household goods, china and glass dominate partial CI imports as well, with a share of 48.74 per cent, followed by other crafts (23.80 per cent) and toys and games (12.14 per cent) (Chart 62).

Chart 61: Partial CI exports by sector, 2014 (%)



Source: Calculated by the authors based on NBS data

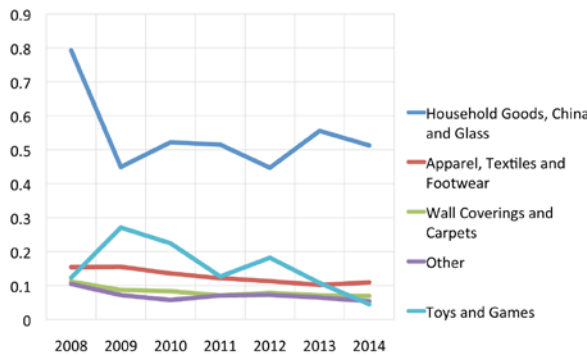
Chart 62: Partial CI imports by sector, 2014 (%)



Source: Calculated by the authors based on NBS data

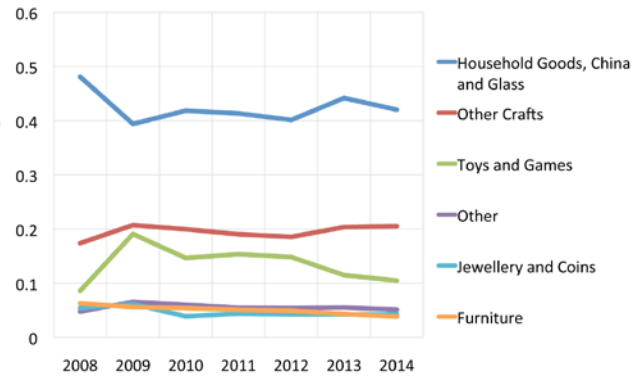
Chart 63 shows that the decline in partial CI contribution to total exports during 2008-2014 stems from toys and games, whose share clearly declined from 0.12 per cent in 2008 to 0.05 per cent in 2014. The contribution of other partial CI sectors to total exports also declined, albeit at a slower pace. Meanwhile, the structure of imports did not change much (Chart 64).

Chart 63: The most important partial CI exports in total exports (%)



Source: Calculated by the authors based on NBS data

Chart 64: The most important partial CI imports in total imports (%)



Source: Calculated by the authors based on NBS data

2.6 Contribution to foreign trade in services

The balance of the trade in copyright services is positive and followed an upward trend during the review period, in contrast to the negative foreign trade balance of copyright goods (Chart 65). During 2008-2014, exports surged to 3.6 times their initial volume, amounting to 1.08 billion lei (76.96 million US dollars), while the share in GDP doubled (from 0.5 per cent in 2008 to 1.0 per cent in 2014). During the same period, imports also increased to 2.3 times their initial volume, albeit at a slower pace, amounting to 787.27 million lei (56.1 million US dollars) in 2014, while their share in GDP rose slightly (from 0.4 per cent in 2008 to 0.7 per cent in 2014).

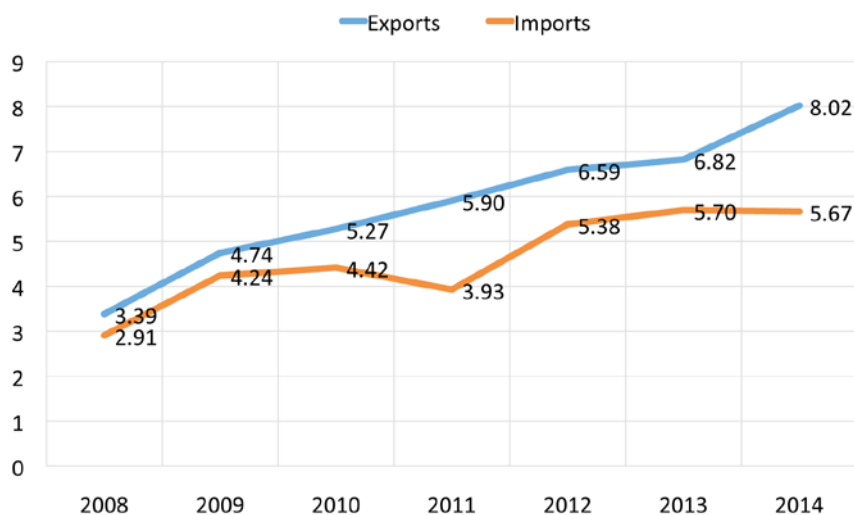
Chart 65: Foreign trade in CI services (in million lei)



Source: Calculated by the authors based on NBS data

CI importance for services is also confirmed by the upward trend in their contribution to total foreign trade in services. Thus, during 2008-2014, the share of CI exports in total services exports spiraled from 3.39 to 8.02 per cent, while the share of CI imports almost doubled from 2.91 per cent to 5.67 per cent. Furthermore, the CI contribution to exports grew faster than its contribution to imports, which bodes well for this sector's sustainable development (Chart 66).

Chart 66: CI Contribution of CI to total foreign trade in services (%)



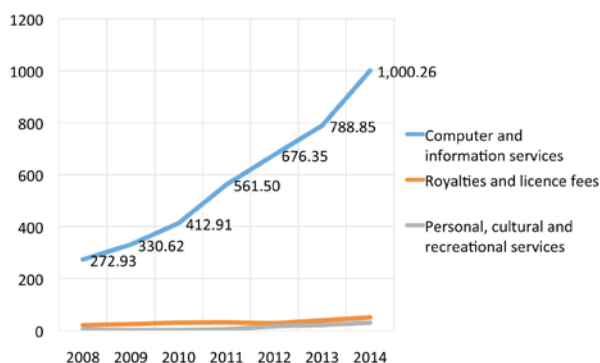
Source: Calculated by the authors based on NBS data

The growing competitiveness of copyright services, depicted during 2008-2014, wholly stemmed from computer and information services whose exports increased 2.7 times and accounted for approximately 92.64 per cent (2014) of total CI services exports. Meanwhile, royalties and license fees, as well as personal, cultural and recreational services only make a tiny contribution to total exports of copyright services.

Computer and information services also dominated imports of copyright services, with a share of 75.69 per cent, which rose 3.59 times above its initial level during 2008-2014. At the same time, the import share of royalties and license fees increased from 77.51 million lei in 2008 to 154.71 million lei in 2014, while the imports of personal, cultural and recreational services increased from 9.35 million lei to 36.78 million lei.

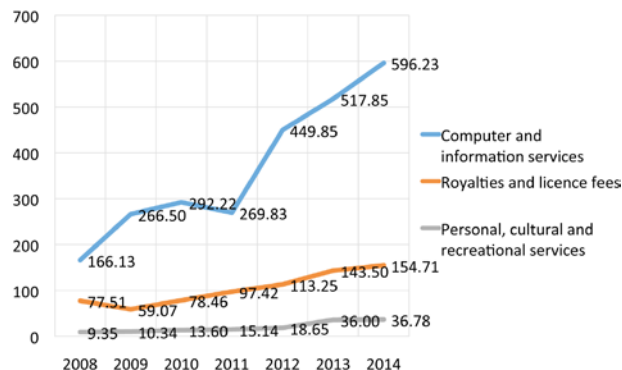
Overall, the development of foreign trade in copyright services was spurred by trends in computer and information services (Chart 67 and Chart 68).

Chart 67: Exports of CI services, million lei



Source: Calculated by the authors based on NBS data

Chart 68: Imports of CI services, million lei



Source: Calculated by the authors based on NBS data

All copyright services increased their contribution to total exports of services. The computer and information services sector significantly increased its contribution to total services exports from 3.11 per cent in 2008 to 7.43 per cent in 2014, the largest component being computer services, with a contribution of 6.16 per cent to total exports of services (2014). The contributions of royalties and license fees also increased but at a slower pace (from 0.23 per cent in 2008 to 0.37 per cent in 2014), primarily boosted by other payments for copyrights and licenses. The economic contribution of personal, cultural and recreational services to exports inched up from only 0.04 per cent in 2008 to 0.22 per cent in 2014, owing primarily to audio-visual and related services (Table 14).

Table 14: CI services exports in total services exports (%)

	2008	2009	2010	2011	2012	2013	2014
Computer and information services	3.11	4.42	4.91	5.56	6.19	6.34	7.43
Computer services	2.44	3.47	3.85	4.36	4.86	4.98	6.13
Information services	0.67	0.95	1.06	1.20	1.33	1.37	1.30
News agencies services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other information services	0.67	0.95	1.06	1.20	1.33	1.37	1.30
Royalties and license fees	0.23	0.32	0.36	0.31	0.25	0.31	0.37
Franchises and similar services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other payments for copyrights and licenses	0.23	0.32	0.36	0.31	0.25	0.31	0.37
Personal, cultural and recreational services	0.04	0.02	0.01	0.04	0.15	0.17	0.22
Audio-visual and related services	0.04	0.02	0.01	0.04	0.15	0.17	0.22
Other personal, cultural and recreational services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	3.39	4.74	5.27	5.90	6.59	6.82	8.02

Source: Calculated by the authors based on NBS data

As with exports, all types of copyright services increased their contribution to total imports of services. The contribution of computer and information services to total imports of services increased from 1.91 per cent in 2008 to 2.77 per cent in 2014, mainly due to the expansion of imports of computer services. The share of royalties and license fees underwent a modest increase (from 0.89 per cent in 2008 to 1.0 per cent in 2014), as did the share of personal, cultural and recreational services (from 0.11 per cent in 2008 to 0.16 per cent in 2014). Interestingly, some types of copyright services (news agencies services; franchises and similar services; other personal, cultural and recreational services) did not record any export and import activities during 2008-2014.

Table 15: Imports of CI services in total imports (%)

	2008	2009	2010	2011	2012	2013	2014
Computer and information services	1.91	3.11	3.36	4.42	3.36	4.91	2.77
Computer services	1.67	2.44	2.93	3.47	2.93	3.85	2.42
Information services	0.24	0.67	0.43	0.95	0.43	1.06	0.35
News agencies services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other information services	0.24	0.67	0.43	0.95	0.43	1.06	0.35
Royalties and license fees	0.89	0.23	0.75	0.32	0.90	0.36	1.00
Franchises and similar services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other payments for copyrights and licenses	0.89	0.23	0.75	0.32	0.90	0.36	1.00
Personal, cultural and recreational services	0.11	0.04	0.13	0.14	0.16	0.01	0.16
Audio-visual and related services	0.11	0.04	0.13	0.14	0.16	0.01	0.16
Other personal, cultural and recreational services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	2.91	3.39	4.24	4.74	4.42	5.27	3.93

Source: Calculated by the authors based on NBS data

2.7 Copyright industries' contribution to GVA, GDP, employment and foreign trade

As a general conclusion, the contribution of the copyright industries to the economy of the Republic of Moldova is significant. In 2013, it represented 3.98 per cent of total GVA and 3.31 per cent of GDP. It experienced a gradual decline during the 2008-2013 review period, thus highlighting the structural problems which undermine the development of this industry. It also accounted for 3.31 per cent of total employment, which is lower compared to the share in GVA, thus revealing some productivity gains of the industry relative to the rest of the economy (Table 16).

Table 16: Contribution of the CI to GVA, employment and foreign trade (%)

	2008	2009	2010	2011	2012	2013	2014
Gross value added	4.07	4.02	3.91	3.69	4.00	3.98	N/A
Gross domestic product	3.35	3.38	3.26	3.06	3.34	3.31	N/A
Employment	3.02	3.41	3.60	3.71	3.78	3.58	N/A
Exports	4.69	5.70	6.08	6.76	7.46	7.53	8.63
Goods exports	2.24	1.54	1.46	1.47	1.43	1.36	1.21
Services exports	3.39	4.74	5.27	5.90	6.59	6.82	8.02
Imports	6.61	8.27	8.76	8.07	9.32	9.48	9.54
Goods imports	4.24	4.48	4.82	4.60	4.38	4.25	4.33
Services imports	2.91	4.24	4.42	3.93	5.38	5.70	5.67

Source: Calculated by the authors based on NBS data

Table 17: Size of the CI GVA, employment and foreign trade compared to the national economy

	2008	2009	2010	2011	2012	2013	2014
Gross value added (CI) , in billion lei	2,106.19	2,041.38	2,340.19	2,522.45	2,949.07	3,327.95	N/A
Gross Value Added (total economy) , in billion lei	51,773.55	50,809.19	59,920.69	68,389.56	73,686.10	83,719.48	N/A
Employment (CI) , thousands (FTE)	35.72	37.86	38.60	41.96	40.98	39.28	N/A
Employment (total economy) , thousands (FTE)	1,183.48	1,110.50	1,071.33	1,131.14	1,083.0	1,098.45	N/A
Exports (CI) , in million lei	678.05	583.57	729.82	990.42	1,105	1,269.89	1,479.59
Exports of goods (CI), in million lei	381.22	228.71	285.99	393.77	384.93	421.81	399.80
Exports of services (CI), in million lei	296.83	354.86	443.83	596.65	720.07	848.08	1,079.79
Imports (CI) , in million lei	2,387.05	1,970.26	2,647.82	31573,57.47	3,319.17	3,620.35	3,982.12
Imports of goods (CI), in million lei	2134.07	1,634.36	2,263.54	2,775.08	2,737.42	2,923.01	3,194.40
Imports of services (CI), in million lei	252.98	335.90	384.28	382.39	581.75	697.34	787.72
Exports (total economy) , in million lei	25,867.78	22,227.24	28,081.64	36,838.81	37,917.85	43,487.27	46,481.77
Exports of goods (total economy), in million lei	17,100.08	14,746.70	19,667.73	26,734.19	26,992.52	31,050.68	33,019.96
Exports of services (total economy), in million lei	8,767.70	7,480.54	8,413.91	10,104.62	10,925.33	12,436.59	13,461.81
Imports (total economy) , in million lei	59,313.24	44,326.69	55,817.89	70,148.17	73,225.52	80,842.5	87,804.55
Imports of goods (total economy), in million lei	50,616.50	36,404.39	47,114.12	60,411.98	62,410.90	68,602.07	73,899.68
Imports of services (total economy), in million lei	8,696.74	7,922.30	8,703.77	9,736.19	10,814.62	12,240.43	13,904.87

Source: Calculated by the authors based on NBS data

On the positive side, the copyright industries have become increasingly open in recent years: the share of copyright exports in total exports increased from 4.69 per cent in 2008 to 8.63 per cent in 2014, while the share of imports expanded from 6.61 per cent in 2008 to 9.54 per cent in 2014. Thus, the gap between total CI exports and imports narrowed. This positive trend originates from foreign trade in services, which has recorded a positive and steadily improving trade balance. Meanwhile, copyright goods recorded a negative trade balance because their contribution to total foreign trade in goods is modest and on a downward trend. Hence, Moldova seems to have competitive advantages in copyright services, whereas copyright goods industries are less competitive.

3. The Most Important Copyright Industries

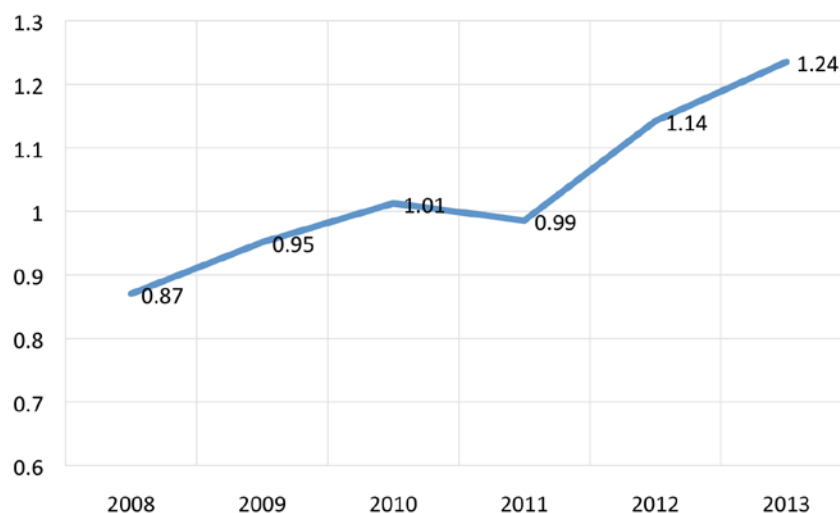
This section analyses the economic contribution of and trends in the three most important copyright industries: (i) software and databases; (ii) press and literature; and (iii) advertising services. These sectors make the strongest contribution of all types of copyright activities to the creation of gross value added, gross domestic product and employment. Moreover, software and databases and press and literature are also the most important copyright exports (no statistical evidence of exports of advertising services has been found).

3.1 Software and databases

3.1.1 Contribution to gross value added

The most important copyright industry in Moldova is software and databases. In 2013, it accounted for about 1.03 billion lei or 82.14 million US dollars, which was double the 2008 level. Its contribution to GVA rose, increasing from 0.87 per cent in 2008 to 1.24 per cent in 2013 (Chart 69). These were by far the largest shares contributed by any copyright industry.

Chart 69: Contribution to GVA of the software and databases industry (%)



Source: Calculated by the authors based on NBS data.

The most important, in terms of GVA created, were database activities, which in 2013 accounted for about 435.39 million lei or 34.6 million US dollars, followed by other software consultancy and supply activities, with about 359.73 million lei or 28.6 million US dollars. Together, these activities represented about 77 per cent of the software and databases industry. Data processing is a smaller but very promising activity, with GVA increasing 5.6 times in the period 2008-2013 and amounting to about 10.52 per cent of the entire software and databases industry. Software publishing was the least significant type of activity and followed an upward but volatile trend, especially during 2011-2013 (Table 18).

Table 18: GVA in software and databases, thousand lei

Code	Description	2008	2009	2010	2011	2012	2013
72.21	Software publishing	14,425	21,253	40,025	62,474	35,679	52,599
72.22	Other software consultancy and supply	102,095	110,382	142,402	180,783	218,613	359,733
72.30	Data processing	19,259	25,985	29,569	25,199	105,295	108,791
72.40	Database activities	297,019	296,760	375,034	362,465	440,537	435,385
72.60	Other computer-related activities	17,784	22,515	19,719	43,113	41,452	77,669
Software and databases		450,581	483,395	606,749	674,034	841,578	1,034,176

Source: Calculated by the authors based on NBS data

Table 19: GVA in software and databases, thousand US dollars

Code	Description	2008	2009	2010	2011	2012	2013
72.21	Software publishing	1,388.4	2,497.2	3,236.6	5,322.8	2,945.7	4,177.6
72.22	Other software consultancy and supply	9,826.8	9,932.3	11,515.3	15,402.8	18,049.0	28,571.3
72.30	Data processing	1,853.7	2,338.2	2,391.1	2,147.0	8,693.3	8,640.6
72.40	Database activities	28,588.4	26,702.9	30,327.1	30,882.3	36,371.4	34,579.9
72.60	Other computer-related activities	1,711.7	2,025.9	1,594.6	3,673.3	3,422.4	6,168.8
Software and databases		43,368.9	43,496.6	49,064.7	57,428.2	69,481.8	82,138.1

Source: Calculated by the authors based on NBS data

Although database activities is the largest activity in the software and databases industry (0.52 per cent of total GVA in 2013), its share was volatile during 2008-2013, with the lowest level reached in 2013. At the same time, the contribution to GVA of other software consultancy and supply doubled during 2008-2013, from 0.20 per cent to 0.43 per cent. Other types of activities, despite having much lower shares in total GVA, visibly increased their contribution during 2008-2013 (Table 15).

Table 20: GVA in software and databases, % GVA

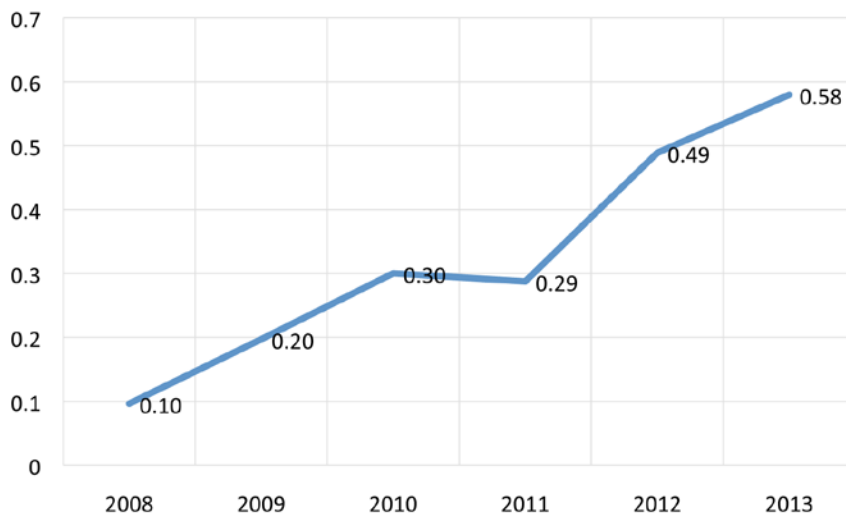
Code	Description	2008	2009	2010	2011	2012	2013
72.21	Software publishing	0.03	0.05	0.07	0.09	0.05	0.06
72.22	Other software consultancy and supply	0.20	0.22	0.24	0.26	0.30	0.43
72.30	Data processing	0.04	0.05	0.05	0.04	0.14	0.13
72.40	Database activities	0.57	0.58	0.63	0.53	0.60	0.52
72.60	Other computer related activities	0.03	0.04	0.03	0.06	0.06	0.09
Software and databases		0.87	0.95	1.01	0.99	1.14	1.24

Source: Calculated by the authors based on NBS data

3.1.2 Contribution to employment

The software and databases industry employs about 6,400 people (in FTE), and is the second largest employer of all the copyright industries (the top employer is press and literature). In 2013, it represented 0.58 per cent of total employment, its share following a clear upward trend and increasing six times compared to 2008 (Chart 70).

Chart 70: Employment in software and databases, % of total employment



Source: Calculated by the authors based on NBS data

As in the structure of GVA, the activities that employ the most people in the software and databases industry are other software consultancy and supply (3,600 people in 2013) and database activities (1,470 people in 2013). Both activities showed strong growth over the review period (2008-2013). Software publishing and data processing also visibly increased their number of employees during 2008-2013, whereas other computer related activities followed a very volatile pattern (Table 21).

Table 21: Employment in software and databases, thousand people

Code	Description	2008	2009	2010	2011	2012	2013
72.21	Software publishing	0.24	0.18	0.59	0.33	1.11	0.60
72.22	Other software consultancy and supply	0.08	0.93	1.50	1.39	2.46	3.60
72.30	Data processing	0.23	0.23	0.23	0.28	0.22	0.44
72.40	Database activities	0.37	0.34	0.64	1.19	1.41	1.47
72.60	Other computer-related activities	0.22	0.52	0.26	0.05	0.10	0.26
Software and databases		1.14	2.19	3.22	3.25	5.29	6.37

Source: Calculated by the authors based on NBS data

Besides accounting for the largest share in total software and databases employment (57 per cent in 2013), other software consultancy and supply activities registered the most significant change during 2008-2013, increasing its share in total employment from only 0.01 per cent to 0.33 per cent. Database activities also expanded visibly from only 0.03 per cent in 2008 to 0.13 per cent in 2013. Other types of activities made insignificant contributions to total employment and followed a volatile pattern (Table 22).

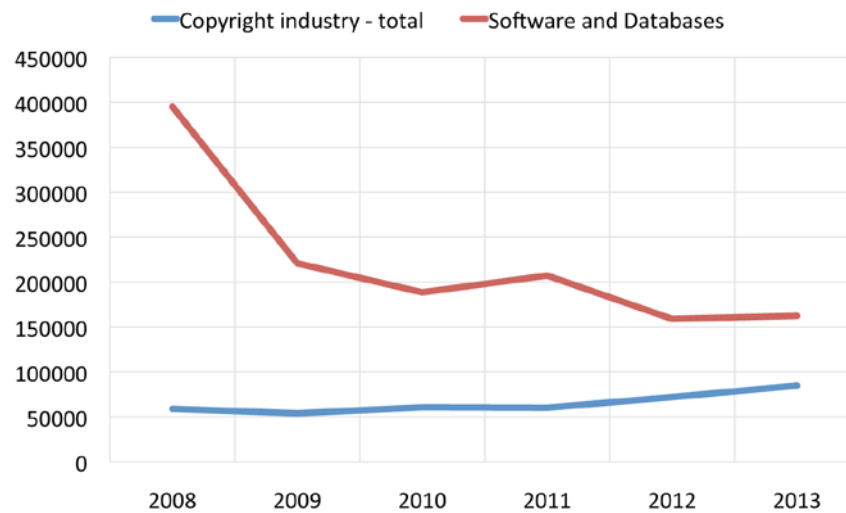
Table 22: Employment in software and databases, % of total employment

Code	Description	2008	2009	2010	2011	2012	2013
72.21	Software publishing	0.02	0.02	0.06	0.03	0.10	0.05
72.22	Other software consultancy and supply	0.01	0.08	0.14	0.12	0.23	0.33
72.30	Data processing	0.02	0.02	0.02	0.02	0.02	0.04
72.40	Database activities	0.03	0.03	0.06	0.11	0.13	0.13
72.60	Other computer related activities	0.02	0.05	0.02	0.00	0.01	0.02
Software and databases		0.10	0.20	0.30	0.29	0.49	0.58

Source: Calculated by the authors based on NBS data

As highlighted by Chart 71, software and databases is one of the most productive industries in Moldova. Its productivity indicator was markedly better than that of the entire CI during the review period (2008-2013). For example, in 2008, it was about eight times higher than productivity for the entire CI. Over the following years, productivity remained above the industry average but its relative strength declined due to rocketing employment in other software consultancy and supply (from 100 in 2008 to 3,600 in 2013) and database activities (from 400 in 2008 to 1,500 in 2013).

Chart 71: Productivity in software and databases and the entire CI, lei



Source: Calculated by the authors based on NBS data

As revealed by Table 18, the highest rates of productivity were recorded by database activities (23,500 US dollars of GVA per employee in 2013), other computer-related activities (23,900 US dollars of GVA per employee in 2013) and data processing (19,500 US dollars of GVA per employee in 2013). The most prominent productivity losses were reported by other software consultancy and supply, plummeting from 124,000 US dollars of GVA per employee in 2008 to only 7,900 US dollars of GVA per employee in 2013.

Table 23: Productivity in software and databases, lei

Code	Description	2008	2009	2010	2011	2012	2013
72.21	Software publishing	61,213.90	157,370.87	67,521.62	188,645.49	32,153.23	88,244.76
72.22	Other software consultancy and supply	1,288,319.02	119,213.71	95,008.98	129,765.48	88,840.39	99,951.40
72.30	Data processing	84,206.29	114,558.95	128,938.11	89,132.83	482,878.04	245,647.49
72.40	Database activities	793,008.08	882,409.08	587,639.16	304,184.97	313,340.23	295,775.10
72.60	Other computer related activities	80,166.37	43,041.89	76,230.73	798,447.22	419,669.38	301,372.43
Software and databases		395,251.98	220,880.19	188,559.75	207,227.65	158,992.98	162,408.74

Source: Calculated by the authors based on NBS data

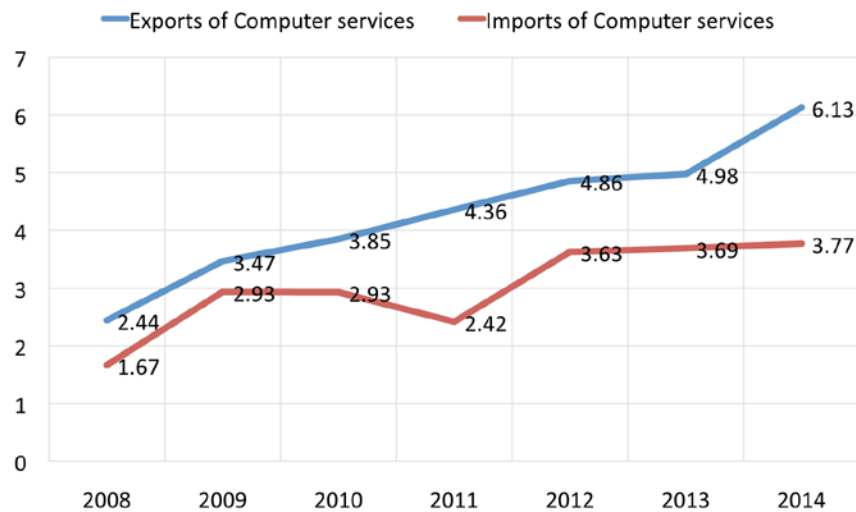
3.1.3 Contribution to foreign trade

The contribution of software and databases to foreign trade in goods is relatively modest. Out of all such activities, only software publishing is engaged in export/import operations. Thus, in 2014, exports of software amounted to only 0.93 million lei or 0.07 million US dollars (0.003 per cent of total exports), whereas the imports of such goods constituted 40.60 million lei or 2.9 million US dollars (0.055 per cent of total imports), as demonstrated in Chart 72.

Chart 72: Exports and imports of software, % of total exports and imports of goods

Source: Calculated by the authors based on NBS data

Computer services appears to be much more competitive than software and databases. Thus, during the review period (2008-2014), exports of such services consistently outpaced imports. In 2014, total exports of computer services amounted to 825 million lei or 58.8 million US dollars, whereas imports totaled 524 million lei or 37.4 million US dollars. Moreover, the shares of these exports and imports in total foreign trade consistently increased during 2008-2014 (Chart 73).

Chart 73: Exports and imports of Computer Services, % of total exports and imports of services

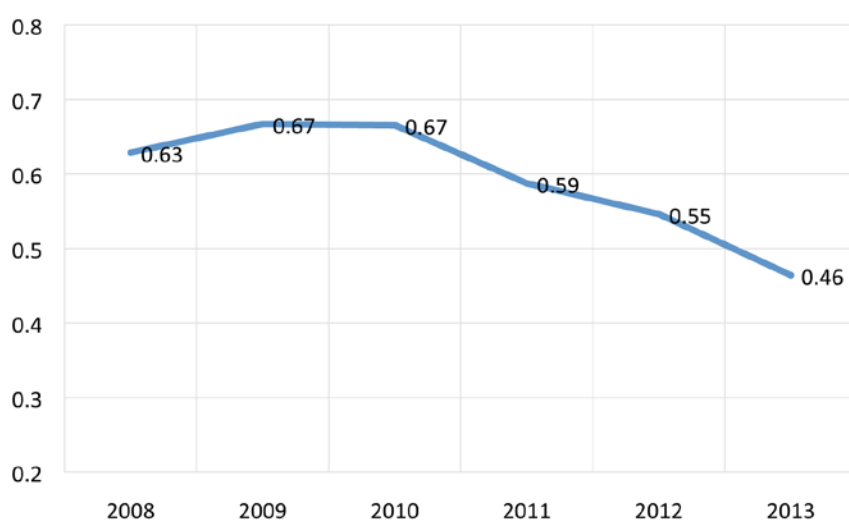
Source: Calculated by the authors based on NBS data

Software and databases is the largest copyright industry in Moldova in terms of GVA and the second largest in terms of employment. During the review period (2008-2013), both indicators followed clear upward trends, revealing the strength of this sector and its dynamic development. This was mainly due to increasing investments in the sector, including foreign direct investment owing to the availability of relatively cheap labor. An additional boost to the competitiveness of the software and databases industry was given by the Government in the form of a series of fiscal incentives, offered in particular during 2005-2011 (the incentives started to be gradually wound down from 2012). Although labor productivity in this industry is much higher than the national average, its trend during the review period is worrisome: it suffered a severe blow during the economic crisis of 2009 and has continued to decline to date. This highlights the need to adjust fiscal mechanisms so as to strengthen the incentives to invest in and improve the efficiency of the industry.

3.2 Press and literature

3.2.1 Contribution to gross value added

Press and literature is the second largest copyright industry in terms of gross value added; in 2013, it accounting for about 388.62 million lei or 30.9 million US dollars and 0.46 per cent of total GVA. However, during recent years, its value has declined; in nominal terms it has shrunk from 401.80 million lei or 34.2 million US dollars in 2011, and as a contribution to total GVA it has shrunk from its high of 0.67 per cent in 2010 (Chart 74).

Chart 74: Contribution to GDP and GVA of the press and literature industry, per cent

Source: Calculated by the authors based on NBS data

Although press and literature is composed of a large number of activities, about two thirds of GVA is created by the two largest industries: (i) retail sale of books, newspapers and stationery, which gradually expanded from 81.98 million lei or 7.9 million US dollars in 2008 to 131.88 million lei or 10.5 million US dollars in 2013; and (ii) printing n.e.c., which expanded from 49.01 million lei or 4.7 million US dollars in 2008 to 121.29 million lei or 9.6 million US dollars in 2013. At the same time, the declining contribution to economic growth of press and literature was due to the performance of a number of smaller industries: publishing of newspapers, publishing of books, printing of newspapers, and publishing of journals and periodicals (Table 24).

Table 24: GVA in press and literature, thousand lei

Code	Description	2008	2009	2010	2011	2012	2013
22.11	Publishing of books	37,651	17,509	24,554	23,530	20,861	13,693
22.12	Publishing of newspapers	60,028	81,432	60,438	47,460	43,521	39,821
22.13	Publishing of journals and periodicals	25,139	11,537	18,809	12,821	11,079	10,361
22.15	Other publishing	11,540	10,108	29,957	20,477	11,718	13,018
22.21	Printing of newspapers	27,819	47,354	50,859	14,994	33,705	21,394
22.22	Printing n.e.c.	49,091	49,647	61,997	139,208	123,248	121,290
22.23	Bookbinding	761	1,181	946	774	501	300
22.24	Pre-press activities	1,400	2,363	1,762	2,959	4,317	4,399
22.25	Ancillary activities related to printing	14,511	12,843	14,252	11,010	6,895	8,867
52.47	Retail sale of books, newspapers and stationery	81,976	82,077	117,353	112,973	119,228	131,883
52.50	Retail sale of second-hand goods in stores	9	37	56	120	114	275
74.87	Other business activities n.e.c.	6,789	5,559	8,241	8,042	7,707	6,931
92.31	Artistic and literary creation and interpretation	8,387	14,057	6,157	5,014	14,342	13,370
92.40	News agency activities	407	2,801	3,249	3,190	5,300	2,783
92.51	Library and archives activities	42	532	211	156	187	235
Press and literature		325,550	339,037	398,841	401,799	402,537	388,619

Source: Calculated by the authors based on NBS data

The retail sale of books, newspapers and stationery and printing n.e.c., which are the most important activities in the press and literature sector, accounted for 0.16 per cent and 0.14 per cent respectively of the total GVA in 2013. The share of the retail sale of books, newspapers and stationery was volatile during 2008-2013, with a decline from 2010 when it accounted for 0.2 per cent of GVA. The share of printing not elsewhere classified declined from 0.2 per cent in 2011, but it remained higher than in 2008 (0.09 per cent).

Table 25: GVA, % of total GVA

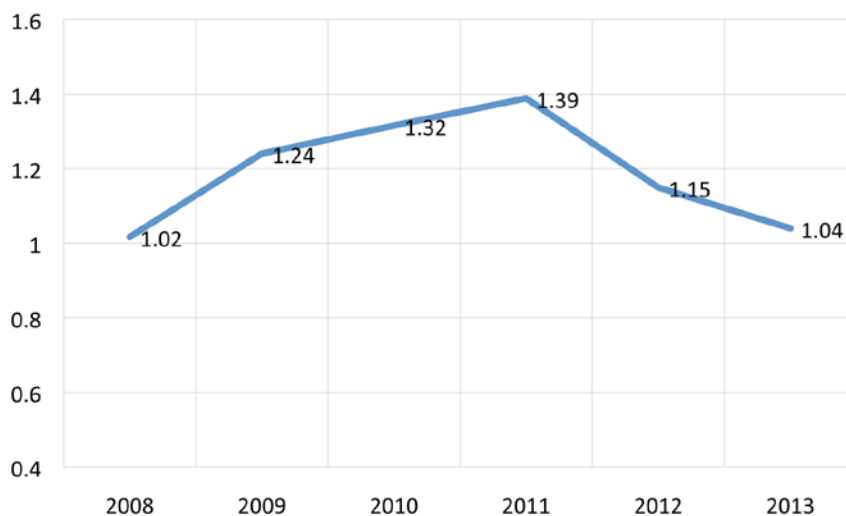
Code	Description	2008	2009	2010	2011	2012	2013
22.11	Publishing of books	0.073	0.034	0.041	0.034	0.028	0.016
22.12	Publishing of newspapers	0.116	0.160	0.101	0.069	0.059	0.048
22.13	Publishing of journals and periodicals	0.049	0.023	0.031	0.019	0.015	0.012
22.15	Other publishing	0.022	0.020	0.050	0.030	0.016	0.016
22.21	Printing of newspapers	0.054	0.093	0.085	0.022	0.046	0.026
22.22	Printing n.e.c.	0.095	0.098	0.103	0.204	0.167	0.145
22.23	Bookbinding	0.0015	0.0023	0.0016	0.0011	0.0007	0.0004
22.24	Pre-press activities	0.003	0.005	0.003	0.004	0.006	0.005
22.25	Ancillary activities related to printing	0.028	0.025	0.024	0.016	0.009	0.011
52.47	Retail sale of books, newspapers and stationery	0.158	0.162	0.196	0.165	0.162	0.158
52.50	Retail sale of second-hand goods in stores	0.00002	0.00007	0.00009	0.00018	0.00015	0.00033
74.87	Other business activities n.e.c.	0.013	0.011	0.014	0.012	0.010	0.008
92.31	Artistic and literary creation and interpretation	0.016	0.028	0.010	0.007	0.019	0.016
92.40	News agency activities	0.001	0.006	0.005	0.005	0.007	0.003
92.51	Library and archives activities	0.00008	0.00105	0.00035	0.00049	0.00063	0.00028
Press and literature		0.629	0.667	0.666	0.588	0.546	0.464

Source: Calculated by the authors based on NBS data

3.2.2 Contribution to employment

The press and literature industry is the largest employer out of all of the copyright activities. In 2013, it employed about 11,400 people (FTE), which is lower than in 2008 when it employed 12,000 people, and especially compared to 2011 when it employed 15,100 people. In 2013, it represented about 1.04 per cent of total employment, with a gradual decline since 2011 (Chart 75).

Chart 75: Employment in press and literature, % of total employment



Source: Calculated by the authors based on NBS data

Comparing the types of activity that make up GVA and employment in press and literature reveals certain structural issues. From Table 26, it is evident that the main employer in the press and literature sector is libraries and archives: in 2013, it employed 5,600 people, representing about 49 per cent of employment in press and literature. At the same time, this is one of the smallest industries in terms of contribution to GVA, accounting for only 0.06 per cent of GVA created by press and literature. Libraries and archives are mostly state-owned, making this sector very rigid and a major source of inefficiency. Moreover, during 2008-2013, this sector expanded in terms of the number of people employed (from 5,410 to 5,600 people), and in terms of its share in total press and literature employment (from 44.9 per cent to 49.0 per cent).

As shown in Table 26, another important activity in the press and literature industry is retail sale of books, newspapers and stationery (1,800 people in 2013), which also leads in terms of GVA created. This activity is followed by artistic and literary creation and interpretation (1,560 people in 2013), but the latter's contribution to GVA is more modest.

Table 26: Employment in press and literature, thousand people

Code	Description	2008	2009	2010	2011	2012	2013
22.11	Publishing of books	0.39	0.56	1.09	0.90	0.19	0.35
22.12	Publishing of newspapers	2.28	1.68	1.12	0.74	0.72	0.63
22.13	Publishing of journals and periodicals	0.12	0.12	0.15	0.16	0.14	0.17
22.15	Other publishing	0.05	0.12	0.30	0.03	0.02	0.15
22.21	Printing of newspapers	0.07	0.22	0.47	0.64	0.46	0.07
22.22	Printing n.e.c.	0.59	0.90	0.98	1.60	1.85	0.93
22.23	Bookbinding	0.02	1.18	0.08	0.00	0.02	0.01
22.25	Ancillary activities related to printing	0.10	0.15	0.18	0.20	0.10	0.02
52.47	Retail sale of books, newspapers and stationery	1.51	1.82	3.17	3.66	2.60	1.80
52.50	Retail sale of second-hand goods in stores	0.05	0.03	0.01	0.04	0.02	0.00
74.87	Other business activities n.e.c.	0.03	0.05	0.03	0.09	0.13	0.09
92.31	Artistic and literary creation and interpretation	1.31	1.36	1.56	1.62	1.21	1.56
92.40	News agency activities	0.13	0.05	0.04	0.07	0.03	0.03
92.51	Library and archives activities	5.41	5.55	4.91	5.98	4.95	5.60
Press and literature		12.03	13.78	14.10	15.71	12.45	11.43

Source: Calculated by the authors based on NBS data

The main employer in the press and literature industry – library and archives activities – contributed 0.51 per cent to total employment in 2013, and was very volatile during 2008-2013. The shrinking contribution to total employment of press and literature registered in 2012-2013 was largely due to the decline in the shares of retail sale of books, newspapers and stationery, and of printing n.e.c. (Table 22).

Table 27: Employment in press and literature, % of total employment

Code	Description	2008	2009	2010	2011	2012	2013
22.11	Publishing of books	0.03	0.05	0.10	0.08	0.02	0.03
22.12	Publishing of newspapers	0.19	0.15	0.11	0.07	0.07	0.06
22.13	Publishing of journals and periodicals	0.01	0.01	0.01	0.01	0.01	0.02
22.15	Other publishing	0.00	0.01	0.03	0.00	0.00	0.01
22.21	Printing of newspapers	0.01	0.02	0.04	0.06	0.04	0.01
22.22	Printing n.e.c.	0.05	0.08	0.09	0.14	0.17	0.09
22.23	Bookbinding	0.00	0.11	0.01	0.00	0.00	0.00
22.25	Ancillary activities related to printing	0.01	0.01	0.02	0.02	0.01	0.00
52.47	Retail sale of books, newspapers and stationery	0.13	0.16	0.30	0.32	0.24	0.16
52.50	Retail sale of second-hand goods in stores	0.00	0.00	0.00	0.00	0.00	0.00
74.87	Other business activities n.e.c.	0.00	0.01	0.00	0.01	0.01	0.01
92.31	Artistic and literary creation and interpretation	0.11	0.12	0.15	0.14	0.11	0.14
92.40	News agency activities	0.01	0.01	0.00	0.01	0.00	0.00
92.51	Library and archives activities	0.46	0.50	0.46	0.53	0.46	0.51
Press and literature		1.02	1.24	1.32	1.39	1.15	1.04

Source: Calculated by the authors based on NBS data

The efficiency issues related to library and archives activities are confirmed by the productivity indicator (GVA per employee), which was the lowest of all press and literature activities during the review period (2008-2013). Other sectors with very low productivity are artistic and literary creation and interpretation and bookbinding. At the same time, the highest productivity gains were registered by ancillary activities related to printing and printing of newspapers (Table 28).

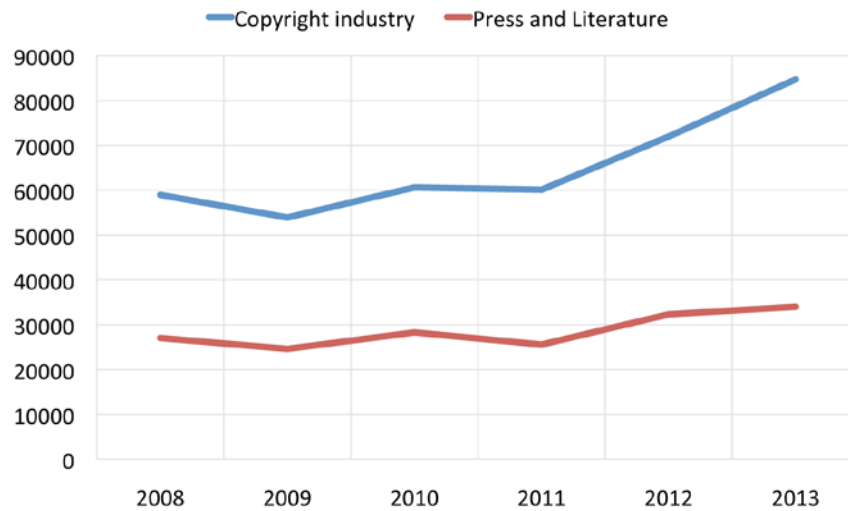
Table 28: Labor productivity of press and literature, lei

Code	Description	2008	2009	2010	2011	2012	2013
22.11	Publishing of books	95,989.53	31,392.69	22,483.05	26,230.55	108,357.92	38,587.85
22.12	Publishing of newspapers	26,278.79	48,502.32	53,731.33	63,983.67	60,118.90	63,342.93
22.13	Publishing of journals and periodicals	208,096.80	99,887.91	124,910.64	79,587.89	76,943.72	60,964.67
22.15	Other publishing	251,346.84	84,656.10	101,549.21	777,366.63	520,104.29	84,529.55
22.21	Printing of newspapers	421,084.77	215,864.24	107,981.91	23,542.78	73,108.15	316,152.73
22.22	Printing n.e.c.	83,276.31	55,009.33	63,553.51	87,144.41	66,560.54	129,927.34
22.23	Bookbinding	44,777.29	1,005.10	11,510.92	16,506.62	22,794.19	24,976.30
22.25	Ancillary activities related to printing	146,574.65	87,969.01	78,307.86	55,326.34	69,048.87	377,373.50
52.47	Retail sale of books, newspapers and stationery	54,309.24	45,006.49	37,042.63	30,873.24	45,876.29	73,068.99
52.50	Retail sale of second-hand goods in stores	182.75	1,154.90	4,469.06	3,141.64	4,941.90	62,663.54
74.87	Other business activities n.e.c.	267,162.67	109,021.90	268,157.28	84,812.50	61,309.29	77,455.09
92.31	Artistic and literary creation and interpretation	6,422.48	10,355.35	3,935.20	3,102.56	11,841.25	8,581.07
92.40	News agency activities	3,180.12	54,917.09	89,568.86	47,825.58	170,974.36	111,327.60
92.51	Library and archives activities	7.69	95.91	42.91	50.23	66.13	41.93
Press and literature		27,044.60	24,607.18	28,291.25	25,574.22	32,323.95	34,011.89

Source: Calculated by the authors based on NBS data

Despite the positive performance of the most productive press and literature activities over the last few years, the industry's total productivity during the review period (2008-2013) was consistently lower than productivity for the entire copyright sector. Moreover, starting from 2011, the gap has expanded, suggesting that productivity declines in the most important press and literature activities have not been counterbalanced by productivity gains in other small activities (Chart 76).

Chart 76: Labor productivity in press and literature and in all CI, lei

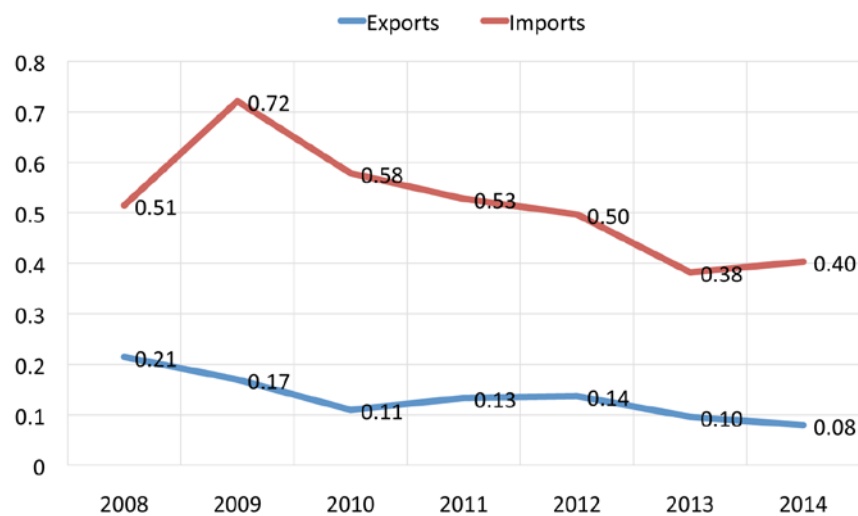


Source: Calculated by the authors based on NBS data

3.2.3 Contribution to foreign trade

In 2014, press and literature exports represented about 26.28 million lei or 1.9 million US dollars, which is significantly lower than in 2008 when they amounted to 36.52 million lei or 3.5 million US dollars. Imports of press and literature in 2014 totaled 297.76 million lei or 21.2 million US dollars, and were also lower than in 2008 (256.28 million lei or 25 million US dollars). Press and literature makes a modest and declining contribution to foreign trade, accounting for only 0.08 per cent of total exports and 0.4 per cent of total imports. As demonstrated by Chart 77, the gap between exports and imports shrank slightly during 2008-2013. Still, this was not so much due to competitiveness gains as to the fact that the contribution to imports decreased faster than the contribution to exports.

Chart 77: Contribution of press and literature to foreign trade in goods, %



Source: Calculated by the authors based on NBS data

The most important exported items are books (12.15 million lei or 0.87 million US dollars in 2014), journals and periodicals (8.53 million lei or 0.61 million US dollars in 2014) and other printed items (4.63 million lei or 0.33 million US dollars in 2014). All of these exports declined during the review period (2008-2014), influencing the overall decline in press and literature exports (Table 29).

Table 29: Exports of press and literature, million lei

Code	Description	2008	2009	2010	2011	2012	2013	2014
22.11	Publishing of books	20.19	7.92	4.93	11.98	26.23	13.08	12.15
22.12	Publishing of newspapers	0.04	0.04	0.02	0.00	0.00	0.00	0.00
22.13	Publishing of journals and periodicals	7.59	11.42	8.67	18.21	6.11	10.65	8.53
22.15	Other publishing	0.32	0.06	0.17	0.40	0.51	0.83	0.88
22.22	Printing n.e.c.	8.21	5.64	7.52	4.97	3.94	5.25	4.63
22.24	Pre-press activities	0.05	0.09	0.11	0.04	0.13	0.03	0.09
92.31	Artistic and literary creation and interpretation	0.13	0.02	0.04	0.01	0.06	0.01	0.00
Press and literature		36.52	25.19	21.46	35.61	36.98	29.85	26.28

Source: Calculated by the authors based on NBS data

The contribution to total exports of the most important press and literature items also declined during 2008-2014. Thus, the share of exports of books in total exports shrank from 0.12 per cent in 2008 to 0.04 per cent in 2014; the share of journals and periodicals shrank from 0.04 per cent in 2008 to 0.03 per cent in 2014; and the share of other printing items shrank from 0.05 per cent in 2008 to 0.01 per cent in 2014 (Table 30).

Table 30: Exports of press and literature, % of total exports

Code	Description	2008	2009	2010	2011	2012	2013	2014
22.11	Publishing of books	0.118	0.054	0.025	0.045	0.097	0.042	0.037
22.12	Publishing of newspapers	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22.13	Publishing of journals and periodicals	0.044	0.077	0.044	0.068	0.023	0.034	0.026
22.15	Other publishing	0.002	0.000	0.001	0.001	0.002	0.003	0.003
22.22	Printing n.e.c.	0.048	0.038	0.038	0.019	0.015	0.017	0.014
22.24	Pre-press activities	0.000	0.001	0.001	0.000	0.000	0.000	0.000
92.31	Artistic and literary creation and interpretation	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Press and literature		0.214	0.171	0.109	0.133	0.137	0.096	0.080

Source: Calculated by the authors based on NBS data

The structure of imports is similar to that of exports. Thus, the most important imported press and literature items are books (65.31 million lei or 4.65 million US dollars in 2014), journals and periodicals (37.44 million lei or 2.67 million US dollars in 2014) and other types of printing items (175.50 million lei or 12.50 million US dollars in 2014). As with exports, all types of imports decreased during the review period (Table 31).

Table 31: Imports of press and literature, million lei

Code	Description	2008	2009	2010	2011	2012	2013	2014
22.11	Publishing of books	62.64	59.23	62.13	89.70	65.85	51.11	65.31
22.12	Publishing of newspapers	1.03	0.39	0.00	2.73	1.71	0.85	1.47
22.13	Publishing of journals and periodicals	62.14	62.52	51.47	60.65	51.64	49.08	37.44
22.15	Other publishing	6.33	7.54	9.50	7.22	9.32	11.35	12.79
22.22	Printing n.e.c.	125.58	130.89	145.60	154.98	178.73	146.29	175.50
22.24	Pre-press activities	1.48	2.15	2.79	2.96	2.96	3.05	5.17
92.31	Artistic and literary creation and interpretation	0.08	0.34	0.10	0.13	0.13	1.08	0.07
Press and literature		259.28	263.07	271.59	318.36	310.33	262.79	297.76

Source: Calculated by the authors based on NBS data

The contribution to total imports of the most important imported press and literature items also shrank during the review period. Thus, the share of imports of books in total imports decreased from 0.124 per cent in 2008 to 0.088 per cent in 2014; the share of imports of journals and periodicals decreased from 0.123 per cent in 2008 to 0.051 per cent in 2014; and the share of imports of other printed items shrank from 0.248 per cent in 2008 to 0.237 per cent in 2014. This to a large extent influenced the overall decline of the contribution of press and literature imports to total imports (Table 32).

Table 32: Imports of press and literature, % of total imports

Code	Description	2008	2009	2010	2011	2012	2013	2014
22.11	Publishing of books	0.124	0.163	0.132	0.148	0.106	0.074	0.088
22.12	Publishing of newspapers	0.002	0.001	0.000	0.005	0.003	0.001	0.002
22.13	Publishing of journals and periodicals	0.123	0.172	0.109	0.100	0.083	0.072	0.051
22.15	Other publishing	0.013	0.021	0.020	0.012	0.015	0.017	0.017
22.22	Printing n.e.c.	0.248	0.360	0.309	0.257	0.286	0.213	0.237
22.24	Pre-press activities	0.003	0.006	0.006	0.005	0.005	0.004	0.007
92.31	Artistic and literary creation and interpretation	0.000	0.001	0.000	0.000	0.000	0.002	0.000
Press and literature		0.512	0.723	0.576	0.527	0.497	0.383	0.403

Source: Calculated by the authors based on NBS data

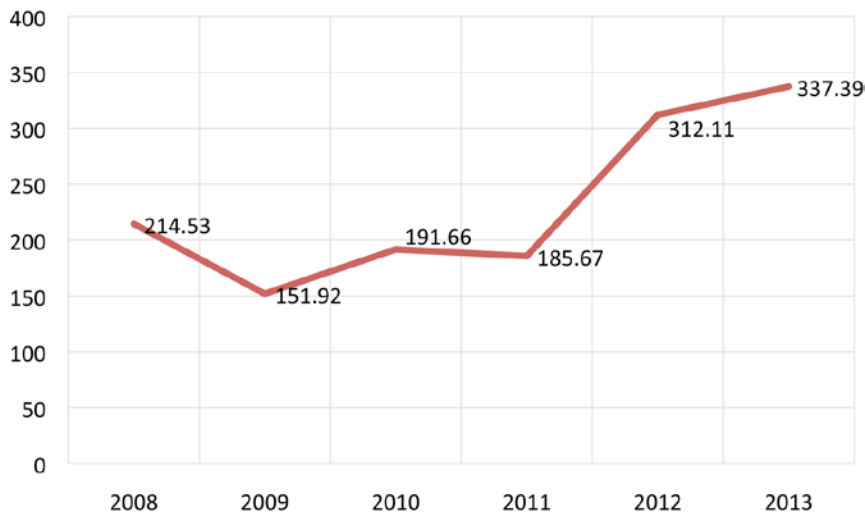
In conclusion, while being the largest employer and second largest copyright activity in terms of GVA, press and literature has evidenced some worrisome trends over the last few years, with a declining contribution to total GVA, GDP and employment. This is due in particular to the digitalization process, which led to declining demand for printed newspapers, journals and periodicals. A second issue is presented by the sector's low labor productivity, which is much worse than the copyright industry average; this gap has grown over recent years. Library and archives activities presents the main problem. This sector is mainly state-owned and accounts for about half of total employment in press and literature, with an insignificant contribution to value-added creation. This is one of the main reasons for the industry's poor labor productivity, which undermines its competitiveness. As a result, during the review period, it registered an increasingly negative balance of trade, while the contribution to total foreign trade shrank as well. These worrisome trends should be tackled through bold policy measures aimed at ensuring a structural reform of the industry, improving investment attractiveness and boosting productivity and competitiveness.

3.3 Advertising services

3.3.1 Contribution to gross value added

Advertising services is the third largest copyright industry in terms of gross value added created. In 2013, this sector generated GVA of about 337.39 million lei or 26.8 million US dollars. Over the review period, GVA increased in nominal terms, especially from 2009, when GVA was half that in 2013 (Chart 78).

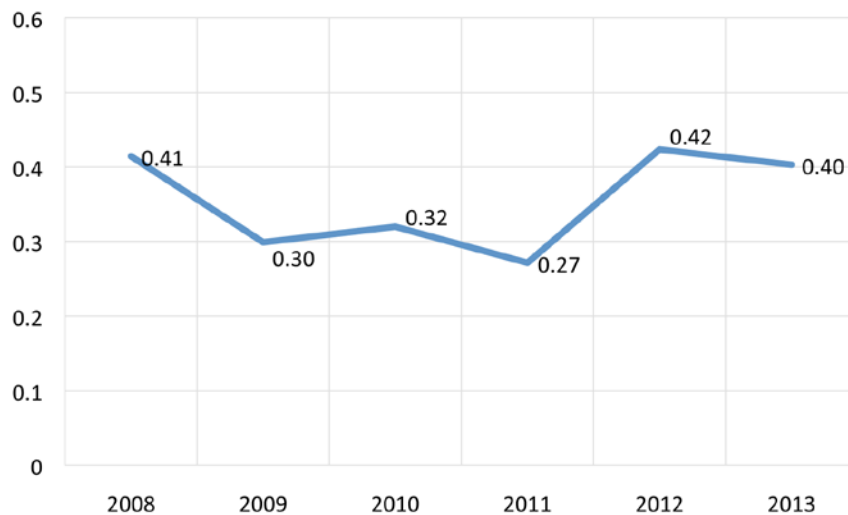
Chart 78: GVA created by advertising Services, million lei



Source: Calculated by the authors based on NBS data

In 2013, advertising services contributed 0.40 per cent of total GVA and 0.34 per cent of GDP. During the review period (2008-2013), its share of GVA and GDP was very volatile (Chart 79). The only episodes of growth were reported in 2010 (the share of GVA increased from 0.30 per cent in 2009 to 0.32 per cent in 2010, and the share of GDP increased from 0.25 per cent in 2009 to 0.27 per cent in 2010) and 2012 (the share of GVA jumped from 0.27 per cent in 2011 to 0.42 per cent in 2012, and the share of GDP jumped from 0.23 per cent in 2011 to 0.35 per cent in 2012).

Chart 79: Share of advertising services GVA in total GVA and GDP (%)



Source: Calculated by the authors based on NBS data

3.3.2 Contribution to employment

The growth in GVA fueled demand for labor by the advertising services industry. Thus, in 2013 it employed 3,130 people (in FTE), 1.6 times more than in 2008 (1,960 people). The industry also expanded its contribution to total employment: the share of people working in advertising services in total employment increased from 0.17 per cent in 2008 to 0.29 per cent in 2013 (Table 31).

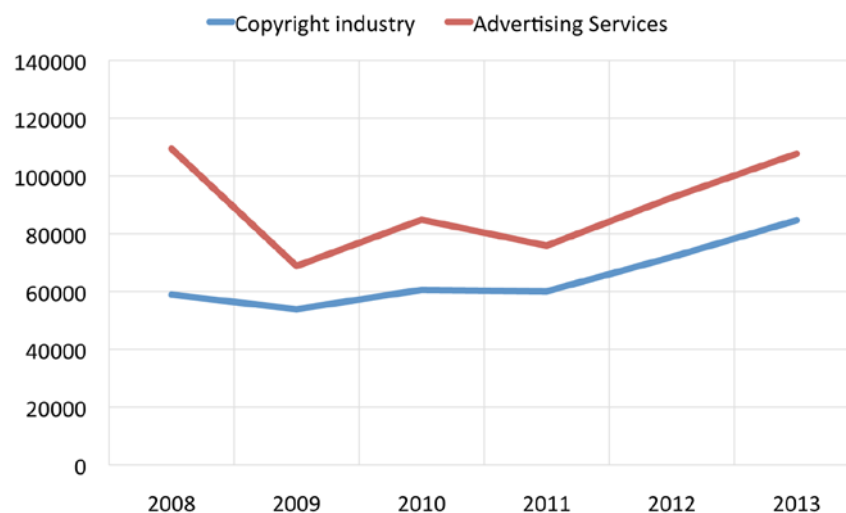
Table 33: Employment in advertising services (FTA)

	Employees, thousand	Share in total employment, per cent
2008	1.96	0.17
2009	2.21	0.20
2010	2.26	0.21
2011	2.45	0.22
2012	3.37	0.31
2013	3.13	0.29

Source: Calculated by the authors based on NBS data

Industry productivity increased during 2009-2013 but did not recover to the higher pre-crisis, 2008 level (Chart 80). Nevertheless, advertising services registered much higher productivity levels than the rest of the copyright sector.

Chart 80: Productivity of advertising services and of CI, lei



Source: Calculated by the authors based on NBS data

In conclusion, the advertising industry, as Moldova's third largest copyright industry in terms of GVA, registered prominent growth and an expanding contribution to GVA, GDP and employment. It also reported important efficiency gains, with labor productivity consistently outpacing average levels in the copyright industries. These prominent trends are the result of growing demand that boosted investment and bode well for the sustained development of the sector in the near future.

4. Conclusions and Recommendations

This section summarizes the key conclusions and recommendations for strengthening the copyright industries in Moldova. The calculations conducted in this report could serve as the basis for a comprehensive copyright development strategy and could enable policy makers to anchor their interventions in the real needs of the industries.

- Over recent years, the legal framework for intellectual property rights protection has undergone a qualitative restructuring, with a new Copyright Law adopted in 2010 in line with EU directives in this field. Moreover, the process of harmonization with EU standards has continued with the commitments under the Association Agreement recently signed by Moldova and the European Union. The key challenge in this regard is the legislation's effective enforcement, which will determine whether the sector develops sustainably from now on.
- The calculations reveal that the copyright industries make an important contribution to the Moldovan economy, accounting for 3.98 per cent of total GVA and 3.31 per cent of GDP. Still, this level is lower than in most countries in the region. Thus, in terms of share of GVA, Moldova has outpaced Ukraine (2.85 per cent) and Bulgaria (2.81 per cent) but lags behind Russia (6.06 per cent) and Romania (5.55 per cent). Furthermore, Moldova lags behind most countries in the region in terms of the copyright industries' contribution to total employment. Thus, with a share of 3.58 per cent of total employment, Moldova only outpaces Ukraine (1.9 per cent), and lags behind Russia (7.3 per cent), Bulgaria (4.92 per cent) and Romania (4.19 per cent).
- During 2008-2013, the copyright industries' share in the national economy declined, while efficiency improved. It registers higher labor productivity than the economy's average, and the gap has continuously expanded since 2011. Additionally, while lagging behind most countries in the region by size of its copyright industry, Moldova is positioned close to the regional average in terms of this industry's labor productivity. Hence, policy measures in this field should primarily focus on further enhancing the industry's efficiency indicators and boosting the value added of copyright goods and services.
- A smaller but more efficient copyright sector became increasingly apparent during the review period: its share of total exports increased from 4.59 per cent in 2008 to 8.63 per cent in 2014; its share of total imports increased from 6.61 per cent in 2008 to 9.54 per cent in 2014. This was mainly due to the rising competitiveness of copyright services, which reported a positive trade balance, whereas, owing to declines in competitiveness, copyright goods registered a highly negative trade balance.
- Of all four types of CI, the most important is core CI, with a share of 66.86 per cent in total GVA and 69.29 per cent of total employment. Additionally, this is the only type of CI to increase its contribution to the national economy during 2008-2013, whereas the contributions of interdependent, partial and non-dedicated support CI shrank, resulting in the declining contribution of the entire copyright sector. At the same time, although it is the largest group, core CI is not the most efficient and ranks third in terms of productivity levels. Hence, policy measures targeting core CI should aim to foster efficiency, either by increasing value added or by optimizing employment in some state-owned copyright activities (especially in press and literature and radio and television).
- In contrast, policy measures should focus on increasing the size of the other three types of CI (interdependent, partial and non-dedicated support copyright industries). Compared to other countries in the region, Moldova's entire copyright sector is relatively concentrated on core CI, which expanded during 2008-2013 whereas the other types of CI accounted for a relatively modest share of the industry which decreased over the same period of time.
- Software and databases is the largest copyright industry in Moldova in terms of GVA and the second largest in terms of employment, and has relatively high productivity levels compared to the economy's average. This performance was due to the mixture of competitive advantages conferred by the availability of cheap labor and strong fiscal incentives granted by the Government. However, during the review period, productivity levels decreased, pointing to the need to rethink policies in this sector. Hence, it is

necessary to adjust existing fiscal mechanisms by focusing more on investment incentives and improving efficiency.

- Press and literature is the second largest copyright activity in terms of GVA and the largest in terms of employment. However, it registers one of the lowest productivity levels, owing primarily to the library and archives activities sector, which represents about half of total employment in press and literature and is mainly state-owned. As a result, the labor productivity of the press and literature industry lagged behind the average in the copyright sector. It undermined the copyright sector's competitiveness, leading to the accumulation of a negative trade balance, with imports visibly outpacing exports. Another issue that hampered the development of press and literature was the decline in demand for printed newspapers, journals and periodicals due to digitalization. These worrisome trends should be tackled by bold policy measures to ensure the industry's structural reform, improve investment attractiveness and boost productivity and competitiveness, with a focus on increasing value added in library and archives activities.
- Advertising services is the third largest copyright industry in terms of gross value added and the fourth in terms of employment. During the review period, it posted prominent growth in terms of contribution to total GVA and employment, and maintained its relatively high productivity levels. Like other copyright activities, the development of advertising services could be boosted by horizontal policy measures to improve the enforcement of copyright regulations and more effective intellectual property rights protection.

Specific recommendations on measuring and monitoring the economic contribution of copyright industries:

- Conduct bi-annual assessments of the economic contribution of copyright industries using the methodology described in this report. These should be commissioned by the AGEPI, with the involvement of in-house and independent copyright and statistics experts. This would allow the identification of trends in the various types of copyright industry and activity, measure the impact of various policy interventions and serve as a basis for potential laws and regulations in this field.
- In order to facilitate the annual assessment of copyright industries' economic contribution, it is necessary to improve copyright statistics and ensure their publication on the NBS website. In particular, a national statistics compendium for Moldovan copyright industries needs to be issued every five years. This would ease access for policy makers, experts and the general public to a rich and important dataset for measuring and monitoring the trends in the copyright sector.
- It is necessary to establish closer collaboration between the NBS and the National Bank of Moldova to produce a single dataset on foreign trade involving copyright services.
- It is necessary to intensify research into copyright factors. In this regard, AGEPI, together with the NBS, could conduct periodic (e.g. once every two years) nationally representative surveys among enterprises with a view to depicting and regularly updating the copyright factors for every economic activity at the level of four-digit NACE codes.
- AGEPI should maintain close communication with the WIPO on methodological developments related to measuring the economic contribution of copyright industries.

Specific recommendations on policy interventions in the copyright industries:

- Strengthen the institutional setting for copyright protection:
 - Set up a department in the Ministry of Economy that would be in charge of drafting and promoting strategies and policies for the development of creative industries.
 - Assign to the copyright working group within the National Intellectual Property Commission the task of studying, analyzing and recommending the best solutions for the development of creative industries.
 - Organize sector associations and promote the association of all creative industries, in line with the European model.

- Develop effective policies on creative industries:
 - Develop a National Strategy on Creative Industries Development.
 - Identify, together with the NBS, statistical indicators for creative industries and set up a system for monitoring and collecting the data concerned.
 - Conduct a comprehensive analysis of statistical and real market data to identify quick and efficient interventions to develop creative industries.
- Provide support to small and medium enterprises:
 - Promote support initiatives for small and medium enterprises.
 - Launch national projects on creative industries development.
 - Identify advantageous financing options.
 - Mediate cooperation between creative industries and financial institutions.
 - Develop a database for accessing international financing projects, business angel platforms, venture capital and modern payment systems.
 - Identify and implement fiscal support mechanisms, including the simplification of the tax system.
 - Provide support in building creative business skills.
- Provide support for enterprises that have market experience:
 - Provide support to diversify the market.
 - Develop a practical guide for exporting creative products and services.
- Develop relationships between creative and other similar industries:
 - Set up creative clusters in order to identify the best practices and encourage exchanges of experience.
 - Expand the use of informational technologies in order to benefit from the best business models.
 - Establish relationships with other national industries.
- Promote national creative industries:
 - Identify the specific characteristics of creative industries in order to promote their image.
 - Organize festivals or other events promoting national creative goods and services.
 - Organize an annual forum involving representatives from all creative fields.
 - Encourage collaboration between the relevant public authorities and the private sector.
 - Support the participation of creative industries at international exhibitions.
- Strengthen the tax law and the Law on Copyright and Related Rights:
 - Review the copyright law to remove any impediments hindering the development of creative industries.
 - Develop proposals for tax law amendment in order to support creative industries.
 - Identify other support mechanisms for authors and artists.

- Develop the collective management of copyright:
 - Institutionalize a mediation system for disputes between collective management societies and the users of objects subject to copyright and related rights.
 - Provide support to collective management societies in order to develop their ability to collect and distribute royalties in a transparent fashion.
- Promote creativity among young people:
 - Promote cultural diversity and social inclusion policies, especially for the younger generation.
 - Develop specialized creative management courses in universities and introduce this specialty into some departments of the Technical University of Moldova and the Academy of Music, Theatre and Fine Arts.
 - Set up creativity and innovation clubs in Moldovan high schools.
- Develop regional projects: create and develop the concept of creative and innovative cities/towns/villages.

Annex A Notes on Methodology

This Annex outlines the key methodological concepts and procedures which were used for the purposes of the report. It provides the definition of copyright industries, the data sources used, the relevant characteristics of the available datasets and the methodology for deriving copyright industries' GVA, employment and foreign trade estimates. The methodology is based on the one used in the similar report commissioned by WIPO in 2012 for Lithuania²⁶ given its high quality, detailed methodological notes and the fact that the Lithuanian economy is not very different from the Moldovan. The methodology was adjusted to the national context after a series of consultations with specialists from the Moldovan National Bureau of Statistics.²⁷

Defining the copyright industries

The copyright industries are defined on the basis of four-digit NACE codes (rev. 1.1). The list draws on the industry classification set out in Annex 2 of the WIPO Guide, which was extended in the Lithuanian study, with adjustments to the Moldovan economy. Thus, we distinguish four types of copyright industry (CI):

- I. Core;
- II. Interdependent;
- III. Partial; and
- IV. Non-dedicated support.

Each type of copyright industry is divided into more detailed activities, which are listed in Tables 32, 33, 34 and 35. Following the methodology from the Lithuanian study, we attributed a four-digit NACE (rev. 1.1) code to each activity. In addition, the economic contribution of selected copyright activities is attributed to several copyright industries. These copyright activities are identified by the word 'shared' in the 'attribution' column, whereas the remaining ones are marked by the word 'single'.

Table 34: Core CI

Corresponding NACE codes and activity names		Attribution
1. Press and literature		
22.11	Publishing of books	Single
22.12	Publishing of newspapers	Single
22.13	Publishing of journals and periodicals	Single
22.15	Other publishing	Single
22.21	Printing of newspapers	Single
22.22	Printing n.e.c.	Single
22.23	Bookbinding	Single
22.24	Pre-press activities	Single
22.25	Ancillary activities related to printing	Single
52.47	Retail sale of books, newspapers and stationery	Single
52.50	Retail sale of second-hand goods in stores	Shared
74.87	Other business activities n.e.c.	Shared
92.31	Artistic and literary creation and interpretation	Shared
92.40	News agency activities	Single
92.51	Library and archives activities	Single

²⁶ Developed by Rimantas Juozas Vaicenavicius, who advised the authors of this report throughout the research and report preparation stages, including giving methodological advice on data and method selection.

²⁷ Iurie Mocanu, Head of the Enterprises Structural Statistics Department; Valentina Ghidilica, Head of the National Accounts Department; and Elena Vatcarau, Head of the Labor Force Statistics Department.

Table 34: Core CI (continued)

2. Music, theatrical productions, operas		
22.14	Publishing of sound recordings	Single
51.43	Wholesale of electrical household appliances and radio and television goods	Shared
52.45	Retail sale of electrical household appliances and radio and television goods	Shared
74.87	Other business activities n.e.c.	Shared
92.31	Artistic and literary creation and interpretation	Shared
92.32	Operation of arts facilities	Single
92.34	Other entertainment activities n.e.c.	Single
3. Motion picture and video		
22.32	Reproduction of video recording	Single
51.43	Wholesale of electrical household appliances and radio and television goods	Shared
74.87	Other business activities n.e.c.	Shared
92.11	Motion picture and video production	Single
92.12	Motion picture and video distribution	Single
92.13	Motion picture projection	Single
92.31	Artistic and literary creation and interpretation	Shared
4. Radio and television		
92.20	Radio and television activities	Single
5. Photography		
74.81	Photographic activities	Single
6. Software and databases		
22.33	Reproduction of computer media	Single
72.21	Software publishing	Single
72.22	Other software consultancy and supply	Single
72.30	Data processing	Single
72.40	Database activities	Single
72.60	Other computer-related activities	Single
7. Visual and graphic arts		
74.87	Other business activities n.e.c.	Shared
92.31	Artistic and literary creation and interpretation	Shared
92.52	Museums activities and preservation of historical sites and buildings	Shared
8. Advertising services		
74.40	Advertising	Single
9. Copyright collecting societies		
74.87	Other business activities n.e.c.	Shared

Table 35: Interdependent CI

Corresponding NACE codes and activity names		Attribution
1. TV sets, radios, VCRs, CD players, DVD players, cassette players, electronic gaming equipment and other similar equipment		
32.30	Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	Single
51.43	Wholesale of electrical household appliances and radio and television goods	Shared
52.45	Retail sale of electrical household appliances and radio and television goods	Shared
2. Computers and equipment		
30.02	Manufacture of computers and other information processing equipment	Single
51.84	Wholesale of computers, computer peripheral equipment and software	Single
51.85	Wholesale of other office machinery and equipment	Shared
71.33	Renting of office machinery and equipment, including computers	Single
3. Musical instruments		
52.45	Retail sale of electrical household appliances and radio and television goods	Shared
4. Photocopiers		
30.01	Manufacture of office machinery	Shared
51.85	Wholesale of other office machinery and equipment	Shared
5. Photographic and cinematographic instruments		
33.40	Manufacture of optical instruments and photographic equipment	Single
6. Blank recording material		
24.64	Manufacture of photographic chemical material	Single
24.65	Manufacture of prepared unrecorded media	Single
7. Paper		
21.12	Manufacture of paper and paperboard	Single
24.30	Manufacture of paints, varnishes and similar coatings, printing ink and mastics	Single
29.55	Manufacture of machinery for paper and paperboard production	Single
51.56	Wholesale of other intermediate products	Single

Table 36: Partial CI

Corresponding NACE codes and activity names		Attribution
1. Apparel, textiles and footwear		
17.60	Manufacture of knitted and crocheted fabrics	Single
17.71	Manufacture of knitted and crocheted hosiery	Single
17.72	Manufacture of knitted and crocheted pullovers, cardigans and similar articles	Single
18.10	Manufacture of leather clothes	Single
18.21	Manufacture of workwear	Single
18.22	Manufacture of other outerwear	Single
18.23	Manufacture of underwear	Single
18.24	Manufacture of other wearing apparel and accessories n.e.c.	Single
19.30	Manufacture of footwear	Single
29.54	Manufacture of machinery for textile, apparel and leather production	Single
51.42	Wholesale of clothing and footwear	Single
52.41	Retail sale of textiles	Single

Table 36: Partial CI (continued)

52.42	Retail sale of clothing	Single
52.43	Retail sale of footwear and leather goods	Single
2. Jewelry and coins		
36.22	Manufacture of jewelry and related articles n.e.c.	Single
36.61	Manufacture of imitation jewelry	Single
3. Other crafts		
36.63	Other manufacturing n.e.c.	Single
4. Furniture		
36.11	Manufacture of chairs and seats	Single
36.12	Manufacture of other office and shop furniture	Single
36.13	Manufacture of other kitchen furniture	Single
36.14	Manufacture of other furniture	Single
36.15	Manufacture of mattresses	Single
51.85	Wholesale of other office machinery and equipment	Shared
52.44	Retail sale of furniture, lighting equipment and household articles n.e.c.	Shared
5. Household goods, china and glass		
20.51	Manufacture of other products of wood	Single
20.52	Manufacture of articles of cork, straw and plaiting materials	Single
26.12	Shaping and processing of flat glass	Single
26.13	Manufacture of hollow glass	Single
26.14	Manufacture of glass fibers	Single
26.15	Manufacture and processing of other glass, including technical glassware	Single
26.21	Manufacture of ceramic household and ornamental articles	Single
26.24	Manufacture of other technical ceramic products	Single
26.25	Manufacture of other ceramic products	Single
28.75	Manufacture of other fabricated metal products n.e.c.	Single
31.50	Manufacture of lighting equipment and electric lamps	Single
52.44	Retail sale of furniture, lighting equipment and household articles n.e.c.	Shared
6. Wall coverings and carpets		
17.51	Manufacture of carpets and rugs	Single
21.25	Manufacture of other articles of paper and paperboard n.e.c.	Single
7. Toys and games		
36.50	Manufacture of games and toys	Single
8. Architecture, engineering, surveying		
74.20	Architectural and engineering activities and related technical consultancy	Single
9. Interior design		
74.87	Other business activities n.e.c.	Shared
10. Museums		
52.50	Retail sale of second-hand goods in stores	Shared
92.52	Museums activities and preservation of historical sites and buildings	Shared

Table 37: Non-dedicated support CI

Corresponding NACE codes and activity names		Attribution
1. General wholesale and retailing		
51.11	Agents involved in the sale of agricultural raw materials, live animals, textile raw materials and semi-finished goods	Single
51.12	Agents involved in the sale of fuels, ores, metals and industrial chemicals	Single
51.13	Agents involved in the sale of timber and building materials	Single
51.14	Agents involved in the sale of machinery, industrial equipment, ships and aircraft	Single
51.15	Agents involved in the sale of furniture, household goods, hardware and ironmongery	Single
51.16	Agents involved in the sale of textiles, clothing, footwear and leather goods	Single
51.17	Agents involved in the sale of food, beverages and tobacco	Single
51.18	Agents specializing in the sale of particular products or ranges of products n.e.c.	Single
51.19	Agents involved in the sale of a variety of goods	Single
51.41	Wholesale of textiles	Single
51.43	Wholesale of electrical household appliances and radio and television goods	Shared
51.44	Wholesale of china and glassware, wallpaper and cleaning materials	Single
51.45	Wholesale of perfume and cosmetics	Single
51.46	Wholesale of pharmaceutical goods	Single
51.47	Wholesale of other household goods	Single
51.82	Wholesale of mining, construction and civil engineering machinery	Single
51.83	Wholesale of machinery for the textile industry and of sewing and knitting machines	Single
51.85	Wholesale of other office machinery and equipment	Shared
51.86	Wholesale of other electronic parts and equipment	Single
51.87	Wholesale of other machinery for use in industry, trade and navigation	Single
51.88	Wholesale of agricultural machinery and accessories and implements, including tract	Single
51.90	Other wholesale	Single
52.11	Retail sale in non-specialized stores with food, beverages or tobacco predominating	Single
52.12	Other retail sale in non-specialized stores	Single
52.45	Retail sale of electrical household appliances and radio and television goods Share	Shared
52.48	Other retail sale in specialized stores	Single
52.50	Retail sale of second-hand goods in stores	Shared
52.61	Retail sale via mail order houses	Single
52.62	Retail sale via stalls and markets	Single
52.63	Other non-store retail sale	Single
71.40	Renting of personal and household goods n.e.c.	Single
2. General transportation		
60.10	Transport via railways	Single
60.21	Other scheduled passenger land transport	Single
60.22	Taxi operation	Single
60.23	Other land passenger transport	Single
60.24	Freight transport by road	Single
61.10	Sea and coastal water transport	Single
61.20	Inland water transport	Single
62.10	Scheduled air transport	Single

Table 37: Non-dedicated support CI (continued)

62.20	Non-scheduled air transport	Single
63.11	Cargo handling	Single
63.12	Storage and warehousing	Single
63.21	Other supporting land transport activities	Single
63.22	Other supporting water transport activities	Single
63.23	Other supporting air transport activities	Single
63.30	Activities of travel agencies and tour operators; tourist assistance activities n.e.c.	Single
63.40	Activities of other transport agencies	Single
64.11	National post activities	Single
64.12	Courier activities other than national post activities	Single
3. Telephony and internet		
64.20	Telecommunications	Single

Shared copyright activities

Sharing factors are assigned to a number of copyright activities which are relevant to more than one copyright industry. The attribution factors used for this study are based on the ones estimated in the similar study conducted for Lithuania, which has a comparable economic structure to Moldova (Table 38).

Table 38: Distribution of shared copyright economic activities

Industries and economic activities (explained in Tables 32, 33, 34 and 35).	Distribution	
	Value added, per cent	Employment, per cent
I.2	0.6	0.6
I.3	0.6	0.6
II.1	33.8	33.8
IV.1	65.0	65.0
51.43	100.0	100.0
II.2	35.1	15.2
II.4	5.0	5.0
III.4	59.9	79.8
51.85	100.0	100.0
III.4	42.6	57.2
III.5	57.4	42.8
52.44	100.0	100.0
I.2	2.4	2.4
II.1	30.9	30.9
II.3	1.7	1.7
IV.1	65.0	65.0
52.45	100.0	100.0
I.1	3.0	3.0
III.9	5.0	5.0
IV.1	92.0	92.0
52.50	100.0	100.0

Table 38: Distribution of shared copyright economic activities (continued)

I.1	5.1	12.8
I.2	5.6	3.5
I.3	13.5	5.9
I.7	10.8	12.8
I.9	4.5	4.5
III.10	7.0	7.0
74.87	46.5	46.5
I.1	20.5	51.2
I.2	22.4	14.0
I.3	54.0	23.7
I.7	3.1	11.0
92.31	100.0	100.0
I.7	80.0	80.0
III.9	20.0	20.0

Copyright factors

Some economic activities specified in Tables 32, 33, 34 and 35 are not fully related to the copyright industries. This is quantified by means of copyright factors. While the first two types of copyright (core and interdependent copyright industries) have a copyright factor of one (their value is attributed entirely to copyright activities), the third and fourth types have copyright factors of less than one (their value is not entirely attributed to copyright activities).

The approach to estimating copyright factors for the partial CI consisted of two main steps.

In the first, main step, we took stock of the available disaggregated data on the products sold by the top 10 companies according to the sales turnover for each of the main partial copyright activities: (i) apparel, textiles and footwear, and (ii) furniture. The list of products is provided in Annex C and Annex D. In 2013, both copyright activities accounted for about two thirds of partial CI GVA. In this way, we obtained a comprehensive picture of the specific products produced by the most important partial copyright activities. This allowed for a more efficient estimation of the copyright components of the products identified. Thus, for each product identified, the AGEPI expert²⁸ provided his estimates of the appropriate copyright factors. As a result, for both partial copyright industries the copyright factor has been computed as the weighted average of copyright factors assigned to each product, based on the weights of each product in the total value of production.

While in the first step we obtained relatively accurate estimates of copyright factors for the two main partial copyright activities that account for two thirds of the partial CI GVA, in the second step we used a simpler approach to estimate the copyright factor for the remaining one third of partial CI GVA. In this case, the AGEPI expert assigned copyright factors which were approximated to each partial copyright activity at the level of four-digit NACE codes. Thus, the copyright factors for each copyright activity have been estimated as the weighted average of all of the copyright factors assigned to each economic activity at the level of four-digit NACE codes, using the weights of their value of production in total production. The copyright factors assigned are presented in Annex E.

In the end, we obtained a set of copyright factors that are relevant to Moldova (Table 39).

²⁸ Ion Tiganas, Deputy Director of the AGEPI.

Table 39: Copyright factors for partial CI

Copyright industry	Copyright factors
Apparel, textiles and footwear	0.008
Jewelry and coins	0.25
Other crafts	0.4
Furniture	0.05
Household goods, china and glass	0.21
Wall coverings and carpets	0.05
Toys and games	0.45
Architecture, engineering, surveying	0.15
Interior design	0.05
Museums	0.05

The estimated copyright factors do not differ much from those selected by other countries (Table 38).

Table 40: Copyright factors used by selected countries

Industry	Singapore	Latvia	Hungary	Jamaica	Bulgaria	Malaysia	China	Lithuania
Apparel, textiles & footwear	0.4%	0.4%	0.5%	0.5%	0.6%	15.0%	0.4%	0.6%
Jewelry & coins	25.2%	8.69%	25.0%	25.0%	20.0%		8.0%	20.0%
Other crafts	42.0%		40.0%		40.0%	26.7%	40.0%	40.0%
Furniture	5.0%	41.0%	5.0%	5.0%	5.0%	35.0%	5.0%	5.0%
Household goods, china & glass	0.6%		0.5%	0.5%	0.5%	0.4%	0.3%	0.5%
Wall coverings & carpets	1.7%	1.65%	2.0%	0.5%	0.4%	1.08%	2.0%	0.4%
Toys & games	42.0%	45.50%	50.0%	50.0%	40.0%	26.7%	40.0%	40.0%
Architecture	8.3%		10.0%	50.0%	10.0%	5.3%	6.0%	10.0%
Interior design	8.3%			2.0%		5.28%	5.0%	5.3%
Museums			50.0%	50.0%	50.0%		0.5%	50.0%
Miscellaneous manufacturing		45.5%						
Wholesale & retail of partial copyright industries			5.0%	5.0%				

Source: Brunei Darussalam Copyright Study commissioned by WIPO, 2011; The Economic Contribution of Copyright-Based Industries in Lithuania Study commissioned by WIPO, 2012

The copyright factors for the fourth type of copyright industry (non-dedicated support) have been estimated separately for each year (Table 41) following the WIPO methodology: the value added of the first three types was divided by the gross value added, minus the value added of the non-dedicated support CI:

$$\text{Copyright factor}_{\text{non-dedicated support}} = \frac{GVA_{\text{core}} + GVA_{\text{interdependent}} + GVA_{\text{partial}}}{GVA_{\text{economy}} - GVA_{\text{non-dedicated support}}}$$

Table 41: Copyright factors for non-dedicated support CI

Year	Copyright factor
2008	0.0339
2009	0.0337
2010	0.0331
2011	0.0312
2012	0.0340
2013	0.0340

Data sources

All available data sources were used to gather data for the period 2008-2013, providing annual data for each year. The data were collected and computed by NBS experts for the purpose of this study.

In the case of GVA, the NBS publishes data at the level of two-digit NACE codes, which does not allow the contribution of copyright industries to be estimated. Hence, for the purpose of this study, the NBS experts computed GVA values at the level of four-digit NACE codes for each of the copyright industries mentioned in Tables 32, 33, 34 and 35.

In the case of employment, the NBS publishes two types of data: (i) data from structural business statistics, which are reported by firms and are not very accurate as they do not include informal employment and do not take into account the fact that some employees can have part-time jobs at more than one firm (these data are available on the NBS website at the level of two-digit NACE codes); and (ii) data from labor force surveys, which are conducted following ILO methodology, are reported by respondents and are considered much more accurate because they take into account the gaps in the business statistics explained above (these data are available at a very aggregated level – i.e. a one-digit code). Hence, the available statistics are not sufficient to compute the contribution of the copyright industries to total employment. Therefore, the NBS experts computed the employment figures obtained from the labor force survey at the level of four-digit NACE codes for each of the copyright industries mentioned in Tables 32, 33, 34 and 35, and converted them into full-time equivalents.

Publicly available data on foreign trade are also not sufficient to estimate the contribution of copyright industries. The NBS publishes data on foreign trade in goods using two-digit CPA codes, whereas the NBM publishes data on foreign trade in services at a highly aggregated level. Therefore, NBS experts disaggregated the data on foreign trade in goods and services at the necessary levels in order to estimate the contribution made by copyright industries.

All the data estimated for this report are consistent at two- and four-digit levels of disaggregation. Thus, the GVA and employment estimates at the level of four-digit NACE codes are equivalent to the data at the two-digit level. The same holds true for foreign trade in goods, based on the CPA classification. The disaggregated data on foreign trade in services are also consistent with the aggregated data.

Gross value added data

Gross value added (GVA) was calculated for the purpose of this project by NBS experts using four-digit NACE codes (rev. 1.1). The resulting estimates are consistent with the 2013 revision of the national accounts.

The dataset consists of GVA estimates for copyright activities at the level of four-digit NACE codes, which were aggregated at the level of copyright industries. The data are provided in Moldovan lei for 2008-2013.

The data have been verified and checked for internal consistency (based on the statistical questionnaire conducted by the NBS) and temporal consistency (based on previous years). Furthermore, the data for each firm are compared to the data obtained from other similar firms, as well as to the data obtained from other statistical and administrative sources. When necessary, inconsistent data were adjusted and missing data were estimated by the NBS.

Gross value added has been adjusted to the estimates for the informal economy produced by the NBS. The computations have been performed for economic activities and sectors (i.e. formal, informal, households' production for own consumption, except for illegal activities, which are not estimated).

Employment data

In order to account for informal employment, we use the employment data reported by the population through the Labor Force Survey (LFS). For the purposes of this report, we use data from the LFS at the level of four-digit NACE codes, in full-time equivalents. This is possible because the LFS is compiled using four-digit NACE codes, which are consistent with the national accounts.

Data on foreign trade in goods and services

Based on data obtained from the Customs Service, NBS experts aggregated data to the eight-digit level and constructed a correspondence table comparing the eight-digit codes and the four-digit CPA²⁹ code. The transfer to four-digit CPA codes was performed using Eurostat passkeys, which are specific to every year. These estimations were conducted by NBS experts for the purpose of this report.

The data on **trade in services** are based on the balance of payments compiled by the National Bank of Moldova and are consistent with the fifth revision of the IMF Balance of Payments Manual.

Table 42: Classification of copyright services

Balance of Payment Indicators	Code
Computer and information services	b.7
Computer services	b.7.1
Information services	b.7.2
News agencies services*	b.7.2.1
Other information services	b.7.2.2
Royalties and license fees	b.8
Franchises and similar services*	b.8.1
Other payments for copyrights and licenses	b.8.2
Personal, cultural and recreational services	b.10
Audio-visual and related services	b.10.1

* no foreign trade activities

Economic contribution of copyright industries based on additional indicators

The data computed by NBS offer additional opportunities to estimate the contribution of copyright industries to economic growth.

Besides GVA, employment and foreign trade, we estimated the following indicators:

- Efficiency of copyright firms, based on **labor productivity** estimations. This was calculated based on the ratio between GVA and the number of employees (in FTE), on a four-digit level.
- Proxy for competitive advantages and disadvantages, based on the trade balance for copyright goods and services. This might have major policy implications as it reveals the most attractive industries for investments.

²⁹ Statistical Classification of Products by Activity in the European Economic Community, 2002 version.

Annex B Statistics

Table 43: Gross value added of CI, million lei

Category	Subcategory	2008	2009	2010	2011	2012	2013
1. Core	1. Press and literature	325.55	339.04	398.84	401.80	402.54	388.62
	2. Music, theatrical productions, operas	30.55	47.33	33.23	24.36	37.71	37.13
	3. motion picture and video	52.06	91.69	94.24	118.95	151.49	160.66
	4. Radio and television	193.00	172.02	159.79	208.58	237.18	214.95
	5. Photography	10.58	7.17	7.75	4.38	3.97	3.22
	6. Software and databases	450.58	483.40	606.75	674.03	841.58	1034.18
	7. Visual and graphic arts	34.12	29.03	35.94	35.77	39.89	42.72
	8. Advertising services	214.53	151.92	191.66	185.67	312.11	337.39
	9. Copyright collecting societies	5.99	4.90	7.27	7.10	6.80	6.12
1. Core total		1316.95	1326.50	1535.46	1660.63	2033.27	2224.97
2. Interdependent	1. TV sets, radios, VCRs, [...], and other similar equipment	138.88	105.42	122.45	108.07	134.25	154.58
	2. Computers and equipment	91.38	72.36	87.25	122.65	76.04	123.14
	3. Musical Instruments	1.84	1.28	2.00	2.14	2.20	2.58
	4. Photocopiers	0.41	0.19	0.93	0.21	0.22	0.00
	5. Photographic and Cinematographic Instruments	0.06	0.00	0.37	0.00	0.00	0.00
	7. Paper	44.86	49.18	67.50	79.64	90.13	140.51
2. Interdependent total		277.42	228.44	280.50	312.71	302.85	420.80
3. Partial	1. Apparel, textiles and footwear	7.43	7.34	8.75	10.29	10.37	11.91
	2. Jewelry and coins	2.62	2.95	2.02	2.78	2.25	2.53
	3. Other crafts	0.27	1.11	0.97	0.85	0.60	0.37
	4. Furniture	11.05	12.26	13.79	14.54	15.63	19.37
	5. Household goods, china and glass	70.24	69.65	71.98	74.50	74.76	96.56
	6. Wall coverings and carpets	7.98	7.38	7.08	1.89	7.79	7.58
	7. Toys and games	5.94	7.36	7.22	7.08	10.77	9.35
	8. Architecture, engineering, surveying	42.92	37.49	43.06	35.85	34.57	37.58
	9. Interior design	0.47	0.38	0.57	0.55	0.53	0.48
	10. Museums	0.23	0.19	0.22	0.23	0.28	0.35
3. Partial total		149.13	146.11	155.66	148.57	157.53	186.06
4. Non-dedicated Support	1. General wholesale and retailing	109.18	101.02	107.45	126.29	141.33	159.61
	2. General transportation	130.63	110.74	120.16	130.00	151.80	173.38
	3. Telephony and internet	122.88	128.57	140.96	144.25	162.29	163.12
4. Non-dedicated support total		362.69	340.33	368.57	400.54	455.42	496.12
Grand total copyright industries		2106.19	2041.38	2340.19	2522.45	2949.07	3327.95

Table 44: Gross value added of CI, per cent of total GVA

Category	Subcategory	2008	2009	2010	2011	2012	2013
1. Core	1. Press and literature	0.63	0.67	0.67	0.59	0.55	0.46
	2. Music, theatrical productions, operas	0.06	0.09	0.06	0.04	0.05	0.04
	3. Motion picture and video	0.10	0.18	0.16	0.17	0.21	0.19
	4. Radio and television	0.37	0.34	0.27	0.30	0.32	0.26
	5. Photography	0.02	0.01	0.01	0.01	0.01	0.00
	6. Software and databases	0.87	0.95	1.01	0.99	1.14	1.24
	7. Visual and graphic arts	0.07	0.06	0.06	0.05	0.05	0.05
	8. Advertising services	0.41	0.30	0.32	0.27	0.42	0.40
	9. Copyright collecting societies	0.01	0.01	0.01	0.01	0.01	0.01
1. Core total		2.54	2.61	2.56	2.43	2.76	2.66
2. Interdependent	1. TV sets, radios, VCRs, [...], and other similar equipment	0.27	0.21	0.20	0.16	0.18	0.18
	2. Computers and equipment	0.18	0.14	0.15	0.18	0.10	0.15
	3. Musical instruments	0.00	0.00	0.00	0.00	0.00	0.00
	4. Photocopiers	0.00	0.00	0.00	0.00	0.00	0.00
	5. Photographic and Cinematographic Instruments	0.00	0.00	0.00	0.00	0.00	0.00
	7. Paper	0.09	0.10	0.11	0.12	0.12	0.17
2. Interdependent Total		0.54	0.45	0.47	0.46	0.41	0.50
3. Partial	1. Apparel, textiles and footwear	0.01	0.01	0.01	0.02	0.01	0.01
	2. Jewelry and coins	0.01	0.01	0.00	0.00	0.00	0.00
	3. Other crafts	0.00	0.00	0.00	0.00	0.00	0.00
	4. Furniture	0.02	0.02	0.02	0.02	0.02	0.02
	5. Household goods, china and glass	0.14	0.14	0.12	0.11	0.10	0.12
	6. Wall coverings and carpets	0.02	0.01	0.01	0.00	0.01	0.01
	7. Toys and games	0.01	0.01	0.01	0.01	0.01	0.01
	8. Architecture, engineering, surveying	0.08	0.07	0.07	0.05	0.05	0.04
	9. Interior design	0.00	0.00	0.00	0.00	0.00	0.00
	10. Museums	0.00	0.00	0.00	0.00	0.00	0.00
3. Partial Total		0.29	0.29	0.26	0.22	0.21	0.22
4. Non-dedicated Support	1. General wholesale and retailing	0.21	0.20	0.18	0.18	0.19	0.19
	2. General transportation	0.25	0.22	0.20	0.19	0.21	0.21
	3. Telephony and internet	0.24	0.25	0.24	0.21	0.22	0.19
4. Non-dedicated support total		0.70	0.67	0.62	0.59	0.62	0.59
Grand Total copyright industries		4.07	4.02	3.91	3.69	4.00	3.98

Table 45: Gross value added of CI, per cent of total GDP

Category	Subcategory	2008	2009	2010	2011	2012	2013
1. Core	1. Press and literature	0.52	0.56	0.55	0.49	0.46	0.39
	2. Music, theatrical productions, operas	0.05	0.08	0.05	0.03	0.04	0.04
	3. Motion picture and video	0.08	0.15	0.13	0.14	0.17	0.16
	4. Radio and television	0.31	0.28	0.22	0.25	0.27	0.21
	5. Photography	0.02	0.01	0.01	0.01	0.00	0.00
	6. Software and databases	0.72	0.80	0.84	0.82	0.95	1.03
	7. Visual and graphic arts	0.05	0.05	0.05	0.04	0.05	0.04
	8. Advertising services	0.34	0.25	0.27	0.23	0.35	0.34
	9. Copyright collecting societies	0.01	0.01	0.01	0.01	0.01	0.01
1. Core total		2.09	2.20	2.14	2.02	2.30	2.21
2. Interdependent	1. TV sets, Radios, VCRs, [...], and other similar equipment	0.22	0.17	0.17	0.13	0.15	0.15
	2. Computers and equipment	0.15	0.12	0.12	0.15	0.09	0.12
	3. Musical instruments	0.0029	0.0021	0.0028	0.0026	0.0025	0.0026
	4. Photocopiers	0.0006	0.0003	0.0013	0.0003	0.0003	0.0000
	5. Photographic and Cinematographic Instruments	0.0001	0.0000	0.0005	0.0000	0.0000	0.0000
	7. Paper	0.07	0.08	0.09	0.10	0.10	0.14
2. Interdependent total		0.44	0.38	0.39	0.38	0.34	0.42
3. Partial	1. Apparel, textiles and footwear	0.01	0.01	0.01	0.01	0.01	0.01
	2. Jewelry and coins	0.0042	0.0049	0.0028	0.0034	0.0025	0.0025
	3. Other crafts	0.0004	0.0018	0.0014	0.0010	0.0007	0.0004
	4. Furniture	0.02	0.02	0.02	0.02	0.02	0.02
	5. Household goods, china and glass	0.11	0.12	0.10	0.09	0.08	0.10
	6. Wall coverings and carpets	0.01	0.01	0.01	0.00	0.01	0.01
	7. Toys and games	0.01	0.01	0.01	0.01	0.01	0.01
	8. Architecture, engineering, surveying	0.07	0.06	0.06	0.04	0.04	0.04
	9. Interior design	0.0007	0.0006	0.0008	0.0007	0.0006	0.0005
	10. Museums	0.0004	0.0003	0.0003	0.0003	0.0003	0.0003
3. Partial total		0.24	0.24	0.22	0.18	0.18	0.19
4. Non-dedicated Support	1. General wholesale and retailing	0.17	0.17	0.15	0.15	0.16	0.16
	2. General transportation	0.21	0.18	0.17	0.16	0.17	0.17
	3. Telephony and Internet	0.20	0.21	0.20	0.18	0.18	0.16
4. Non-dedicated support total		0.58	0.56	0.51	0.49	0.52	0.49
Grand total copyright industries		3.35	3.38	3.26	3.06	3.34	3.31

Table 46: Employment in CI, full time equivalents

Category	Subcategory	2008	2009	2010	2011	2012	2013
1. Core	1. Press and literature	12.04	13.78	14.10	15.71	12.45	11.43
	2. Music, theatrical productions, operas	1.48	0.95	1.26	1.50	1.43	0.86
	3. Motion picture and video	1.01	1.03	1.51	1.46	1.04	0.97
	4. Radio and television	2.77	2.36	2.33	3.85	3.62	2.57
	5. Photography	1.09	1.15	0.70	0.66	1.29	1.05
	6. Software and databases	1.14	2.19	3.22	3.25	5.29	6.37
	7. Visual and graphic arts	0.87	0.97	0.83	0.91	1.09	0.84
	8. Advertising services	1.96	2.21	2.26	2.45	3.37	3.13
1. Core total		22.36	24.63	26.21	29.79	29.58	27.21
2. Interdependent	1. TV Sets, Radios, VCRs, [...], and other similar equipment	2.04	3.39	2.68	2.42	1.71	1.99
	2. Computers and equipment	0.61	0.25	0.67	0.41	0.49	0.84
	3. Musical instruments	0.09	0.24	0.15	0.12	0.08	0.10
	4. Photocopiers	0.03	0.00	0.00	0.00	0.20	0.13
	7. Paper	1.12	0.30	0.55	0.66	0.33	0.57
2. Interdependent total		3.89	4.17	4.05	3.61	2.81	3.64
3. Partial	1. Apparel, textiles and footwear	0.34	0.35	0.34	0.35	0.36	0.32
	2. Jewelry and coins	0.07	0.03	0.05	0.05	0.04	0.05
	3. Other crafts	0.04	0.03	0.03	0.02	0.07	0.03
	4. Furniture	0.41	0.40	0.48	0.51	0.48	0.38
	5. Household goods, china and glass	1.11	1.20	1.00	1.25	1.01	0.70
	6. Wall coverings and carpets	0.11	0.06	0.07	0.06	0.04	0.04
	7. Toys and GAMES	0.26	0.24	0.17	0.08	0.17	0.29
	8. Architecture, engineering, surveying	0.58	0.93	0.73	0.63	0.60	0.67
	9. Interior design	0.01	0.02	0.01	0.04	0.05	0.04
	10. Museums	0.01	0.01	0.01	0.01	0.01	0.01
3. Partial total		2.94	3.28	2.90	3.01	2.83	2.51
4. Non-dedicated Support	1. General wholesale and retailing	3.97	3.43	3.26	3.32	3.27	3.34
	2. General transportation	2.13	1.94	1.80	1.83	2.05	2.24
	3. Telephony and internet	0.44	0.42	0.39	0.39	0.43	0.34
4. Non-dedicated support total		6.53	5.78	5.45	5.55	5.75	5.92
Grand total copyright industries		35.72	37.86	38.60	41.96	40.98	39.28

Table 47: Employment in CI, % of total employment

Category	Subcategory	2008	2009	2010	2011	2012	2013
1. Core	1. Press and literature	1.02	1.24	1.32	1.39	1.15	1.04
	2. Music, theatrical productions, operas	0.13	0.09	0.12	0.13	0.13	0.08
	3. Motion picture and video	0.09	0.09	0.14	0.13	0.10	0.09
	4. Radio and television	0.23	0.21	0.22	0.34	0.33	0.23
	5. Photography	0.09	0.10	0.07	0.06	0.12	0.10
	6. Software and databases	0.10	0.20	0.30	0.29	0.49	0.58
	7. Visual and graphic arts	0.07	0.09	0.08	0.08	0.10	0.08
	8. Advertising services	0.17	0.20	0.21	0.22	0.31	0.29
1. Core total		1.89	2.22	2.45	2.63	2.73	2.48
2. Interdependent	1. TV sets, radios, VCRs, [...], and other similar equipment	0.17	0.30	0.25	0.21	0.16	0.18
	2. Computers and equipment	0.05	0.02	0.06	0.04	0.05	0.08
	3. Musical instruments	0.01	0.02	0.01	0.01	0.01	0.01
	4. Photocopiers	0.00	0.00	0.00	0.00	0.02	0.01
	7. Paper	0.09	0.03	0.05	0.06	0.03	0.05
2. Interdependent total		0.33	0.38	0.38	0.32	0.26	0.33
3. Partial	1. Apparel, textiles and footwear	0.03	0.03	0.03	0.03	0.03	0.03
	2. Jewelry and coins	0.01	0.00	0.01	0.00	0.00	0.00
	3. Other crafts	0.00	0.00	0.00	0.00	0.01	0.00
	4. Furniture	0.04	0.04	0.04	0.05	0.04	0.03
	5. Household goods, china and glass	0.09	0.11	0.09	0.11	0.09	0.06
	6. Wall coverings and carpets	0.01	0.01	0.01	0.01	0.00	0.00
	7. Toys and games	0.02	0.02	0.02	0.01	0.02	0.03
	8. Architecture, engineering, surveying	0.05	0.08	0.07	0.06	0.06	0.06
	9. Interior design	0.00	0.00	0.00	0.00	0.00	0.00
	10. Museums	0.00	0.00	0.00	0.00	0.00	0.00
3. Partial total		0.25	0.29	0.27	0.27	0.26	0.23
4. Non-dedicated Support	1. General wholesale and retailing	0.34	0.31	0.30	0.29	0.30	0.30
	2. General transportation	0.18	0.17	0.17	0.16	0.19	0.20
	3. Telephony and internet	0.04	0.04	0.04	0.03	0.04	0.03
4. Non-dedicated support total		0.55	0.52	0.51	0.49	0.53	0.54
Grand total copyright industries		3.02	3.41	3.60	3.71	3.78	3.58

Table 48: Exports of CI goods, million lei

Category	Subcategory	2008	2009	2010	2011	2012	2013	2014
1. Core	1. Press and literature	36.52	25.19	21.46	35.61	36.98	29.85	26.28
	2. Music, theatrical productions, operas	0.14	0.02	0.05	0.01	0.06	0.01	0.00
	3. Motion picture and video	0.34	0.06	0.16	0.02	0.14	0.03	0.00
	4. Radio and television	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5. Photography	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6. Software and databases	2.60	0.42	0.07	0.13	0.21	0.11	0.93
	7. Visual and graphic arts	0.02	0.00	0.01	0.00	0.01	0.00	0.00
	8. Advertising services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1. Core total		39.61	25.70	21.75	35.77	37.40	30.00	27.22
2. Interdependent	1. TV sets, radios, VCRs, [...], and other similar equipment	5.09	1.67	0.94	16.36	12.36	4.30	2.78
	2. Computers and equipment	19.92	13.32	7.17	8.18	11.08	11.87	14.39
	3. Musical instruments	0.17	0.03	0.00	0.00	0.22	0.00	0.73
	4. Photocopiers	1.33	0.95	3.05	0.93	1.59	1.45	1.82
	5. Photographic and cinematographic instruments	4.40	4.78	3.53	4.29	4.46	5.72	7.02
	7. Paper	91.81	28.93	49.56	86.64	76.77	88.42	84.32
2. Interdependent total		122.72	49.67	64.25	116.39	106.49	111.75	111.05
3. Partial	1. Apparel, textiles and footwear	26.25	23.00	26.52	32.46	30.50	31.59	36.13
	2. Jewelry and coins	0.55	0.37	0.10	0.26	0.65	1.65	2.07
	3. Other crafts	1.72	1.01	1.27	3.59	2.40	2.28	2.78
	4. Furniture	15.54	9.26	9.86	15.00	16.46	16.17	12.98
	5. Household goods, china and glass	134.90	66.65	102.05	137.58	120.70	172.83	169.74
	6. Wall coverings and carpets	18.99	12.88	16.31	18.90	21.23	22.09	22.91
	7. Toys and games	20.94	40.17	43.87	33.80	49.11	33.46	14.91
	8. Architecture, engineering, surveying	0.00	0.00	0.00	0.01	0.00	0.00	0.00
	9. Interior design	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	10. Museums	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3. Partial total		218.89	153.34	199.99	241.61	241.04	280.06	261.53
Grand total copyright industries		381.22	228.71	285.99	393.77	384.93	421.81	399.80

Table 49: Imports of CI goods, million lei

Category	Subcategory	2008	2009	2010	2011	2012	2013	2014
1. Core	1. Press and literature	259.28	263.07	271.59	318.36	310.33	262.79	297.76
	2. Music, theatrical productions, operas	0.09	0.40	0.18	0.15	0.15	1.19	0.10
	3. Motion picture and video	0.25	1.52	0.35	0.33	0.33	2.83	0.18
	4. Radio and television	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5. Photography	0.01	0.00	0.01	0.00	0.13	0.00	0.00
	6. Software and databases	22.53	33.24	30.80	41.26	41.26	49.12	40.60
	7. Visual and graphic arts	0.01	0.05	0.01	0.02	0.02	0.16	0.01
	8. Advertising services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1. Core total		282.17	298.28	302.95	360.13	352.23	316.10	338.64
2. Interdependent	1. TV Sets, radios, VCRs, [...], and other similar equipment	207.24	173.29	305.11	399.70	399.70	415.40	468.27
	2. Computers and equipment	352.98	204.59	354.68	476.30	476.30	525.97	575.43
	3. Musical instruments	3.39	1.77	3.75	2.75	2.75	4.53	5.83
	4. Photocopiers	96.67	62.05	91.12	121.69	121.64	110.10	130.12
	5. Photographic and cinematographic instruments	39.70	41.61	43.64	59.34	59.34	104.71	96.52
	7. Paper	695.67	497.04	731.31	808.27	775.38	826.63	942.53
	2. Interdependent total		1395.66	980.35	1529.61	1868.04	1835.10	1987.35
3. Partial	1. Apparel, textiles and footwear	13.04	12.93	14.82	18.73	19.27	21.35	21.90
	2. Jewelry and coins	27.27	22.44	18.24	26.43	26.43	29.07	31.53
	3. Other crafts	87.58	75.61	93.74	114.81	115.87	140.00	151.60
	4. Furniture	31.71	20.38	25.38	30.64	30.64	29.74	28.33
	5. Household goods, china and glass	242.38	143.77	196.53	249.40	250.73	303.83	310.47
	6. Wall coverings and carpets	11.00	10.98	13.44	14.26	14.54	16.55	15.78
	7. Toys and games	43.25	69.61	68.81	92.58	92.58	79.00	77.35
	8. Architecture, engineering, surveying	0.03	0.01	0.01	0.06	0.01	0.02	0.07
	9. Interior design	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	10. Museums	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3. Partial total		456.25	355.73	430.97	546.91	550.09	619.56	637.04
Grand total copyright industries		2134.07	1634.36	2263.54	2775.08	2737.42	2923.01	3194.39

Table 50: Exports of CI goods, % of total exports of goods

Category	Subcategory	2008	2009	2010	2011	2012	2013	2014
1. Core	1. Press and literature	0.21	0.17	0.11	0.13	0.14	0.10	0.08
	2. Music, theatrical productions, operas	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3. Motion picture and video	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4. Radio and television	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5. Photography	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6. Software and databases	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	7. Visual and graphic arts	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	8. Advertising services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1. Core total		0.23	0.17	0.11	0.13	0.14	0.10	0.08
2. Interdependent	1. TV Sets, Radios, VCRs, [...], and other similar equipment	0.03	0.01	0.00	0.06	0.05	0.01	0.01
	2. Computers and equipment	0.12	0.09	0.04	0.03	0.04	0.04	0.04
	3. Musical instruments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4. Photocopiers	0.01	0.01	0.02	0.00	0.01	0.00	0.01
	5. Photographic and cinematographic instruments	0.03	0.03	0.02	0.02	0.02	0.02	0.02
	7. Paper	0.54	0.20	0.25	0.32	0.28	0.28	0.25
2. Interdependent total		0.72	0.33	0.33	0.44	0.39	0.36	0.34
3. Partial	1. Apparel, textiles and footwear	0.15	0.16	0.14	0.12	0.11	0.10	0.11
	2. Jewelry and coins	0.00	0.00	0.00	0.00	0.00	0.01	0.01
	3. Other crafts	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	4. Furniture	0.09	0.06	0.05	0.06	0.06	0.05	0.04
	5. Household goods, china and glass	0.79	0.45	0.52	0.52	0.45	0.56	0.51
	6. Wall coverings and carpets	0.11	0.09	0.08	0.07	0.08	0.07	0.07
	7. Toys and games	0.12	0.27	0.22	0.13	0.18	0.11	0.05
	8. Architecture, engineering, surveying	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	9. Interior design	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	10. Museums	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3. Partial total		1.29	1.03	1.02	0.90	0.89	0.90	0.79
Grand total copyright industries		2.24	1.54	1.46	1.47	1.43	1.36	1.21

Table 51: Imports of CI goods, % of total imports of goods

Category	Subcategory	2008	2009	2010	2011	2012	2013	2014
1. Core	1. Press and literature	0.51	0.72	0.58	0.53	0.50	0.38	0.40
	2. Music, theatrical productions, operas	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3. Motion picture and video	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4. Radio and Television	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5. Photography	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6. Software and databases	0.04	0.09	0.07	0.07	0.07	0.07	0.05
	7. Visual and graphic arts	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	8. Advertising services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1. Core total		0.56	0.82	0.65	0.60	0.56	0.46	0.46
2. Interdependent	1. TV sets, Radios, VCRs, [...], and other similar equipment	0.41	0.48	0.65	0.66	0.64	0.60	0.63
	2. Computers and Equipment	0.70	0.56	0.76	0.79	0.76	0.77	0.78
	3. Musical instruments	0.01	0.00	0.01	0.00	0.00	0.01	0.01
	4. Photocopiers	0.19	0.17	0.19	0.20	0.19	0.16	0.18
	5. Photographic and cinematographic instruments	0.08	0.11	0.09	0.10	0.10	0.15	0.13
	7. Paper	1.38	1.36	1.56	1.34	1.24	1.20	1.28
2. Interdependent total		2.77	2.69	3.26	3.10	2.94	2.89	3.00
3. Partial	1. Apparel, textiles and footwear	0.03	0.04	0.03	0.03	0.03	0.03	0.03
	2. Jewelry and coins	0.05	0.06	0.04	0.04	0.04	0.04	0.04
	3. Other crafts	0.17	0.21	0.20	0.19	0.19	0.20	0.21
	4. Furniture	0.06	0.06	0.05	0.05	0.05	0.04	0.04
	5. Household goods, china and glass	0.48	0.39	0.42	0.41	0.40	0.44	0.42
	6. Wall coverings and carpets	0.02	0.03	0.03	0.02	0.02	0.02	0.02
	7. Toys and games	0.09	0.19	0.15	0.15	0.15	0.11	0.10
	8. Architecture, engineering, surveying	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	9. Interior design	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	10. Museums	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3. Partial total		0.91	0.98	0.92	0.91	0.88	0.90	0.86
Grand total copyright industries		4.24	4.48	4.82	4.60	4.38	4.25	4.33

Table 52: Exports of CI services, million lei

			2008	2009	2010	2011	2012	2013	2014
B	Services		296.83	354.85	443.83	596.65	720.07	848.08	1079.79
b.7	Computer and information services		272.93	330.62	412.91	561.50	676.35	788.85	1000.26
b.7.1	Computer services	1	214.14	259.40	323.96	440.54	530.65	618.92	825.20
b.7.2	Information services		58.79	71.22	88.95	120.95	145.69	169.93	175.06
b.7.2.1	News agencies services	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
b.7.2.2	Other information services	1	58.79	71.22	88.95	120.95	145.69	169.93	175.06
b.8	Royalties and license fees		20.26	24.12	30.05	31.16	27.62	38.58	49.91
b.8.1	Franchises and similar services	0.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
b.8.2	Other payments for copyrights and licenses	0.5	20.26	24.12	30.05	31.16	27.62	38.58	49.91
b.10	Personal, cultural and recreational services		3.64	0.11	0.87	3.99	16.11	20.64	29.62
b.10.1	Audio-visual and related services	1	3.64	0.11	0.87	3.99	16.11	20.64	29.62
b.10.2	Other personal, cultural and recreational services	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 53: Imports of CI services, million lei

			2008	2009	2010	2011	2012	2013	2014
B	Services		296.83	354.85	443.83	596.65	720.07	848.08	1079.79
b.7	Computer and information services		272.93	330.62	412.91	561.50	676.35	788.85	1000.26
b.7.1	Computer services	1	214.14	259.40	323.96	440.54	530.65	618.92	825.20
b.7.2	Information services		58.79	71.22	88.95	120.95	145.69	169.93	175.06
b.7.2.1	News agencies services	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
b.7.2.2	Other information services	1	58.79	71.22	88.95	120.95	145.69	169.93	175.06
b.8	Royalties and license fees		20.26	24.12	30.05	31.16	27.62	38.58	49.91
b.8.1	Franchises and similar services	0.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
b.8.2	Other payments for copyrights and licenses	0.5	20.26	24.12	30.05	31.16	27.62	38.58	49.91
b.10	Personal, cultural and recreational services		3.64	0.11	0.87	3.99	16.11	20.64	29.62
b.10.1	Audio-visual and related services	1	3.64	0.11	0.87	3.99	16.11	20.64	29.62
b.10.2	Other personal, cultural and recreational services	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 54: Exports of CI services, % of total exports of services

			2008	2009	2010	2011	2012	2013	2014
B	Services		3.66	5.09	5.48	6.08	6.58	7.12	8.16
b.7	Computer and information services		3.15	4.44	4.77	5.44	5.95	6.33	7.23
b.7.1	Computer services	1	2.47	3.48	3.75	4.27	4.67	4.97	5.96
b.7.2	Information services		0.68	0.96	1.03	1.17	1.28	1.36	1.26
b.7.2.1	News agencies services	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
b.7.2.2	Other information services	1	0.68	0.96	1.03	1.17	1.28	1.36	1.26
b.8	Royalties and license fees		0.47	0.65	0.69	0.60	0.49	0.62	0.72
b.8.1	Franchises and similar services	0.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
b.8.2	Other payments for copyrights and licenses	0.5	0.47	0.65	0.69	0.60	0.49	0.62	0.72
b.10	Personal, cultural and recreational services		0.04	0.00	0.01	0.04	0.14	0.17	0.21
b.10.1	Audio-visual and related services	1	0.04	0.00	0.01	0.04	0.14	0.17	0.21
b.10.2	Other personal, cultural and recreational services	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 55: Imports of CI services, per cent of total imports of services

			2008	2009	2010	2011	2012	2013	2014
B	Services		3.87	4.98	4.87	4.63	5.99	6.86	6.66
b.7	Computer and information services		1.95	3.36	3.07	2.60	3.88	4.23	4.22
b.7.1	Computer services	1	1.70	2.93	2.68	2.27	3.38	3.69	3.71
b.7.2	Information services		0.25	0.43	0.39	0.33	0.49	0.54	0.51
b.7.2.1	News agencies services	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
b.7.2.2	Other information services	1	0.25	0.43	0.39	0.33	0.49	0.54	0.51
b.8	Royalties and license fees		1.82	1.49	1.65	1.88	1.95	2.34	2.19
b.8.1	Franchises and similar services	0.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
b.8.2	Other payments for copyrights and licenses	0.5	1.82	1.49	1.65	1.88	1.95	2.34	2.19
b.10	Personal, cultural and recreational services		0.11	0.13	0.14	0.15	0.16	0.29	0.26
b.10.1	Audio-visual and related services	1	0.11	0.13	0.14	0.15	0.16	0.29	0.26
b.10.2	Other personal, cultural and recreational services	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Annex C Copyright Factors of Apparel, Textiles and Footwear Products

Product	Copyright factor
Printing knitted fabrics and nonwovens	1%
Cotton bed linen (excluding knitted)	1%
Table linen of cotton (excluding knitted)	1%
Table linen, woven, of other textile materials	1%
Embroidery of other textile materials, in pieces, ribbons and motifs	1%
Other knitted	0.5%
Jerseys, pullovers, cardigans, waistcoats and similar articles of wool or fine hair, knitted, for men and boys	1%
Jerseys, pullovers, cardigans, waistcoats and similar articles of wool or fine hair, knitted, for women and girls	1%
Lightweight fine knit cotton	0.5%
Jerseys, pullovers, cardigans, waistcoats and similar articles of cotton, knitted, for men and boys	1%
Jerseys, pullovers, cardigans, waistcoats and similar articles of cotton, knitted, for women and girls	1%
Jerseys, pullovers, cardigans, waistcoats and similar articles of synthetic fibers, artificial knitted, for women and girls	1%
Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted other textile materials	1%
Industrial services for making sweaters, jerseys, jackets, waistcoats and similar articles, knitted or crocheted	1%
Leather coats	0.5%
Jackets and blazers, leather	0.5%
Panels, of cotton, for men or boys	0.5%
Panels work of fibers, for men or boys	0.5%
Jackets, of cotton, for men or boys,	0.5%
Working jackets from fibers, for men or boys	0.5%
Long pants and shorts, of cotton, for men or boys	0.5%
Long trousers and breeches, of man-made fibers, for men or boys	0.5%
Panels, of cotton, for women or girls	0.5%
Panels work of fibers, for women or girls	0.5%
Jackets, of cotton, for women or girls	1%
Working jackets, from fibers for women or girls	1%
Long pants and shorts, of cotton, for women or girls	0.5%
Long trousers and breeches, of man-made fibers	0.5%
Other clothing from cotton, man-made fibers, for men or boys	0.5%
Costumes, clothing sets and panels, knitted, for men or boys	1%
Long pants and shorts, aprons, bib and brace overalls, knitted, for men or boys	1%
Other knitted garments for men or boys	1%
Coats, parkas, capes and similar articles, knitted, for women or girls	1%
Hoodies, jackets and similar articles, knitted, for women or girls	1%
Knitted jackets for women or girls, pcs.	1%
Costumes and sets clothing, knitted, for women or girls	1%
Knitted dresses for women and girls	1%

Skirts and divided skirts, knitted, for women or girls	1%
Long pants and shorts, aprons, bib and brace overalls, knitted, for women or girls	1%
Other knitted garments for women or girls	1%
Raincoats, cotton, for men or boys	0.5%
Coats, parkas, capes and similar articles of wool or fine hair, for men or boys	0.5%
Waterproof fibers, for men or boys	0.5%
Coats, parkas, capes and similar articles of other textile materials, for men or boys	0.5%
Hoodies, jackets and similar articles of cotton (excl. knitted), for men or boys	0.5%
Hoodies, jackets and similar synthetic or man-made fibers (excl. knitted), for men or boys	0.5%
Hoodies, jackets and similar articles of textile materials (excl. knitted), for men or boys	0.5%
Panel suits and cotton (excl. knitted), for men or boys	0.5%
Costume and panels, wool and fine hair (excl. knitted), for men or boys	0.5%
Costume and panels, of other textile materials (excl. knitted), for men or boys, pcs.	0.5%
Clothing sets, cotton (excl. knitted and work), for men or boys	0.5%
Jackets cotton (excl. knitted and work), for men or boys, pcs.	0.5%
Wool or fine hair jackets (excl. knitted), for men or boys	0.5%
Coats of other textile materials (excl. knitted and work), for men or boys	0.5%
Trousers and breeches of cotton (excl. knitted and work), for men or boys	0.5%
Long pants and short hair wool or fine (excl. knit and work), for men or boys	0.5%
Long pants and shorts made fibers (excl. knitted and work), for men or boys	0.5%
Waterproof cotton (excluding knitted) for women or girls	0.5%
Coats, parkas, capes and similar articles, of wool or fine hair (excluding knitted) for women or girls	0.5%
Raincoats, etc., artificial or synthetic fibers (excluding knitted) for women or girls	0.5%
Coats, parkas, capes and similar articles of other textile materials for women or girls	0.5%
Hoodies, jackets and similar synthetic or man-made fibers (excl. knitted) for women or girls	0.5%
Hoodies, jackets and similar articles of textile materials (excl. knitted) for women or girls	0.5%
Hoodies, jackets and similar articles of textile materials (excl. knitted) for women or girls	0.5%
Costume cotton (excl. knitted) for women or girls	1%
Costume wool or fine hair (excl. knitted) for women or girls	1%
Costumes from other textile materials (excl. knitted) for women or girls	1%
Jackets and blazers of cotton (excl. For work or knitted) for women or girls	0.5%
Jackets and blazers of wool or fine hair (excl. knitted) for women or girls	0.5%
Sarafan dresses and cotton (excl. knitted) for women or girls	1%
Wool dresses and sarafan (excl. knitted) for women or girls	1%
Dresses and sarafans of fibers (excl. knitted) for women or girls	1%
Dresses and sarafans of silk (excl. knitted) for women or girls	1%
Sarafan dresses and other textile materials (excl. knitted) for women or girls	1%
Skirts and divided skirts of cotton (excl. knitted) for women or girls	1%
Skirts and divided skirts, wool (excl. knitted) for women or girls	1%
Skirts and divided skirts of fibers (excl. knitted) for women or girls	1%
Skirts and divided skirts of other textile materials (excl. knitted) for women or girls	1%
Trousers and breeches of cotton (excl. knitted and work) for women or girls	1%
Wool trousers and breeches (excl. knitted) for women or girls	1%
Trousers and breeches of synthetic fibers (excl. knitted) for women or girls	1%

Sarafan dresses and cotton (excl. knitted) for women or girls	1%
Wool dresses and sarafan (excl. knitted) for women or girls	1%
Dresses and sarafan of fibers (excl. knitted) for women or girls	1%
Cotton shorts (excl. knitted) for women or girls	0.5%
Wool shorts (excl. knitted) for women or girls	0.5%
Aprons fibers (excl. knitted) for women or girls	0.5%
Industrial services for producing garments	0.5%
Shirts and blouses, knitted, for men or boys	1%
Panties and briefs, knitted, for men or boys	1%
Nightdresses and pajamas, knitted, for men or boys	1%
Knit shirts and blouses for women or girls	1%
Nightdresses and pajamas, knitted, for women or girls	1%
Chemises, petticoats and slips, knitted, for women or girls	1%
Shirts and blouses, cotton (excl. knitted), for men or boys	1%
Nightdresses and pajamas, of cotton (excl. knitted), for men or boys	1%
Robes, vests and similar articles of cotton (excl. knitted), for men or boys	1%
Robes, vests and the like, of other textile materials (excl. knitted), for men or boys	1%
Shirts and blouses, cotton (excl. knitted) for women or girls	0.5%
Blouses and shirts, artificial or synthetic fibers (excl. knitted) for women or girls	0.5%
Blouses and shirts, silk or silk waste (excl. knitted) for women or girls	0.5%
Blouses and shirts, of other textile materials (excl. knitted) for women or girls	0.5%
Nightdresses and pajamas, of cotton (excl. knitted) for women or girls	1.0%
Shirts, shirts daily briefs of cotton (excl. knitted) for women or girls	1.0%
N negligees, bathrobes, vests, briefs and the like, of synthetic or artificial yarn (excl. knitted) for women or girls	0.5%
T-shirts and vests, knitted cotton	0.5%
T-shirts and vests, knitted materials	0.5%
Industrial services to produce items of underwear	0.5%
Clothing and clothing accessories for babies, knitted thousand	0.5%
Trainings for sport knitted pieces	1.0%
Clothing and clothing accessories for infants (excl. knitted)	0.5%
Jogging suits and other clothing for sport (excl. knitted), woolen, for women or girls	0.5%
Shawls, scarves, mufflers, mantillas, veils and the like, of silk (excl. knitted)	0.5%
Shawls, scarves, mufflers, mantillas, veils and the like, of other textile materials (excl. knitted), pcs.	0.5%
Ties, bow ties and cravats, of other textile materials (excl. knitted)	1.0%
Hats and other headgear, of other textile materials, knitted, hairnet	1.0%
Other hats and articles of other materials	1.0%
Waterproof footwear with uppers of rubber or plastics	0.5%
Boots, shoes with uppers of leather, men's pair.	0.5%
Boots, shoes with uppers of leather, women's pair.	0.5%
Boots, shoes with uppers of leather for children	0.5%
Sandals with uppers of leather, men's pair.	0.5%
Sandals with uppers of leather, women's pair.	0.5%
Sandals with uppers of leather, children	0.5%
Slippers and shoes inside, with uppers of textile materials	0.5%

Sports shoes with textile uppers and soles of rubber or plastics	0.5%
Other footwear not included in other categories	0.5%
Uppers and parts thereof	0.5%
Other parts of footwear (excl. girls) of other materials	0.5%
Industrial services for the production of footwear	0.5%

Source: Experts' estimations based on NBS data

Annex D Copyright Factors of Furniture Products

Product	Copyright factor
Blankets, pillows, head filled with various materials (excluding mattresses and sleeping bags)	7.0%
Plane doors and their frames and thresholds abutting wooden pieces	2.0%
Other doors and their frames and thresholds abutting wooden piece.	3.0%
Works joinery and wooden construction parts	2.0%
Other Joinery and parts of wooden construction	3.0%
Prefabricated buildings of wood, thousand	3.0%
Wood marquetry or inlaid (wooden ornaments)	7.0%
Other articles of wood (hangers, bobbins, nails and the like)	4.0%
Glass mirrors, framed or not (excluding mirrors for vehicles)	6.0%
Doors and shutters of their staff and their thresholds, ferrous metal	7.0%
Staples in strips, of base metal	5.0%
Other articles of iron or steel	2.0%
Seating furniture with metal frame, other than those for offices	5.0%
Seating furniture with metal frame	5.0%
Sofa beds	6.0%
Couch	6.0%
Chairs	6.0%
Seats, other than for office	6.0%
Sofas	6.0%
Other furniture for sitting with wooden frame	7.0%
Seating furniture parts: wood	3.0%
Seating furniture parts: metal	3.0%
Seating furniture parts: n.e.c.	3.0%
Other metal office furniture, height more than 80 cm	3.0%
Office wooden desks, height no more than 80 cm	3.0%
Wooden tables of the kind used in offices, with height not more than 80 cm	3.0%
Floors and other wood office furniture, height no more than 80 cm	3.0%
Libraries, windows, shelves, counters and other wooden furniture production exposure, height more than 80 cm	5.0%
Other wooden office furniture, cabinets, racks with height more than 80 cm	3.0%
Other furniture wooden desk with height more than 80 cm	3.0%
Other wooden office furniture of a kind used in shops (except chairs)	3.0%
Kitchen benches	3.0%
Corner kitchen	3.0%
Buffets, kitchen cabinets	3.0%
Suspended kitchen cabinets	5.0%
Kitchen tables	5.0%
Wooden furniture or wooden and metal type used in the kitchen (gaskets)	5.0%
Other metal furniture (excluding those used in offices)	3.0%
Beds wooden	3.0%

Cabinet bedroom	5.0%
Toilets	5.0%
Cabinet bedding	5.0%
Furniture for bedrooms (gaskets)	5.0%
Other wooden furniture of a kind used in bedrooms (excluding seats, armchairs)	5.0%
Wooden furniture for dining rooms and living rooms (gaskets)	5.0%
Libraries	5.0%
Buffets, showcases	4.0%
Dressers	5.0%
Tables for dining	4.0%
Other wooden furniture for dining rooms and living rooms	4.0%
Wooden furniture of the kind used in bathrooms	7.0%
Other wooden furniture	4.0%
Furniture parts: metal	4.0%
Furniture parts: wooden	4.0%
Furniture parts of other materials	4.0%
Mattress	5.0%
Spring mattresses	3.0%

Source: Experts' estimations based on NBS data

Annex E Copyright Factors of Selected Partial Copyright Activities

Corresponding NACE codes and activity names		Copyright factor
Jewelry and coins		
36.22	Manufacture of jewelry and related articles n.e.c.	0.25
36.61	Manufacture of imitation jewelry	0.25
Other crafts		
36.63	Other manufacturing n.e.c.	0.4
Household goods, china and glass		
20.51	Manufacture of other products of wood	0.3
20.52	Manufacture of articles of cork, straw and plaiting materials	0.4
26.12	Shaping and processing of flat glass	0.2
26.13	Manufacture of hollow glass	0.2
26.14	Manufacture of glass fibers	0.2
26.15	Manufacture and processing of other glass, including technical glassware	0.4
26.21	Manufacture of ceramic household and ornamental articles	0.2
26.24	Manufacture of other technical ceramic products	0.2
26.25	Manufacture of other ceramic products	0.2
28.75	Manufacture of other fabricated metal products n.e.c.	0.3
31.50	Manufacture of lighting equipment and electric lamps	0.4
52.44	Retail sale of furniture, lighting equipment and household articles n.e.c.	0.2
Wall coverings and carpets		
17.51	Manufacture of carpets and rugs	0.02
21.25	Manufacture of other articles of paper and paperboard n.e.c.	0.2
Toys and games		
36.50	Manufacture of games and toys	0.45
Architecture, engineering, surveying		
74.20	Architectural and engineering activities and related technical consultancy	0.15
Interior design		
74.87	Other business activities n.e.c.	0.05
Museums		
52.50	Retail sale of second-hand goods in stores	0.05
92.52	Museums activities and preservation of historical sites and buildings	0.05

Source: Experts' estimations based on the NBS data

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