

# Employment in the creative and cultural sectors

*Evidence from a sample of european countries*



[ CULTURE AT WORK ]

I rapporti di ricerca del CSS - EBLA  
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# [Culture at work]

## The research reports of CSS-EBLA

### **EMPLOYMENT IN THE CREATIVE AND CULTURAL SECTORS**

**EVIDENCE FROM A SAMPLE  
OF EUROPEAN COUNTRIES**

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# [CULTURE AT WORK]

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**EMPLOYMENT IN THE CREATIVE  
AND CULTURAL SECTORS**  
**EVIDENCE FROM A SAMPLE OF EUROPEAN COUNTRIES**

Giovanna Segre and Claudia Villosio

Research Centre Silvia Santagata (CSS-Ebla) has been established in 2008 by Walter Santagata, Cultural Economics professor, very popular both in Italy and in the International community, died prematurely in 2013. CSS-Ebla is made of specialists, professors, researchers but also all those people who are interested in modern history of politics and economics, in cultural economics, in institutions and in creative atmosphere. In details CSS-Ebla is made of all those specialists who work in the area of Piedmont but that also co-operate with both Italian and International territories. The scientific areas are:

- Cultural Economics
- Museums and Contemporary Art
- Rural Development and Mountain Economies
- Tourism and Territory
- UNESCO and Sustainable Development
- Evaluation of Projects and Cultural Policies

The document presents a synthesis of the results and recommendations resulting from the work conducted from September 2015 to September 2016 with the aim to formulate a Local Economic Development (LED) plan for the city center of Port Louis.

The work was conducted by Enrico Bertacchini, Assistant Professor at the Department of Economics and Statistics “S. Cogneetti De Martiis”, University of Turin and Alessio Re, Adjunct Professor at the Department of Economics and Statistics “S. Cogneetti De Martiis”, University of Turin, as consultants of the Aapravasi Ghat Trust Fund.

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## Introduction

According to the UNESCO Institute for Statistics, understanding the contribution of cultural employment to the economy is vital. Without appropriate methods of measurement and reliable statistics, countries lack the tools necessary to evaluate the extent and characteristics of cultural employment in a comparable way (UNESCO, 2009). Nevertheless, the statistical analysis of employment in the creative and cultural (CC) sectors and, even more so, any attempt of its international comparison, are fairly underdeveloped. The aim of this study is to fill this knowledge gap with the available statistics. Even given a framework of limited available data, some interesting information and measures about cultural employment in the European Union (EU) can be highlighted. Bearing in mind that the statistical description also represents an essential base of discussion with key institutional actors in the field and to derive recommendations aimed to promote employment and professional development in the cultural sector, this research can help identify the essential terms for a fruitful debate in the academic field and in the policy makers' agenda.

Generally, the economic and social values of the CC sectors are largely underestimated:

*Due to the sectors' specificities, culture and creativity is often embedded in manufactured products (design in a garment or a car) or in popular new media services (digital delivery platforms making available creative 'content' such as music, games or films); creative enterprises or cultural entrepreneurs are not satisfactorily captured by statistical tools due to their size, the project-based nature of their activities or their social value (a major feature of cultural activities)*(KEA, 2015 pag. 5).

By looking at the International Standard Classification of Occupations 2008 (ISCO-08) database, we are partially able to overcome these limits and can add significant information to the literature on the CC economy.

Section 2 identifies the best definition for outlining the sectors to estimate employment in the CC occupations (CCOs). Section 3 explains the choice of the five EU countries to which the analysis is applied: France, Germany, Italy, Spain, and the United Kingdom. Sections 4 to 12 presents and discusses the results. In Section 13 some conclusions are sketched.

## 1. The definition of the cultural and creative domains for the estimate of employment

The term *creative industries* was first introduced to European countries by the Creative Industries Task Force of the UK's Department of Culture, Media and Sport (DCMS) in 1998, to indicate 'those industries that have their origin in individual creativity, skill and talent and that have a potential for wealth and job creation through the generation and exploitation of intellectual property' (DCMS, 1998, 2001). In the following years, the debate about the economic role of the CC industries (CCIs) has constantly grown, mainly providing evidence of the weight of the employment and gross domestic product related to these important components of the contemporary economic system. On 10 October 2010, the European Commission approved its Communication on Industrial Policy, which recognized that cultural and creative industries are important economic and social drivers, based on the results of the European Competitiveness Report 2010, Chapter 5 of which analyses *Innovation and Competitiveness of the Creative Industries in the EU*. Two milestone publications, by KEA (2006) and Power and Nielsén (2010), have settled the basis for this conclusion and our study can be seen as the first attempt to extend the analysis to the wider field of the labour market. The literature on the CCI is controversial, mainly because of the lack of available data. In this report, we will, however, not summarize or discuss the debates but, rather, attempt to provide new evidence, that can be fruitful, even if we remain in this poorly endowed data context<sup>1</sup>.

We are indeed convinced that, regarding the measurement of employment, much more can (and should) be done. After the seminal works on the role of workers in competitiveness of places by Scott (2000), who argued that the existence of qualities such as cultural insight, imagination, and originality created within the local system of production are crucial to obtain efficacious patterns of productive employment, and by Florida (2002), who affirmed that human capital, skills and creativity are the primary drivers of economic growth at the regional

1 For a complete and updated survey on the data availability, see the recent report 'Feasibility study on data collection and analysis in the cultural and creative sectors in the EU' by KEA (2015), released September 2015.

and national levels, not enough research has been undertaken on this issue<sup>2</sup>.

We focus our analysis on the workers involved in all those activities related to the notion of cultural capital, defined according to Throsby (2001) as the set of tangible and intangible cultural expressions – where tangible cultural capital consists of all kinds of buildings, structures, sites, and locations endowed with cultural significance (heritage), and of artworks and artefacts existing as private goods, such as paintings, sculptures, and other objects – and intangible cultural capital comprises both artistic performances and celebrations as well as ideas, beliefs, oral traditions and expressions, rituals, languages, and social practices.

To statistically map the labour in the CCIs, many (partially overlapping) approaches and definitions exist that define the appropriate industries that should be considered<sup>3</sup>. The UNESCO Framework for Cultural Statistics (UNESCO, 2009) and the report drafted by the European Statistical System Network on Culture (ESSnet-Culture Final Report, 2012) are the two most relevant examples for our research. In brief, we start by considering the six main cultural domains defined by UNESCO (2009):

- A. Cultural and natural heritage: museums, archaeological and historical places, cultural landscapes, natural heritage;
- B. Performance and celebration: performing arts, music, festivals, fairs, feasts;
- C. Visual arts and crafts: fine arts, photography, crafts;
- D. Books and press: books, newspapers, and magazines, other printed matter, libraries (also virtual), book fairs;
- E. Audio-visual and interactive media: film and video, TV and radio, also Internet live streaming), Internet

2 One of the few exceptions is the publication of the special issue on Culture and Labour of the International Journal of Manpower, Volume 35, Issue 1/2, 2014.

3 See, in particular, the methodological appendix of Power and Nielsén (2010) and Chapter 5 of the European Competitiveness Report (EU, 2010).

podcasting, video games (also online);

F. Design and creative services: fashion design, graphic design, interior design, landscape design, architectural services, advertising services.

UNESCO also recognizes the need to maintain and advance cultural capital, through workers employed in education and training, archiving, and preserving, and the existence of two related domains:

G. Tourism: charter travel and tourist services, hospitality, accommodations;

H. Sports and recreation: sports, physical fitness and well-being, amusement and theme parks, gambling.

The list presented above follows the approach developed by Walter Santagata (2009) and published in the *White Book on Creativity. Towards an Italian Model of Development*. Santagata's analysis indicates the need to include other creative sectors such as fashion and the taste industry, particularly relevant for the 'made in Italy' economy but also very important for any culturally led economic system.

Following Santagata (2009), 12 economic sectors can be identified and grouped according to three macro-categories:

- Historical and artistic heritage: 1) cultural heritage, 2) performing arts, 3) architecture, 4) contemporary art;

- Material culture: 5) fashion, 6) industrial design and handicraft, 7) taste industry;

- Production of content, information, and communication: 8) computers and software, 9) publishing, 10) television and radio, 11) movies, 12) advertising.

With the aim of improving the scarce findings on cultural employment, in most of the cases presented only in terms of the total number of employed workers at the national or regional level, Eurostat EU-LFS data are processed according to recent labour market methodology and applied to cultural statistics using the new ISCO-08 classification<sup>4</sup>.

<sup>4</sup> As stated in the ILO, *International Standard Classification of Occupations 2008 (ISCO-08): Structure, group definitions and correspondence tables* (ISCO-08 Vol. I, International Labour Office, Geneva, 2012), - The International Standard Classification of Occupations 2008 (ISCO-08) is a four-level hierarchically structured classification that covers all jobs in the world. Developed with the benefit of accumulated national and international experience as well as the help of experts from many countries and agencies, ISCO-08 is fully supported by the international community as an accepted standard for international labour statistics. - ISCO-08 classifies jobs into 436 unit groups. These unit groups are aggregated into 130 minor groups, 43 sub-major groups and 10 major groups, based on their similarity in terms of the skill level and skill specialization required for the jobs. This allows the production of relatively detailed internationally comparable data as well as summary information for only 10 groups at the highest level of aggregation. Each group in the classification is designated by a title and code number and is associated with a definition that specifies the scope of the group.

Table 1. Selected sectors of occupations and ISCO-08 codes

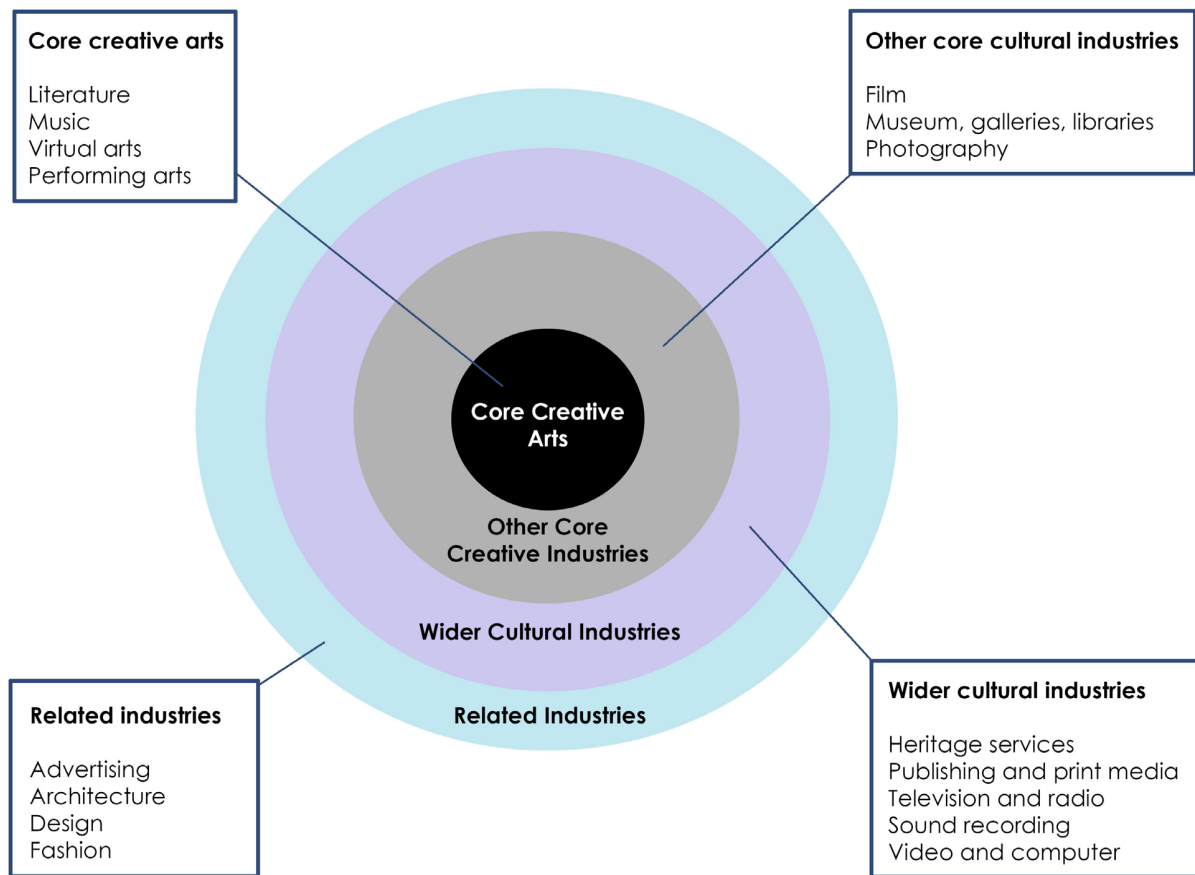
Group	Sub-group	ISCO codes	Definition
<b>Core creative occupations</b>	Librarians, archivists, and curators	262	Librarians, archivists, and curators
	Authors, journalists, and linguists	264	Authors, journalists, and linguists
	Creative and performing artists	265	Creative and performing artists
<b>Cultural occupations</b>		343	Artistic, cultural, and culinary associate professionals
<b>Architecture occupations</b>		213	Life science professionals
		216	Architects, planners, surveyors, and designers
<b>Material culture occupations</b>	Handicraft workers	731	Handicraft workers
	Printing trades workers	732	Printing trades workers
	Wood treaters and related trades workers	752	Wood treaters, cabinet makers, and related trades workers
	Garment and related trades workers	753	Garment and related trades workers
<b>Information occupations</b>		133	Information and communications technology service managers
		251	Software and applications developers and analysts
		252	Database and network professionals
		351	Information and communications technology operations and user support technicians
		352	Telecommunications and broadcasting technicians
<b>Education occupations</b>		231	University and higher education teachers
		232	Vocational education teachers
		233	Secondary education teachers
		235	Other teaching professionals
		263	Social and religious professionals

Combining the classifications presented above, the analysis of Eurostat EU-LFS data allows us to provide a complete portrait of cultural employment in the EU, including recent trends. Table 1 describes the classification adopted in this study. Appendix 1 presents the full list of the Definitions by Unit groups of ISCO-08.

Given the possibilities offered by the database we are using, the following six groups of occupations were

created by referring to the industries: core creative industries, cultural industries, architecture, material culture industries, information and communications technology (ICT) industries, and education. These groups reflect the vision introduced in the literature by Throsby (2009), shown in the concentric circles model of the cultural industries in Figure 1, and further develops it by including the ICT sector and, in the first part of our study, employment related to education.

Figure 1. Sectors in the concentric circles model



Source: Throsby (2009).

## 2. Sample of European countries

The choice of the sample of European countries to be analysed is based on the results of the CCI rank index calculated by Power and Nielsén (2010) when estimating the concentrations of employees in the CCIs in Europe. Their findings indicate that the largest concentrations of CCI employees in Europe are in major urban areas, confirming the academic research and literature that suggests that CC activities that become industrialized are concentrated in and attracted to large urban areas. Regional CCI specialization, however, is not limited to the largest urban areas and there is a strong relation between the presence of CCIs and regional prosperity. The measures at the national level, presented in Table 2, highlight different conditions in the 30 European countries, where the share of employment in the CCIs is calculated (CCI focus) and compared with the absolute number of employees.

We apply our analysis to the five highest CCI-ranked countries: the UK, Germany, Italy, Spain, and France (presented in alphabetical order in the tables). According to Santagata (2009), these five countries account for around 75% of the European cultural and creative sector. The five countries also represent different welfare and cultural models and each displays an inclination or a tradition in a

main sector. In the UK, ‘the leading sectors of the creative industries are software, computer games and electronic publishing, publishing, and TV & radio; together they account for around two thirds of the creative industries’ (Santagata, 2009, pag. 54). In France ‘publishing and advertising account for the lion’s share of cultural production, since they record the highest sales volumes’ (pag. 55). In Italy, the cultural production belongs to its history and local territory, cultural and natural heritage (tangible and intangible), traditional crafts, ‘quality products expressing aesthetics, decoration, design and traditional knowledge’ (pag. 55). The huge production sector of material culture goods, in Italy, mainly corresponds to the so-called made in Italy sectors, which are industrial design, designer fashion, house design and household goods, lifestyle, tourism, the wine and food industry, and light engineering (p. 17).

Our study can be seen as complementing the work undertaken, among others, by Santagata (2009) and Power and Nielsén (2010). The aim is to identify within the CC sectors the labour market specificities of workers, such as gender, education, and age, and to investigate the existence of critical issues such as specific skill mismatches, skill shortages, and adverse working conditions in cultural occupations.

Table 2. National labour markets and CCI rank

Country	CCI Focus	CCI Rank	CCI Employment
<b>United Kingdom</b>	3.12%	1	1,131,697
<b>Germany</b>	2.79%	2	956,668
<b>Italy</b>	2.66%	3	767,521
<b>Spain</b>	2.74%	4	655,042
<b>France</b>	2.52%	5	634,251
<i>Europe 27</i>	<i>7.71%</i>		<i>6,576,558</i>

Source: Power and Nielsén (2010).

Note: Focus indicates how large a share of the nation’s total employment the CCI sector constitutes. CCI rank is the rank in CCI employment. The data used cover employees but not sole traders (i.e. firms with no employees but one active owner) or freelancers.

### 3. Employment size in the CC sectors

We indicate as CCOs all the categorized groups of workers, considered together. The results of the calculations are displayed in Table 3 for the year 2012 for the five countries examined.

As a whole, in our sample of European countries, the CC sectors, including workers in the education field, employ over 4.3 million workers in Germany, the country with the highest absolute number of workers in our sample. The UK follows, with over 3.5 million people; then France and Italy, with more than 2.2 million each; and then Spain, with more than 1.5 million. Additionally, the results are presented for each group of occupations (in bold) and for the corresponding related activities.

Total CCO employment, computed in relation to total employment, shows that the CCOs comprise between 8.9% of all employees in France, the lowest percentage, and 12.7% in the UK, the highest percentage of total employment. Germany employs 11% of workers in CCOs, Italy 10.2%, and Spain 9.1%.

The breakdown of the data of employment in the cultural and creative sectors and their corresponding activities shows that, in absolute terms, education is the major sector in every country. However, a significant difference among countries emerges: Germany, the UK, and France employ over 1 million workers each (1,795,300, 1,225,100, and 1,112,120 workers, respectively) while Italy and Spain employ under 1 million workers each (805,200 and 715,870, respectively).

When we compare the employment levels in the education sector with the other CC sectors, in percentages, France has the largest share and the UK the smallest (Figure 2). This result is presented as an average between 2011 and 2012, as for all the results presented from Section 6 on. The aim of this study is to provide an updated picture of the countries' structure and characteristics concerning CCOs, avoiding as much as possible dependence on any particular situation affecting a country in one of the latest available years.

Table 3. CCO employment in selected EU countries, 2012

	France	Germany	Italy	Spain	UK
<b>Core creative occupations</b>	<b>206,140</b>	<b>432,480</b>	<b>159,950</b>	<b>126,750</b>	<b>337,780</b>
Librarians, archivists, and curators	21,660	46,850	22,560	18,310	34,020
Authors, journalists, and linguists	74,600	200,210	68,500	62,520	145,080
Creative and performing artists	109,880	185,420	68,890	45,920	158,680
<b>Cultural occupations</b>	<b>198,530</b>	<b>158,030</b>	<b>40,620</b>	<b>48,220</b>	<b>299,160</b>
<b>Architecture occupations</b>	<b>93,960</b>	<b>415,730</b>	<b>236,850</b>	<b>174,570</b>	<b>378,030</b>
<b>Material culture occupations</b>	<b>154,150</b>	<b>649,300</b>	<b>598,630</b>	<b>158,440</b>	<b>250,790</b>
Handicraft workers	44,410	105,780	164,280	25,850	67,270
Printing trades workers	44,640	159,860	75,370	35,070	76,780
Wood treaters and related workers	21,190	264,950	149,540	44,230	70,270
Garment and related workers	43,910	118,710	209,440	53,290	36,470
<b>Information occupations</b>	<b>504,930</b>	<b>917,460</b>	<b>455,810</b>	<b>333,820</b>	<b>1,131,060</b>
<b>Education occupations</b>	<b>1,112,120</b>	<b>1,795,300</b>	<b>805,200</b>	<b>715,870</b>	<b>1,225,100</b>
<b>Total workers in CCO</b>	<b>2,269,830</b>	<b>4,368,300</b>	<b>2,297,060</b>	<b>1,557,670</b>	<b>3,621,920</b>
<i>% on total employment</i>	<i>8.9%</i>	<i>11.0%</i>	<i>10.2%</i>	<i>9.1%</i>	<i>12.7%</i>
<i>Total employment</i>	<i>25,546,600</i>	<i>39,818,540</i>	<i>22,481,120</i>	<i>17,130,620</i>	<i>28,575,790</i>



In the core creative occupations, Germany involves over 430,000 workers, the UK about 338,000, France about 206,000, Italy almost 160,000, and Spain fewer than 130,000. Looking at the three activities forming this sector, the only notable difference with respect to the countries' ranking is for librarians, archivists, and curators, who number slightly more (by 900 employees) in Italy than in France. It is worth noting that this activity has the fewest employees with respect to the other two activities (authors, journalists, and linguists; creative and performing artists) for each country.

In the cultural occupations, the UK presents the highest number of workers (almost 300,000) and the gap between the second country, France (which employs almost 200,000 workers), is quite big (100,000 units). The UK has 141,130 more workers than Germany that has about 160,000 workers. Significantly fewer workers are employed in this sector in Spain (about 48,000) and in Italy (about 40,000).

Germany has the highest numbers in both the architecture and material culture occupations, whereas France has the lowest numbers. Note that architects number almost 416,000 in Germany, 378,000 in the UK, 237,000 in Italy, 175,000 in

Spain, and only 54,000 in France. The material culture occupations comprise more than 26% of the workers involved in CCOs in Italy, by far the highest percentage among all the countries. Garment workers (numbering almost 210,000), handicraft workers (almost 165,000), and wood treaters (almost 150,000) are especially numerous. This finding confirms the historical importance of fashion and handicraft in Italy.

In the information sector, the UK has over 1,130,000 workers, the highest number in both absolute and percentage (31%) terms among the sectors. Germany has about 917,000 workers, France almost 505,000, Italy 455,000, and Spain 333,000. In all these countries, the share of information occupations is about 20%.

Table 4 displays the details about the 2012 composition of the share of employment in the CCOs (as a percentage of the total number of CCOs, including education), presenting the weight of every sector and the CCO activity for the sample countries.

Table 4 shows that the sectors with the lowest percentage of CCOs are the architecture occupations in France and the cultural occupations in all the other countries. The cultural occupations are more important in France and the UK (over 8%) and less

Figure 2. CCO shares in selected EU countries, 2011–2012 average



so in Germany and Spain (slightly above 3%). In Italy, they represent only 1.8% of CCOs. Architecture constitutes 11% of CCOs in Spain; about 10% in the UK, Italy, and Germany; and only 4% in France.

The core creative occupations, which comprise about 10% in Germany, 9% in the UK and France, 8% in Spain, and 7% in Italy, are made up of the first minor group (librarians, archivists, and curators), which constitutes about 1% in all the countries; the second minor group (authors, journalists, and linguists) comprises 4.6% in Germany, 4% in the UK and Spain, and about 3% in France and Italy; the third minor group (creative and performing artists)

comprises over 4% in France, the UK, and Germany and 3% in Italy and Spain.

Material culture occupations, which are particularly important in Italy, represent 14% of CCOs in Germany, 10% in Spain, and less than 7% in the UK and France. In this sector, the share of printing trades workers is similar in all the countries (2–3%), but the percentages in the other activities change significantly across countries: 7% handicraft workers in Italy and between 1.7% and 2.4% in the other countries. Wood treaters comprises over 6% in Italy and Germany, about 3% in Spain, about 2% in the UK, and about 1% in France. Garment workers comprise 9% in Italy, 3.4% in Spain, 2.7% in Germany, 1.9% in France, and only 1% in the UK.

Table 4. Composition of the share of CCOs in selected EU countries, 2012

	France	Germany	Italy	Spain	UK
<b>Core creative occupations</b>	<b>9.1%</b>	<b>9.9%</b>	<b>7.0%</b>	<b>8.1%</b>	<b>9.3%</b>
Librarians, archivists, and curators	1.0%	1.1%	1.0%	1.2%	0.9%
Authors, journalists, and linguists	3.3%	4.6%	3.0%	4.0%	4.0%
Creative and performing artists	4.8%	4.2%	3.0%	2.9%	4.4%
<b>Cultural occupations</b>	<b>8.7%</b>	<b>3.6%</b>	<b>1.8%</b>	<b>3.1%</b>	<b>8.3%</b>
<b>Architecture occupations</b>	<b>4.1%</b>	<b>9.5%</b>	<b>10.3%</b>	<b>11.2%</b>	<b>10.4%</b>
<b>Material culture occupations</b>	<b>6.8%</b>	<b>14.9%</b>	<b>26.1%</b>	<b>10.2%</b>	<b>6.9%</b>
Handicraft workers	2.0%	2.4%	7.2%	1.7%	1.9%
Printing trades workers	2.0%	3.7%	3.3%	2.3%	2.1%
Wood treaters and related workers	0.9%	6.1%	6.5%	2.8%	1.9%
Garment and related workers	1.9%	2.7%	9.1%	3.4%	1.0%
<b>Information occupations</b>	<b>22.2%</b>	<b>21.0%</b>	<b>19.8%</b>	<b>21.4%</b>	<b>31.2%</b>
<b>Education occupations</b>	<b>49.0%</b>	<b>41.1%</b>	<b>35.1%</b>	<b>46.0%</b>	<b>33.8%</b>
<i>Total CCO (including education)</i>	<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>	<i>100.0%</i>

## 4. Employment distribution in the creative economy

Since the main focus of this report is the creative economy, the analysis that follows excludes education occupations. The literature on the teachers' labour market follows a specific publication track, while there is a lack of recent and comparative studies on the key CCOs.

The information sector can be, on the contrary, considered a key creative economy sector per se, given the Internet revolution and the increasing value of creativity characterizing the sector. Moreover, diffusing its knowledge could provide benefits and greater development opportunities to all cultural and creative sectors and, consequently, to the entire economic system in all developed and developing countries.

Table 5 offers a more precise and comparable snapshot of the actual distribution of occupations in the creative economy of the five selected European

countries. The data are displayed for 2011 and 2012 to allow a direct comparison and the detection of recent trends. Table 5 presents the share of employment in each CCO (similar to Table 4), excluding education occupations.

The data reveal that the UK and France are the most specialized in the information sector, whereas Italy is heavily specialized in material culture occupations. The core creative occupations have the highest values in France (19.7% and 17.8%) and similar values characterize Germany (19% and 16.8%). Italy displays the lowest percentages (around 10%). It is worth noting that, among the countries considered, Italy has the lowest share of creative and performing artists and France the highest. The same is the case for the group of cultural occupations, with Italy having the lowest percentage (below 3%) and France the highest (around 17%).

Table 5. Occupations in the creative economy in selected EU countries

	France		Germany		Italy		Spain		UK	
	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012
<b>Core creative occupations</b>	<b>19.7%</b>	<b>17.8%</b>	<b>19.0%</b>	<b>16.8%</b>	<b>10.5%</b>	<b>10.7%</b>	<b>15.3%</b>	<b>15.1%</b>	<b>14.8%</b>	<b>14.1%</b>
Librarians, archivists, and curators	2.1%	1.9%	2.1%	1.8%	1.4%	1.5%	2.1%	2.2%	1.6%	1.4%
Authors, journalists, and linguists	7.1%	6.4%	8.3%	7.8%	4.7%	4.6%	7.5%	7.4%	5.9%	6.1%
Creative and performing artists	10.6%	9.5%	8.6%	7.2%	4.4%	4.6%	5.7%	5.5%	7.3%	6.6%
<b>Cultural occupations</b>	<b>16.7%</b>	<b>17.1%</b>	<b>3.8%</b>	<b>6.1%</b>	<b>2.9%</b>	<b>2.7%</b>	<b>5.6%</b>	<b>5.7%</b>	<b>10.6%</b>	<b>12.5%</b>
<b>Architecture occupations</b>	<b>9.0%</b>	<b>8.1%</b>	<b>18.3%</b>	<b>16.2%</b>	<b>15.6%</b>	<b>15.9%</b>	<b>18.5%</b>	<b>20.7%</b>	<b>16.5%</b>	<b>15.8%</b>
<b>Material culture occupations</b>	<b>13.6%</b>	<b>13.3%</b>	<b>23.0%</b>	<b>25.2%</b>	<b>41.1%</b>	<b>40.1%</b>	<b>21.2%</b>	<b>18.8%</b>	<b>11.5%</b>	<b>10.5%</b>
Handicraft workers	3.6%	3.8%	5.0%	4.1%	12.7%	11.0%	4.0%	3.1%	3.3%	2.8%
Printing trades workers	5.1%	3.9%	4.5%	6.2%	4.9%	5.1%	5.3%	4.2%	3.1%	3.2%
Wood treaters and related workers	1.6%	1.8%	10.6%	10.3%	9.9%	10.0%	5.5%	5.3%	3.3%	2.9%
Garment and related workers	3.2%	3.8%	3.0%	4.6%	13.6%	14.0%	6.4%	6.3%	1.7%	1.5%
<b>Information occupations</b>	<b>41.1%</b>	<b>43.6%</b>	<b>35.8%</b>	<b>35.7%</b>	<b>29.9%</b>	<b>30.6%</b>	<b>39.4%</b>	<b>39.7%</b>	<b>46.6%</b>	<b>47.2%</b>
<i>Total CCO (excluding education)</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>

## 5. Importance of CCOs in the creative economy

This section tries to answer a highly debated issue in recent years. All the reports on the CC economy published since the seminal work of KEA (2006) aim at evaluating the level of occupation deriving from sectors not commonly considered crucial to economic development. Table 6 presents our answer to the same question, further allowing an international comparison at the EU level. To ensure that our results do not depend too much on the year of observation, all the following tables and data are computed as an average for the years 2011 and 2012.

In Table 6, CCO employment is measured as a percentage of total employment. The data displayed in Table 6 show that CCOs represent, on the whole, between 8.2% (UK) and 4.7% (France) of total employment. Clearly, the

weight of each sector reflects the results presented in the previous tables. However, Table 6 allows for a direct evaluation of the consistency of each kind of CCO in the selected countries.

The strongest evidence applies to the information occupations, which, in the UK, account for nearly 4% of total occupations, and to material culture occupations, which are the biggest sector in Italy and consist of around 2.5% of total occupations. When we consider the core CC occupations, the basic sectors of the creative economy, the UK and Germany rank first among the first group of activities and the UK and France among the second group of activities. Creative and performing artists represent only about 0.5% of all employment, with even lower percentages for Italy and Spain.

Table 6. CCO employment percentage in selected EU countries

	France	Germany	Italy	Spain	UK
<b>Core creative occupations</b>	<b>0.88%</b>	<b>1.13%</b>	<b>0.69%</b>	<b>0.77%</b>	<b>1.18%</b>
Librarians, archivists, and curators	0.09%	0.12%	0.10%	0.11%	0.12%
Authors, journalists, and linguists	0.32%	0.51%	0.30%	0.38%	0.49%
Creative and performing artists	0.47%	0.50%	0.30%	0.28%	0.57%
<b>Cultural occupations</b>	<b>0.79%</b>	<b>0.32%</b>	<b>0.18%</b>	<b>0.29%</b>	<b>0.95%</b>
<b>Architecture occupations</b>	<b>0.40%</b>	<b>1.09%</b>	<b>1.03%</b>	<b>0.98%</b>	<b>1.32%</b>
<b>Material culture occupations</b>	<b>0.63%</b>	<b>1.53%</b>	<b>2.66%</b>	<b>1.01%</b>	<b>0.89%</b>
Handicraft workers	0.17%	0.29%	0.78%	0.18%	0.25%
Printing trades workers	0.21%	0.34%	0.33%	0.24%	0.26%
Wood treaters and related workers	0.08%	0.66%	0.65%	0.27%	0.25%
Garment and related workers	0.16%	0.24%	0.91%	0.32%	0.13%
<b>Information occupations</b>	<b>1.98%</b>	<b>2.26%</b>	<b>1.98%</b>	<b>1.99%</b>	<b>3.83%</b>
<i>CCO % on total employment</i>	<i>4.7%</i>	<i>6.3%</i>	<i>6.6%</i>	<i>5.0%</i>	<i>8.2%</i>

## 6. Worker education levels in the creative economy

Education levels could affect the occupation levels in different CCO sectors. Manual trades can have lower education levels, while architectural, information, and other cultural occupations (e.g. journalists, linguists, musicians, and composers) require higher education levels. Table 7 presents the percentage of workers with low education (i.e. lower secondary), medium education (i.e. upper secondary), and high education (i.e. third level). The table is divided into three parts and it can be considered a direct measure of the level of human capital embedded, according to the traditional measure based on the level of education<sup>1</sup>.

In every country (especially Italy and Spain), the material culture occupations have more workers with low education (see the top part of Table 7), particularly garment and related workers. In Italy and Spain, workers with this level of education comprise, respectively, 63.8% and 63.9% of all of them and are distributed among several activities, particularly in the garment and wood treatment sectors. The cultural sector also has a significant percentage of workers in Italy, Spain, and the UK.

Workers with high education (displayed in the last part of Table 7) are mainly architects; workers in the core creative sectors, such as librarians, archivists, and curators (especially in Spain, where they comprise 100% of workers with high education); authors, journalists, and linguists; and creative and performing artists. The same percentages can also be found in the information occupations in all the countries, even if the share in Italy is lower than in the other nations. In the cultural occupations, there is also a good share of workers with high education, especially in France (50%) and Spain (52.6%). In the material culture occupations, few workers have a high level of education, but this result is particularly striking in Italy, where they represent just 2%.

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<sup>1</sup> For a discussion on the role of education in differentiating human from cultural capital in the framework of employment productivity, see Bucci, Sacco, and Segre (2014).

Table 7. CCO workers by education levels in selected EU countries

Share of workers with low education	France	Germany	Italy	Spain	UK
<b>Core creative occupations</b>	<b>9.9%</b>	<b>2.8%</b>	<b>7.0%</b>	<b>0.7%</b>	<b>6.5%</b>
Librarians, archivists, and curators	3.3%	0.8%	9.1%	0.0%	5.3%
Authors, journalists, and linguists	4.1%	2.1%	1.3%	0.0%	3.7%
Creative and performing artists	15.1%	3.9%	12.2%	1.8%	9.3%
<b>Cultural occupations</b>	<b>9.0%</b>	<b>4.4%</b>	<b>24.9%</b>	<b>24.6%</b>	<b>21.2%</b>
<b>Architecture occupations</b>	<b>9.9%</b>	<b>2.4%</b>	<b>3.7%</b>	<b>0.0%</b>	<b>3.4%</b>
<b>Material culture occupations</b>	<b>26.7%</b>	<b>18.0%</b>	<b>63.8%</b>	<b>63.9%</b>	<b>29.6%</b>
Handicraft workers	19.9%	16.8%	58.8%	53.7%	26.3%
Printing trades workers	29.1%	12.6%	51.7%	52.2%	32.8%
Wood treaters and related workers	23.4%	20.3%	64.7%	74.5%	30.0%
Garment and related workers	32.4%	20.9%	71.8%	69.4%	28.9%
<b>Information occupations</b>	<b>4.5%</b>	<b>2.8%</b>	<b>3.9%</b>	<b>1.8%</b>	<b>6.0%</b>
<i>Total Creative &amp; Culture Occupations</i>	<i>9.7%</i>	<i>6.5%</i>	<i>29.1%</i>	<i>15.0%</i>	<i>9.9%</i>
<i>Other Occupations</i>	<i>22.8%</i>	<i>14.1%</i>	<i>36.1%</i>	<i>39.3%</i>	<i>20.3%</i>
Share of workers with medium education	France	Germany	Italy	Spain	UK
<b>Core creative occupations</b>	<b>25.6%</b>	<b>24.8%</b>	<b>45.6%</b>	<b>16.7%</b>	<b>16.1%</b>
Librarians, archivists, and curators	21.7%	17.7%	45.1%	0.0%	15.9%
Authors, journalists, and linguists	19.5%	22.5%	40.7%	6.7%	10.9%
Creative and performing artists	30.5%	28.9%	50.8%	36.4%	20.7%
<b>Cultural occupations</b>	<b>41.0%</b>	<b>67.8%</b>	<b>60.3%</b>	<b>22.8%</b>	<b>51.3%</b>
<b>Architecture occupations</b>	<b>27.6%</b>	<b>20.7%</b>	<b>22.4%</b>	<b>12.9%</b>	<b>11.0%</b>
<b>Material culture occupations</b>	<b>57.9%</b>	<b>76.3%</b>	<b>34.1%</b>	<b>23.2%</b>	<b>52.1%</b>
Handicraft workers	55.7%	73.5%	38.3%	22.5%	47.7%
Printing trades workers	57.5%	81.8%	47.0%	33.9%	56.0%
Wood treaters and related workers	63.2%	75.8%	33.8%	17.4%	53.5%
Garment and related workers	58.0%	73.5%	26.2%	20.6%	50.2%
<b>Information occupations</b>	<b>18.5%</b>	<b>44.8%</b>	<b>65.1%</b>	<b>13.6%</b>	<b>25.7%</b>
<i>Total Creative &amp; Culture Occupations</i>	<i>29.7%</i>	<i>45.9%</i>	<i>43.6%</i>	<i>16.4%</i>	<i>27.7%</i>
<i>Other Occupations</i>	<i>46.1%</i>	<i>61.2%</i>	<i>49.0%</i>	<i>25.7%</i>	<i>45.1%</i>
Share of workers with high education	France	Germany	Italy	Spain	UK
<b>Core creative occupations</b>	<b>64.5%</b>	<b>72.4%</b>	<b>47.4%</b>	<b>82.6%</b>	<b>77.4%</b>
Librarians, archivists, and curators	75.0%	81.5%	45.8%	100.0%	78.7%
Authors, journalists, and linguists	76.4%	75.4%	58.1%	93.3%	85.4%
Creative and performing artists	54.5%	67.2%	37.0%	61.8%	70.0%
<b>Cultural occupations</b>	<b>50.0%</b>	<b>27.8%</b>	<b>14.8%</b>	<b>52.6%</b>	<b>27.6%</b>
<b>Architecture occupations</b>	<b>62.5%</b>	<b>76.9%</b>	<b>73.9%</b>	<b>87.1%</b>	<b>85.7%</b>
<b>Material culture occupations</b>	<b>15.5%</b>	<b>5.6%</b>	<b>2.0%</b>	<b>12.9%</b>	<b>18.3%</b>
Handicraft workers	24.5%	9.7%	3.0%	23.8%	26.1%
Printing trades workers	13.4%	5.6%	1.2%	13.9%	11.2%
Wood treaters and related workers	13.4%	4.0%	1.5%	8.1%	16.5%
Garment and related workers	9.6%	5.6%	1.9%	10.0%	20.9%
<b>Information occupations</b>	<b>77.0%</b>	<b>52.4%</b>	<b>31.0%</b>	<b>84.6%</b>	<b>68.3%</b>
<i>Total Creative &amp; Culture Occupations</i>	<i>60.6%</i>	<i>47.7%</i>	<i>27.3%</i>	<i>68.6%</i>	<i>62.4%</i>
<i>Other Occupations</i>	<i>31.1%</i>	<i>24.8%</i>	<i>14.9%</i>	<i>35.1%</i>	<i>34.6%</i>

Note: Low education= lower secondary, medium education= upper secondary, high education = third level.

## 7. Occupations in the creative economy by gender

This section presents the analysis of the female participation in the CCO labour market. Table 8 shows the percentage of women employed in the sectors and activities under investigation and compares these with the level of female employment characterizing each countries.

This basic investigation of the labour market reveals that women face more difficulties finding a job in CCO compared to men, even given their already lower percentage in the rest of the economy. Women are moderately present in the CCOs in each country and in every CC sector. On average, women represent less than one-third of the total CCO employment and comprise a smaller share in the total of other occupations, where they represent between 41% (in Italy) and 48% (in the UK and France). When observing the total CCO market, Table 8 highlights a lower fraction of women in the CCO labour market in the United Kingdom (25.3%) than in the other countries, whereas Italy has the highest share of women (32%). The other countries range in between.

The presence of women is notable in the core creative occupations, where they represent almost half of all workers (between 46.8% in Italy and 49.4% in

Germany) in each country and in all minor groups of activities, particularly librarians, archivists, and curators; then authors, journalists, and linguists; and finally creative and performing artists. The country with the highest and lowest values percentage of women in these activities is Spain, with 80.0% of women in the first activity and 27.5% in the third. In cultural occupations, women are a notably smaller percentage, between 25.5% in the UK and 38.6% and 38.7%, respectively, in Spain and France.

Garment and related workers have the highest percentages (above 50% and up to 65.7% in Germany) in the material culture occupations, probably due to the important presence of tailors and dressmakers. The presence of women decreases greatly, however, among printing trades workers, dropping even lower among wood treaters and related workers.

The architecture occupations have the highest percentages of women in Italy (43.7%) and Germany (42.6%); in France, however, women comprise only 24.4%.

There are very few women in the information occupations, particularly in German (13%), Italy, the UK, and France (about 17%), with only Spain having over 20%.

Table 8. Share of women in CCO in selected EU countries

	France	Germany	Italy	Spain	UK
<b>Core creative occupations</b>	<b>47.0%</b>	<b>49.4%</b>	<b>46.8%</b>	<b>46.8%</b>	<b>48.1%</b>
Librarians, archivists, and curators	73,2%	69,2%	64,9%	80,0%	74,2%
Authors, journalists, and linguists	49,7%	53,8%	51,5%	51,8%	54,5%
Creative and performing artists	39,9%	40,1%	36,0%	27,5%	36,9%
<b>Cultural occupations</b>	<b>38,7%</b>	<b>37,0%</b>	<b>35,2%</b>	<b>38,6%</b>	<b>25,5%</b>
<b>Architecture occupations</b>	<b>24,4%</b>	<b>42,6%</b>	<b>43,7%</b>	<b>31,0%</b>	<b>31,9%</b>
<b>Material culture occupations</b>	<b>38,0%</b>	<b>24,1%</b>	<b>34,6%</b>	<b>29,0%</b>	<b>20,5%</b>
Handicraft workers	38,7%	29,0%	35,8%	22,8%	19,2%
Printing trades workers	27,8%	27,1%	19,0%	23,3%	17,0%
Wood treaters and related workers	16,6%	5,1%	5,8%	4,5%	9,7%
Garment and related workers	60,8%	65,7%	59,8%	57,7%	50,5%
<b>Information occupations</b>	<b>17,5%</b>	<b>13,0%</b>	<b>16,8%</b>	<b>20,9%</b>	<b>17,1%</b>
<i>Total CCO</i>	<i>30,0%</i>	<i>28,5%</i>	<i>32,0%</i>	<i>29,4%</i>	<i>25,3%</i>
<i>Other Occupations</i>	<i>47,9%</i>	<i>46,9%</i>	<i>41,1%</i>	<i>45,4%</i>	<i>47,9%</i>

## 8. Extent of foreign labour among CC workers

CCIs are linked to the territory and its culture, to popular culture, to traditions and ancient crafts, and to cultural and creative districts. However, culture and creativity are highly universal and, to some extent, global. The provenance of workers in CCOs is, then, of particular interest. In Table 9, the percentage of domestic workers is calculated for every country.

On average, there are more domestic workers in CCOs than in the other occupations in all the countries, with the exception of the UK, where there are more foreign workers. In all the other countries, domestic workers comprise over 90% of the total CCO workers, while in the UK they comprise 87.2%. In France and in Italy, they comprise about 94% and, in Germany and Spain, about 91%.

In all countries, the architecture occupations record the highest numbers of domestic workers.

In Spain, librarians, archivists, and curators are domestic workers; this is the only activity in which

there are no foreigners. The percentages of domestic workers are also very high (98.9%) in Italy and France, while, in the UK, it is the lowest (80.3%) of the countries, as well as among the other activities of the core of creative occupations in the UK. In this CC sector, between creative and performing artists, Spain has the lowest percentage of domestic employees (79.4%) and the UK the highest (93.6%), as among printing trades workers in material culture occupations. The percentage of domestic workers in this last activity remains the lowest, since it is above 90% in the other activities, especially in Spain, where it is 99.4%.

The UK again presents the lowest number of domestic workers in cultural occupations and this 78.5% is the lowest percentage among all CC sectors and activities. Other interesting facts about domestic workers are that they comprise 98.1% of printing trades workers and 98.6% of wood treaters in France and 96.1% of cultural occupations, 97.7% of architecture occupations, and 98.3% of information occupations in Italy.

Table 9. Share of domestic workers in CCOs in selected EU countries

	France	Germany	Italy	Spain	UK
<b>Core creative occupations</b>	<b>92.9%</b>	<b>87.2%</b>	<b>94.3%</b>	<b>86.8%</b>	<b>88.4%</b>
Librarians, archivists, and curators	98,9%	94,3%	98,9%	100,0%	80,3%
Authors, journalists, and linguists	91,4%	89,9%	93,3%	88,6%	84,5%
Creative and performing artists	92,7%	82,6%	93,9%	79,4%	93,6%
<b>Cultural occupations</b>	<b>95,9%</b>	<b>92,3%</b>	<b>96,1%</b>	<b>90,9%</b>	<b>78,5%</b>
<b>Architecture occupations</b>	<b>94,8%</b>	<b>93,4%</b>	<b>97,7%</b>	<b>93,8%</b>	<b>90,5%</b>
<b>Material culture occupations</b>	<b>94,4%</b>	<b>91,2%</b>	<b>88,7%</b>	<b>90,7%</b>	<b>91,5%</b>
Handicraft workers	92,9%	90,0%	91,6%	91,3%	94,3%
Printing trades workers	98,1%	94,0%	94,2%	99,4%	93,6%
Wood treaters and related workers	98,6%	93,5%	86,5%	91,6%	90,2%
Garment and related workers	89,3%	82,1%	85,8%	83,0%	84,5%
<b>Information occupations</b>	<b>94,9%</b>	<b>92,5%</b>	<b>98,3%</b>	<b>91,3%</b>	<b>86,8%</b>
<i>Total CCO</i>	<i>94,6%</i>	<i>91,4%</i>	<i>93,8%</i>	<i>90,9%</i>	<i>87,2%</i>
<i>Other Occupations</i>	<i>94,4%</i>	<i>90,6%</i>	<i>89,3%</i>	<i>86,6%</i>	<i>91,0%</i>



## 9. Worker ages in the CC professions

The analysis considers the ages of workers (Table 10) and specifies the age class percentages of each country (Table 11). The percentage distribution by age allows for a comparison of the demographic structures of the populations in the different countries.

Among the most popular indicators, average age is better than others in synthesizing the composition of the ages in the population and allows for a simple but effective parameter of comparison between socio-territorial differences. This indicator provides a useful starting point for an analysis of the demographic structure of the CCO labour market.

The average age of workers in the total CCO labour market is slightly lower than in the other occupations for each country. The difference in average ages between CCOs and other occupations is less than two years in Spain and only five to 12 months in the other countries. Italy has the highest average age, 41.2, followed by Germany, with 40.6 years; France,

with 39.8 years; the UK, with 39.5 years; and Spain, the youngest country, with 39.1 years.

Workers with the lowest average age (36.5 years) are in the cultural occupations in the UK, followed by information occupations in Spain (36.7 years) and cultural occupations in France (37.3 years). The highest average age appears among librarians, archivists, and curators in Germany (48.9 years) and in the other countries.

In all the investigated countries the workers in material culture are in average over 40 years and among them those working in garment and related workers are the oldest (42.3–45.9 years). The youngest CC sector is the information sector, where all workers are under 40 years old.

The youngest median age, however, is 37 years and the oldest is 52 years. Librarians, archivists, and curators have a median age of 52 years in France and Germany, while they are younger in the other countries. The median age of creative and performing

Table 10. CCO worker ages in selected EU countries

	FR	DE	IT	SP	UK	FR	DE	IT	SP	UK
	Average age					Median age				
<b>Core creative occupations</b>	<b>41.8</b>	<b>43.2</b>	<b>42.5</b>	<b>39.0</b>	<b>40.4</b>	<b>42</b>	<b>42</b>	<b>42</b>	<b>37</b>	<b>37</b>
Librarians, archivists, and curators	47.7	48.9	45.6	40.5	43.7	52	52	47	42	47
Authors, journalists, and linguists	41.2	42.8	42.1	38.3	40.5	42	42	42	37	37
Creative and performing artists	41.1	42.2	41.8	39.2	39.6	42	42	42	37	37
<b>Cultural occupations</b>	<b>37.3</b>	<b>40.9</b>	<b>42.4</b>	<b>40.2</b>	<b>36.5</b>	<b>37</b>	<b>42</b>	<b>42</b>	<b>42</b>	<b>37</b>
<b>Architecture occupations</b>	<b>41.2</b>	<b>41.2</b>	<b>41.2</b>	<b>39.0</b>	<b>40.6</b>	<b>42</b>	<b>42</b>	<b>42</b>	<b>37</b>	<b>42</b>
<b>Material culture occupations</b>	<b>44.3</b>	<b>40.3</b>	<b>42.2</b>	<b>43.5</b>	<b>42.6</b>	<b>47</b>	<b>42</b>	<b>42</b>	<b>42</b>	<b>42</b>
Handicraft workers	45.7	39.1	42.1	40.7	43.3	47	42	42	37	42
Printing trades workers	43.2	40.5	42.3	41.9	43.1	42	42	42	42	42
Wood treaters and related workers	45.0	38.9	42.0	44.2	40.8	47	42	42	47	42
Garment and related workers	44.0	45.1	42.3	45.9	44.1	47	47	42	47	47
<b>Information occupations</b>	<b>38.2</b>	<b>39.2</b>	<b>39.3</b>	<b>36.7</b>	<b>38.9</b>	<b>37</b>	<b>37</b>	<b>37</b>	<b>37</b>	<b>37</b>
<i>Total CCO</i>	<i>39.8</i>	<i>40.6</i>	<i>41.2</i>	<i>39.1</i>	<i>39.5</i>	<i>37</i>	<i>42</i>	<i>42</i>	<i>37</i>	<i>37</i>
<i>Other Occupations</i>	<i>40.8</i>	<i>41.4</i>	<i>41.7</i>	<i>41.2</i>	<i>39.9</i>	<i>42</i>	<i>42</i>	<i>42</i>	<i>42</i>	<i>42</i>

Table 11. Age class percentages in CCOs in selected EU countries

	15-24	25-34	35-44	45-54	55+
<b>France</b>					
<b>Core creative occupations</b>	<b>3.22</b>	<b>26.41</b>	<b>29.18</b>	<b>26.69</b>	<b>14.51</b>
Librarians, archivists, and curators	2.15	10.99	26.44	27.64	32.79
Authors, journalists, and linguists	3.14	27.93	28.74	29.02	11.17
Creative and performing artists	3.48	28.41	30.02	24.92	13.18
<b>Cultural occupations</b>	<b>7.85</b>	<b>37.10</b>	<b>28.46</b>	<b>21.29</b>	<b>5.30</b>
<b>Architecture occupations</b>	<b>4.57</b>	<b>27.38</b>	<b>28.33</b>	<b>24.71</b>	<b>15.01</b>
<b>Material culture occupations</b>	<b>4.08</b>	<b>15.16</b>	<b>28.69</b>	<b>33.04</b>	<b>19.03</b>
Handicraft workers	1.52	15.68	27.63	30.08	25.09
Printing trades workers	3.68	16.52	31.86	34.71	13.23
Wood treaters and related workers	0.70	21.24	22.10	37.06	18.89
Garment and related workers	8.94	9.87	28.98	32.04	20.16
<b>Information occupations</b>	<b>6.35</b>	<b>34.55</b>	<b>31.72</b>	<b>19.88</b>	<b>7.50</b>
<i>Total Creative &amp; Culture Occupations</i>	<i>5.56</i>	<i>30.23</i>	<i>29.99</i>	<i>23.58</i>	<i>10.63</i>
<b>Germany</b>					
<b>Core creative occupations</b>	<b>2.78</b>	<b>22.00</b>	<b>28.71</b>	<b>29.05</b>	<b>17.46</b>
Librarians, archivists, and curators	2.12	9.15	17.46	37.13	34.14
Authors, journalists, and linguists	2.47	23.06	31.02	25.86	17.59
Creative and performing artists	3.26	24.11	29.14	30.29	13.20
<b>Cultural occupations</b>	<b>7.48</b>	<b>23.56</b>	<b>28.36</b>	<b>29.35</b>	<b>11.26</b>
<b>Architecture occupations</b>	<b>5.94</b>	<b>24.93</b>	<b>28.30</b>	<b>29.07</b>	<b>11.76</b>
<b>Material culture occupations</b>	<b>15.98</b>	<b>17.65</b>	<b>23.76</b>	<b>27.47</b>	<b>15.14</b>
Handicraft workers	21.41	17.01	21.64	22.46	17.48
Printing trades workers	12.53	21.90	25.56	23.57	16.44
Wood treaters and related workers	18.62	17.42	25.34	28.58	10.04
Garment and related workers	7.18	13.04	19.44	35.89	24.45
<b>Information occupations</b>	<b>7.98</b>	<b>29.63</b>	<b>30.39</b>	<b>23.12</b>	<b>8.88</b>
<i>Total Creative &amp; Culture Occupations</i>	<i>8.61</i>	<i>24.26</i>	<i>28.02</i>	<i>26.57</i>	<i>12.54</i>
<b>Italy</b>					
<b>Core creative occupations</b>	<b>2.67</b>	<b>23.23</b>	<b>30.39</b>	<b>30.09</b>	<b>13.62</b>
Librarians, archivists, and curators	0.65	15.45	25.73	36.71	21.46
Authors, journalists and linguists	2.79	24.69	29.68	29.56	13.29
Creative and performing artists	3.20	24.24	32.62	28.49	11.44
<b>Cultural occupations</b>	<b>3.06</b>	<b>21.98</b>	<b>32.83</b>	<b>25.65</b>	<b>16.49</b>
<b>Architecture occupations</b>	<b>2.35</b>	<b>25.78</b>	<b>36.42</b>	<b>22.51</b>	<b>12.94</b>
<b>Material culture occupations</b>	<b>4.87</b>	<b>19.14</b>	<b>33.21</b>	<b>30.04</b>	<b>12.74</b>
Handicraft workers	4.41	19.24	34.06	30.10	12.19
Printing trades workers	3.77	19.71	34.11	29.29	13.12
Wood treaters and related workers	5.60	19.05	33.15	29.90	12.30
Garment and related workers	5.12	18.93	32.21	30.35	13.39
<b>Information occupations</b>	<b>3.49</b>	<b>28.61</b>	<b>39.37</b>	<b>22.56</b>	<b>5.97</b>
<i>Total Creative &amp; Culture Occupations</i>	<i>3.77</i>	<i>23.56</i>	<i>35.27</i>	<i>26.47</i>	<i>10.92</i>
<b>Spain</b>					
<b>Core creative occupations</b>	<b>3.83</b>	<b>37.34</b>	<b>29.05</b>	<b>21.66</b>	<b>8.12</b>
Librarians, archivists, and curators	3.29	32.10	24.49	31.64	8.48
Authors, journalists and linguists	2.74	40.28	29.78	20.29	6.91
Creative and performing artists	5.48	35.43	29.82	19.66	9.61
<b>Cultural occupations</b>	<b>7.60</b>	<b>24.46</b>	<b>29.32</b>	<b>32.05</b>	<b>6.56</b>
<b>Architecture occupations</b>	<b>2.02</b>	<b>40.46</b>	<b>29.12</b>	<b>19.48</b>	<b>8.92</b>
<b>Material culture occupations</b>	<b>3.78</b>	<b>20.73</b>	<b>27.27</b>	<b>30.27</b>	<b>17.94</b>
Handicraft workers	4.82	29.22	30.53	21.32	14.11
Printing trades workers	5.10	21.42	31.69	33.46	8.33
Wood treaters and related workers	4.18	17.27	26.99	31.88	19.67
Garment and related workers	1.88	18.38	22.36	31.56	25.83

<b>Information occupations</b>	<b>3.55</b>	<b>42.36</b>	<b>36.48</b>	<b>15.45</b>	<b>2.16</b>
<i>Total Creative &amp; Culture Occupations</i>	<i>3.57</i>	<i>35.87</i>	<i>31.66</i>	<i>21.10</i>	<i>7.80</i>
<b>UK</b>					
<b>Core creative occupations</b>	<b>8.02</b>	<b>28.23</b>	<b>25.56</b>	<b>20.88</b>	<b>17.31</b>
Librarians, archivists, and curators	1.38	24.72	23.30	28.03	22.57
Authors, journalists, and linguists	5.53	30.31	26.32	22.32	15.52
Creative and performing artists	11.62	27.20	25.39	18.07	17.72
<b>Cultural occupations</b>	<b>17.51</b>	<b>31.31</b>	<b>23.40</b>	<b>21.22</b>	<b>6.57</b>
<b>Architecture occupations</b>	<b>6.10</b>	<b>26.54</b>	<b>29.64</b>	<b>24.45</b>	<b>13.27</b>
<b>Material culture occupations</b>	<b>10.02</b>	<b>18.45</b>	<b>23.78</b>	<b>27.87</b>	<b>19.88</b>
Handicraft workers	10.62	17.94	22.73	23.96	24.75
Printing trades workers	7.30	17.50	27.45	30.73	17.02
Wood treaters and related workers	13.33	21.54	21.26	28.02	15.85
Garment and related workers	7.81	15.32	23.47	29.47	23.93
<b>Information occupations</b>	<b>6.32</b>	<b>31.54</b>	<b>31.84</b>	<b>21.75</b>	<b>8.55</b>
<i>Total CCO</i>	<i>8.23</i>	<i>28.79</i>	<i>28.72</i>	<i>22.67</i>	<i>11.59</i>

artists is five years lower in Spain and the UK and 42 years in the other countries. The same range of median ages characterizes the cultural occupations, where France and the UK have the lowest median ages, whereas in the architecture sector Spain has the lowest median age. Workers in the material culture sectors are all over 40 years old, with a median age of 42 years in all the countries except France, where the median age is 47 years.

By dividing the sample into five age classes, Table 11 displays the results starting from 15 years old (or the youngest working age) to over 55 years.

Not surprisingly, in every country, the class with the fewest workers is the youngest (15–24 years), representing 3.57–3.77% of all CCO workers in Italy and Spain, 5.56 % in France, and 8.23–8.61% in UK and Germany. The percentages of the oldest workers (over 55 years) range from 7.80% of Spain to 12.54% of Germany. However, three intermediate classes (25–34, 35–44, and 45–54 years) vary from country to country. The second class varies from 23.56% for Italy to 35.87% for Spain, the third central class varies from 29.99% for France to 35.27% for Italy (the highest percentage among all age classes), and the fourth class varies from 21.10% for Spain to 26.57% for Germany. Looking at all CCOs, it is notable that UK and France have workers in various classes, Spain has more people in the second and third classes, Italy has a higher concentration of

workers in the central age class, as does Germany, even if it has lower values.

Regarding the distribution of ages among the CC sectors and activities, the lowest rates are between 15 and 24 years, in Italy, among librarians, archivists, and curators (0.65%), and in France, among wood treaters and related workers (0.70%). The highest rates are for Spain, in the information occupations (42.36%) in the second class (25–34 years old), in the architecture occupations (40.46%), and among authors, journalists, and linguists (40.28 %).

The core creative sector and its activities record the lowest percentages in the first class (about 2–4% for each country except the UK, with 8.02%) and lower percentages also in the last class (8.12% in Spain and 13.62–17.46% in the other countries) than in the other classes. The percentages are between 20–30% and 37.34% in the second age class (25–34 years) in Spain, with 40.28% for authors, journalists, and linguists. However, there are especially more workers in the central class (35–44 years); only in Germany are there slightly more (0.34%) workers 45–54 years old.

In the cultural sector, the same subdivision of workers is seen among several classes of the core creative sector. Youngest workers consist of only a small percentage (about 3%) in Italy; above 7% in France, Germany, and Spain; and 17.51% in the UK.

France's greatest percentage of workers (37.10%) consists of those 25–34 years old. The three central classes all comprise between 21% and 33% of workers. The last class is again smaller, at 5.30–6.57% in France, Spain, and the UK; 11.26% in Germany, and 16.49% in Italy.

Regarding the architecture sector, besides the highest percentage of 25- to 34-year-olds (40.46%) for Spain, mentioned earlier, Italy's percentage is 36.42%. Similarly, in the information sector, besides Spain's high value of 42.36% mentioned earlier, Italy's percentage is 39.37%. In the central age class and also for the other countries, the class of 35- to 44-year-olds is the largest.

In the material culture sector, the distribution is different because the ages of the workers increase and those between 35 and 44 years old are more numerous (23.76–28.69%), especially in Italy, at 33.21%, and those between 45–54 years old are even more numerous (27.47–33.04%).

## 10. Labour market for cultural professions

The analysis of the characteristics of the CC occupations considers whether workers are temporary and how many of them are involuntarily so or self-employed. It also considers how many hours they work, focusing on those who work more than 48 hours and those with an atypical schedule. The results are presented in Tables 12 to 16.

The percentages of temporary workers in CCOs are slightly lower than in other occupations: The difference is around 1% in France, Germany, and the UK and around 4% in Italy and Spain. The percentage of temporary workers is higher than 10% in Germany (11%), France (12.7%), and Spain

(16%) but under 7% in Italy (6.6%) and the UK (3.8%). The percentages of involuntary workers among these temporary workers are quite different, depending on the labour market characteristics of the countries: Germany has the lowest percentage (13.6%) and Italy and Spain the highest (63% and 73%, respectively).

Temporary workers are generally uncommon in the material culture (under 14%) and information occupations (under 12%). Higher values are found for the cultural occupations in France (18%) and Spain (21.6%) and even higher values are found in the core creative occupations in France (32.3%) and Spain

Table 12. Share of temporary workers in CCOs in selected EU countries

	France		Germany		Italy		Spain		UK	
	% Temporary	of which involuntary	% Temporary	of which involuntary	% Temporary	of which involuntary	% Temporary	of which involuntary	% Temporary	of which involuntary
<b>Core creative occupations</b>	<b>32.3%</b>	<b>40.8%</b>	<b>8.7%</b>	<b>16.5%</b>	<b>8.0%</b>	<b>79.6%</b>	<b>22.0%</b>	<b>70.4%</b>	<b>6.7%</b>	<b>28.3%</b>
Librarians, archivists, and	10.3%	36.1%	8.4%	23.2%	9.2%	84.1%	25.4%	54.8%	11.2%	16.9%
Authors, journalists, and	16.9%	57.7%	10.2%	13.9%	6.2%	75.5%	21.9%	84.2%	5.5%	43.4%
Creative and performing artists	47.0%	36.9%	7.2%	18.2%	9.5%	80.9%	20.9%	58.4%	6.9%	22.0%
<b>Cultural occupations</b>	<b>18.1%</b>	<b>37.7%</b>	<b>9.2%</b>	<b>16.6%</b>	<b>7.3%</b>	<b>88.6%</b>	<b>21.6%</b>	<b>88.3%</b>	<b>2.9%</b>	<b>57.3%</b>
<b>Architecture occupations</b>	<b>3.6%</b>	<b>66.9%</b>	<b>11.6%</b>	<b>16.0%</b>	<b>5.1%</b>	<b>55.1%</b>	<b>19.5%</b>	<b>68.8%</b>	<b>7.1%</b>	<b>30.6%</b>
<b>Material culture occupations</b>	<b>5.3%</b>	<b>46.8%</b>	<b>14.2%</b>	<b>9.9%</b>	<b>6.3%</b>	<b>65.4%</b>	<b>9.9%</b>	<b>99.0%</b>	<b>1.8%</b>	<b>41.1%</b>
Handicraft workers	4.2%	20.5%	15.8%	9.3%	5.8%	61.1%	7.8%	78.3%	2.6%	100%
Printing trades workers	8.5%	61.0%	12.3%	13.7%	3.7%	69.3%	8.9%	80.4%	1.5%	56.1%
Wood treaters and related	0.0%	0.0%	16.2%	15.5%	6.1%	55.4%	8.4%	67.9%	2.1%	79.4%
Garment and related trades	4.9%	74.2%	10.0%	13.7%	7.9%	56.9%	13.0%	90.3%	0.0%	0.0%
<b>Information occupations</b>	<b>6.1%</b>	<b>36.0%</b>	<b>10.0%</b>	<b>10.5%</b>	<b>7.1%</b>	<b>63.3%</b>	<b>14.3%</b>	<b>72.0%</b>	<b>2.5%</b>	<b>27.0%</b>
<b>Total CCO</b>	<b>12.7%</b>	<b>40.5%</b>	<b>11.0%</b>	<b>13.6%</b>	<b>6.6%</b>	<b>63.4%</b>	<b>16.0%</b>	<b>73.3%</b>	<b>3.8%</b>	<b>33.9%</b>
<b>Other Occupations</b>	<b>13.6%</b>	<b>52.9%</b>	<b>12.6%</b>	<b>15.3%</b>	<b>10.4%</b>	<b>69.7%</b>	<b>20.8%</b>	<b>85.4%</b>	<b>4.8%</b>	<b>40.9%</b>

(22%), especially among creative and performing artists in France (47 %). In the different CC sectors and activities, the percentages of involuntary workers are the lowest in Germany (between 9% and 18%) and the highest in Italy and Spain, especially in the cultural sector (about 88%).

Table 13 presents the percentages of self-employed workers.

The results highlight that there are more self-employed workers in CCO than in other sectors. In France, Spain, and the UK they make up about 21% of all workers in cultural industries, in Germany 25%, and in Italy 35%. The highest percentages are found among creative and performing artists in every country (between 43% and 68%), except France (28.8%), where 98.3% of wood treaters and related workers are self-employed, 70.7% of handicraft workers, and over 50% of those in the garment and architecture occupations. Italy's cultural and architecture occupations also have a high percentage of self-employed, above 60%. There are no self-employed in France among librarians, archivists, and curators or in the information occupations.

Tables 14 to 16 focus on working hours. Table 14 reports the figures for those who work up to 48 hours a week, Table 15 for those who work over 48

hours a week, and Table 16 for those with an atypical schedule.

The number of hours worked in CCOs is higher than in the other occupations. The highest number of hours, above 40 hours, is recorded for France, which also has the highest number of self-employed, particularly in the sectors of information (40.5 hours), handicraft (43.9 hours), architecture (44.5 hours), and wood treatment (47.1 hours). In the other countries, the number of hours worked reaches 40 and 41. The wood treatment sector is that with the most hours in each country, besides France, followed by architecture (the CC sector with the most self-employed) and material culture.

More workers in CCOs exceed 48 hours of work than in the other occupations and belong to the same CC sectors and activities as in two previous tables and the same countries: 30% of workers in handicraft and architecture and 47.5% of wood treaters and related workers in France.

The two sectors in every country with the most workers exceeding 48 hours of work a week are the cultural and architecture sectors. There are fewer such workers in the information sector and among librarians, archivists, and curators.

Table 13. Share of self-employed workers in CCO in selected EU countries

	France	Germany	Italy	Spain	UK
<b>Core creative occupations</b>					
Librarians, archivists, and curators	0.0%	5.5%	12.6%	1.9%	0.8%
Authors, journalists, and linguists	29.4%	49.0%	55.9%	26.8%	45.3%
Creative and performing artists	28.8%	62.2%	67.7%	43.8%	68.1%
<b>Cultural occupations</b>	<b>30.6%</b>	<b>39.0%</b>	<b>60.1%</b>	<b>28.1%</b>	<b>17.2%</b>
<b>Architecture occupations</b>	<b>53.2%</b>	<b>36.4%</b>	<b>63.0%</b>	<b>30.4%</b>	<b>21.5%</b>
<b>Material culture occupations</b>					
Handicraft workers	70.7%	12.0%	24.6%	30.1%	26.9%
Printing trades workers	17.7%	10.8%	20.5%	14.9%	8.3%
Wood treaters and related workers	98.3%	14.5%	31.4%	33.8%	28.7%
Garment and related workers	50.5%	19.1%	25.8%	34.8%	41.0%
<b>Information occupations</b>	<b>0.0%</b>	<b>12.9%</b>	<b>22.6%</b>	<b>10.1%</b>	<b>13.2%</b>
<b>Total CCO</b>	<b>21.5%</b>	<b>25.1%</b>	<b>34.9%</b>	<b>21.8%</b>	<b>21.8%</b>
<b>Other Occupations</b>	<b>10.4%</b>	<b>9.5%</b>	<b>21.9%</b>	<b>16.0%</b>	<b>13.0%</b>

CCO workers with an atypical schedule are more numerous than in the other occupations and comprise over 50% of workers in France, Germany, and the UK, but less than 35% in Spain and about 22% in Italy. In Italy and Spain, such workers exist only in the cultural and core creative occupations, except for librarians, archivists, and curators. The core creative occupations present the highest percentages of workers with an atypical schedule (between 49.8% and 79.4%) among the CC sectors, especially among authors, journalists, and linguists

(51.9–78.7%). The highest percentages are found for the sector of creative and performing artists (59.8–88.7%). Cultural occupations are another sector with percentages above 50% (52.7–76.8%) in every country. Significant percentages of workers with an atypical schedule in the architecture occupations and printing trades exist only in France, Germany, and the UK, with only handicraft workers, wood treaters, and related workers in France and only information occupations in Germany.

Table 14. Numbers of hours worked in CCOs in selected EU countries

	France	Germany	Italy	Spain	UK
<b>Core creative occupations</b>					
Librarians, archivists, and curators	35.5	33.2	33.5	34.1	33.7
Authors, journalists, and linguists	36.8	36.8	35.6	36.5	33.2
Creative and performing artists	33.1	37.8	34.3	30.3	32.1
<b>Cultural occupations</b>	<b>37.9</b>	<b>39.6</b>	<b>39.2</b>	<b>35.5</b>	<b>37.8</b>
<b>Architecture occupations</b>	<b>44.5</b>	<b>40.0</b>	<b>38.8</b>	<b>37.4</b>	<b>40.1</b>
<b>Material culture occupations</b>					
Handicraft workers	43.9	37.8	39.6	40.2	40.6
Printing trades workers	38.8	38.7	39.5	39.2	40.6
Wood treaters and related workers	47.1	40.1	41.2	39.6	39.3
Garment and related workers	39.8	33.5	38.3	36.2	33.8
<b>Information occupations</b>	<b>40.5</b>	<b>39.7</b>	<b>39.8</b>	<b>38.9</b>	<b>40.3</b>
<i>Total CCO</i>	<i>39.5</i>	<i>38.9</i>	<i>39.0</i>	<i>37.6</i>	<i>38.8</i>
<i>Other Occupations</i>	<i>37.8</i>	<i>35.7</i>	<i>37.6</i>	<i>36.6</i>	<i>35.9</i>

Table 15. Share of CCO workers with excessive (>48) working hours

	France	Germany	Italy	Spain	UK
<b>Core creative occupations</b>	<b>18.7%</b>	<b>17.5%</b>	<b>11.6%</b>	<b>11.6%</b>	<b>13.3%</b>
Librarians, archivists, and curators	1.8%	1.2%	0.8%	2.8%	2.5%
Authors, journalists, and linguists	24.5%	17.2%	13.9%	11.2%	10.6%
Creative and performing artists	18.0%	21.8%	12.7%	15.5%	18.0%
<b>Cultural occupations</b>	<b>14.1%</b>	<b>20.0%</b>	<b>20.0%</b>	<b>17.8%</b>	<b>20.9%</b>
<b>Architecture occupations</b>	<b>35.0%</b>	<b>20.1%</b>	<b>16.0%</b>	<b>16.1%</b>	<b>17.0%</b>
<b>Material culture occupations</b>	<b>23.3%</b>	<b>9.0%</b>	<b>9.6%</b>	<b>12.9%</b>	<b>13.5%</b>
Handicraft workers	31.4%	8.1%	9.1%	15.8%	18.2%
Printing trades workers	10.7%	8.0%	6.9%	5.9%	12.4%
Wood treaters and related workers	47.5%	11.3%	13.1%	11.0%	12.3%
Garment and related workers	18.8%	4.9%	8.6%	18.0%	8.8%
<b>Information occupations</b>	<b>12.6%</b>	<b>10.5%</b>	<b>9.2%</b>	<b>8.7%</b>	<b>14.7%</b>
<i>Total Creative &amp; Culture Occupations</i>	<i>17.4%</i>	<i>13.5%</i>	<i>11.0%</i>	<i>11.9%</i>	<i>15.5%</i>
<i>Other Occupations</i>	<i>13.9%</i>	<i>9.6%</i>	<i>10.4%</i>	<i>11.1%</i>	<i>14.4%</i>

Table 16. Share of CCO workers with an atypical schedule

	France	Germany	Italy	Spain	UK
<b>Core creative occupations</b>	<b>76.5%</b>	<b>79.4%</b>	<b>49.8%</b>	<b>57.9%</b>	<b>66.8%</b>
Librarians, archivists, and curators	37.1%	44.7%	12.4%	21.9%	33.9%
Authors, journalists, and linguists	76.1%	78.7%	51.9%	56.9%	62.7%
Creative and performing artists	84.5%	88.7%	59.8%	72.9%	77.5%
<b>Cultural occupations</b>	<b>59.2%</b>	<b>67.5%</b>	<b>52.4%</b>	<b>57.6%</b>	<b>76.8%</b>
<b>Architecture occupations</b>	<b>55.2%</b>	<b>62.9%</b>	<b>23.2%</b>	<b>35.4%</b>	<b>47.9%</b>
<b>Material culture occupations</b>	<b>47.5%</b>	<b>36.9%</b>	<b>13.7%</b>	<b>24.6%</b>	<b>42.4%</b>
Handicraft workers	54.2%	34.6%	19.2%	33.1%	37.2%
Printing trades workers	53.0%	55.2%	26.3%	30.5%	55.2%
Wood treaters and related workers	53.8%	32.6%	8.0%	18.0%	39.4%
Garment and related workers	30.2%	25.6%	8.4%	20.9%	33.5%
<b>Information occupations</b>	<b>41.9%</b>	<b>53.8%</b>	<b>21.4%</b>	<b>27.0%</b>	<b>43.0%</b>
<i>Total Creative &amp; Culture Occupations</i>	<i>53.2%</i>	<i>56.5%</i>	<i>22.4%</i>	<i>34.6%</i>	<i>51.1%</i>
<i>Other Occupations</i>	<i>44.4%</i>	<i>50.1%</i>	<i>27.9%</i>	<i>40.7%</i>	<i>47.4%</i>

Notes: An atypical schedule means working evenings, at night, and on Sundays. Since the definitions of evening and night differ widely, it is not easy to establish a strictly uniform basis for all Member States for the definitions of evening and night work. Generally, however, evening work is considered to be work done after usual working hours but before the usual hours of sleep in the Member State concerned. It implies the opportunity to sleep at normal times. Night work is generally regarded as work done during usual sleeping hours and implies abnormal sleeping times (EU-LFS definitions).



## 11. Earnings in the cultural professions

Our variable of interest is the monthly (take home) pay from one's main job. This variable is divided into 10 classes deriving from the wage distribution decile; that is, we know the wage decile of each worker. Tables 17 and 18 present the results related to the shares of workers, respectively, with earnings above the median wage, below the third decile, and above the seventh decile.

Over 50% of CCO workers have earnings above the median wage, more than in the other occupations; in Italy they comprise 55.6% (almost 9% more), in Germany 67.1% (almost 20% more), and in Spain 70.2% (almost 23% more). The CC sector with the highest number of workers is information: Spain has 75.3%, Italy 78%, and Germany 82.5%. This sector is followed by architecture, with 63.7% in Italy, 72.1% in Germany, and 80.4% in Spain. The same order of countries is notable in other sectors, with 67.4–79.1% for the core creative occupations sector, 47.3–62% for the cultural occupations sector, and 34.5–45.9% for the material cultural occupations.

Among the core creative occupations, the highest percentages of those with above-median wages are authors, journalists, and linguists (75–88%), creative and performing artists (69–71%), and librarians, archivists, and curators (53–68%). In the material culture occupations, the ranking of activities with the highest percentages of workers earning above-median wages is printing trades workers (50–64%), handicraft workers (almost 41% in Germany and Italy, 53.7% in Spain), wood treaters and related workers (36–37% in Spain and Italy, 42.5% in Germany), and garment and related workers (21–29%).

To identify more precisely the income distribution among the CCOs, the shares of workers with earnings below the third decile is calculated. In total CCO, the share of lower income workers - 14.5% in Spain, 16.6% in Germany, and 23.6% in Italy - is minor than the share in the other occupations.

Among the three countries analysed, Italy has the highest shares of workers below the third

Table 17. CCO workers by income decile: above the median wage

Share of workers with earnings above the median wage	Germany	Italy	Spain
<b>Core creative occupations</b>	<b>69.5%</b>	<b>67.4%</b>	<b>79.1%</b>
Librarians, archivists, and curators	61.9%	53.5%	68.1%
Authors, journalists, and linguists	71.9%	75.1%	88.0%
Creative and performing artists	71.0%	69.0%	70.1%
<b>Cultural occupations</b>	<b>50.2%</b>	<b>47.3%</b>	<b>62.0%</b>
<b>Architecture occupations</b>	<b>72.1%</b>	<b>63.7%</b>	<b>80.4%</b>
<b>Material culture occupations</b>	<b>43.0%</b>	<b>34.5%</b>	<b>45.9%</b>
Handicraft workers	40.5%	40.9%	53.7%
Printing trades workers	58.0%	50.3%	63.9%
Wood treaters and related workers	42.5%	36.9%	36.1%
Garment and related workers	24.2%	21.1%	28.8%
<b>Information occupations</b>	<b>82.5%</b>	<b>78.0%</b>	<b>75.3%</b>
<i>Total CCO</i>	<i>67.1%</i>	<i>55.6%</i>	<i>70.2%</i>
<i>Other Occupations</i>	<i>47.8%</i>	<i>46.8%</i>	<i>47.5%</i>

Note: Data for Spain refer only to 2011 and data for France and UK are not available.

income decile, with the exception of the creative and performing artists, which comprise a larger group in Spain (about 6%). The CCO sectors and activities highlight over 40% among garment and related workers (44–53%), followed by the material culture occupations (25–28% in Spain and Germany and 36.7% in Italy). About 22–30% of workers in cultural occupations, handicraft workers, wood treaters, and related workers have an income below the third decile, as do 20% of creative and performing artists, librarians, archivists and curators, and printing trades workers. The architecture and core creative occupations have shares under 20%. The information occupations have shares between 9% and 10%.

These results could be usefully compared with the similar analysis of the workers with earnings above the seventh decile, presented in Table 19. The shares of workers with earnings above the seventh decile depict the opposite situation as that of the previous table. Information occupations are the sector with the highest shares of workers with high wages (57.7% in Spain, 59.4% in Italy, and 64.4% in Germany). This sector is followed by architecture occupations and all the core creative occupations activities. The sector with the lowest percentage of workers with

high wages is material culture, particularly wood treaters and related workers and garment and related workers, especially in Spain (4.8–4.5%).

In Figure 3, representing Germany, information and architecture occupations follow a similar path, with relatively fewer people having low or medium income and most earning above the seventh decile of wages. Core creative occupations have an analogous pattern, but less marked. Generally, from the eighth decile on up, a reversal of trends occurs for every sector, amplifying the values of the various sectors either upwards or downwards. Cultural occupations and material culture design exhibit irregular patterns.

In Italy, as it can be seen in Figure 4, the distribution of CC sectors among the various deciles is not very different from that of Germany. A notable difference emerges for creative workers, who are more numerous in the last decile than in Germany (and than in the information occupations).

In Spain, Figure 5, the distribution of income in the CC sectors is quite different from the German and Italian distributions. Fewer workers have earnings below the fourth decile and more workers have earnings above it.

Table 18. CCO workers by income decile: below the third decile

Share of workers with earnings below the third decile	Germany	Italy	Spain
<b>Core creative occupations</b>	<b>13.0%</b>	<b>17.9%</b>	<b>12.9%</b>
Librarians, archivists, and curators	19.1%	23.2%	16.1%
Authors, journalists, and linguists	10.0%	12.5%	3.7%
Creative and performing artists	13.3%	20.9%	27.3%
<b>Cultural occupations</b>	<b>26.9%</b>	<b>28.2%</b>	<b>24.3%</b>
<b>Architecture occupations</b>	<b>14.7%</b>	<b>19.4%</b>	<b>10.8%</b>
<b>Material culture occupations</b>	<b>27.7%</b>	<b>36.7%</b>	<b>25.1%</b>
Handicraft workers	29.2%	30.7%	21.4%
Printing trades workers	19.3%	23.9%	13.6%
Wood treaters and related workers	24.8%	27.6%	22.6%
Garment and related workers	47.3%	52.8%	44.9%
<b>Information occupations</b>	<b>9.9%</b>	<b>9.2%</b>	<b>10.6%</b>
<i>Total CCO</i>	<i>16.6%</i>	<i>23.6%</i>	<i>14.5%</i>
<i>Other Occupations</i>	<i>31.3%</i>	<i>32.4%</i>	<i>31.5%</i>

Table 19. CCO workers by income decile: above the seventh decile

Share of workers with earnings above the 7th decile	Germany	Italy	Spain
<b>Core creative occupations</b>	<b>49.0%</b>	<b>52.8%</b>	<b>53.2%</b>
Librarians, archivists, and curators	43.3%	32.4%	42.2%
Authors, journalists, and linguists	52.7%	63.8%	57.2%
Creative and performing artists	47.2%	55.3%	52.7%
<b>Cultural occupations</b>	<b>26.2%</b>	<b>23.7%</b>	<b>41.3%</b>
<b>Architecture occupations</b>	<b>49.6%</b>	<b>45.3%</b>	<b>62.3%</b>
<b>Material culture occupations</b>	<b>19.0%</b>	<b>16.4%</b>	<b>12.6%</b>
Handicraft workers	20.0%	21.4%	20.8%
Printing trades workers	31.6%	27.0%	21.3%
Wood treaters and related workers	14.1%	14.3%	4.8%
Garment and related workers	12.0%	9.5%	4.5%
<b>Information occupations</b>	<b>64.4%</b>	<b>59.4%</b>	<b>57.7%</b>
<i>Total Creative &amp; Culture Occupations</i>	<i>46.2%</i>	<i>37.4%</i>	<i>48.1%</i>
<i>Other Occupations</i>	<i>27.9%</i>	<i>28.4%</i>	<i>27.2%</i>

Figure 3. Distribution of workers by wage deciles in Germany

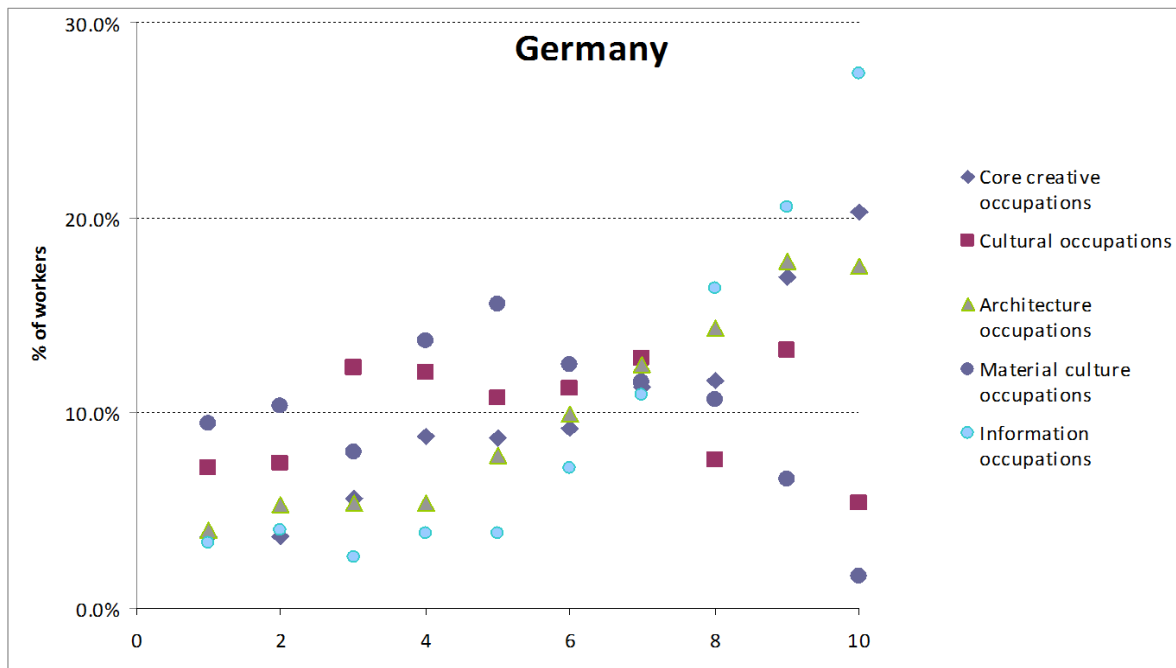


Figure 4. Distribution of workers by wage deciles in Italy

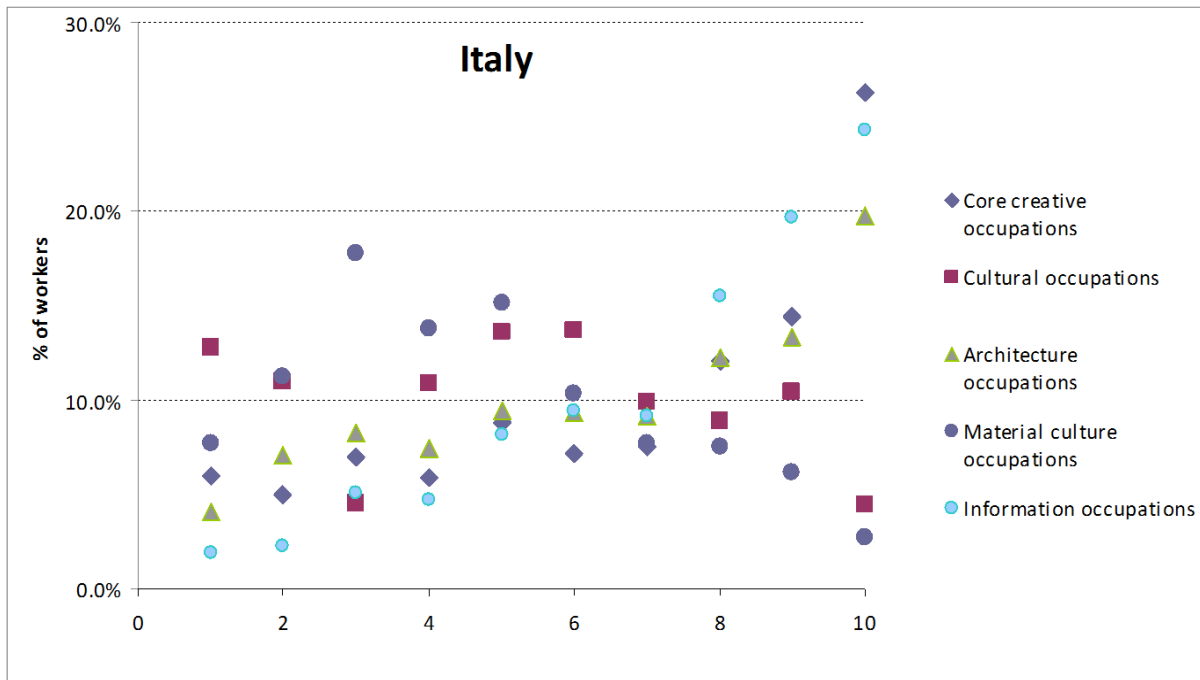
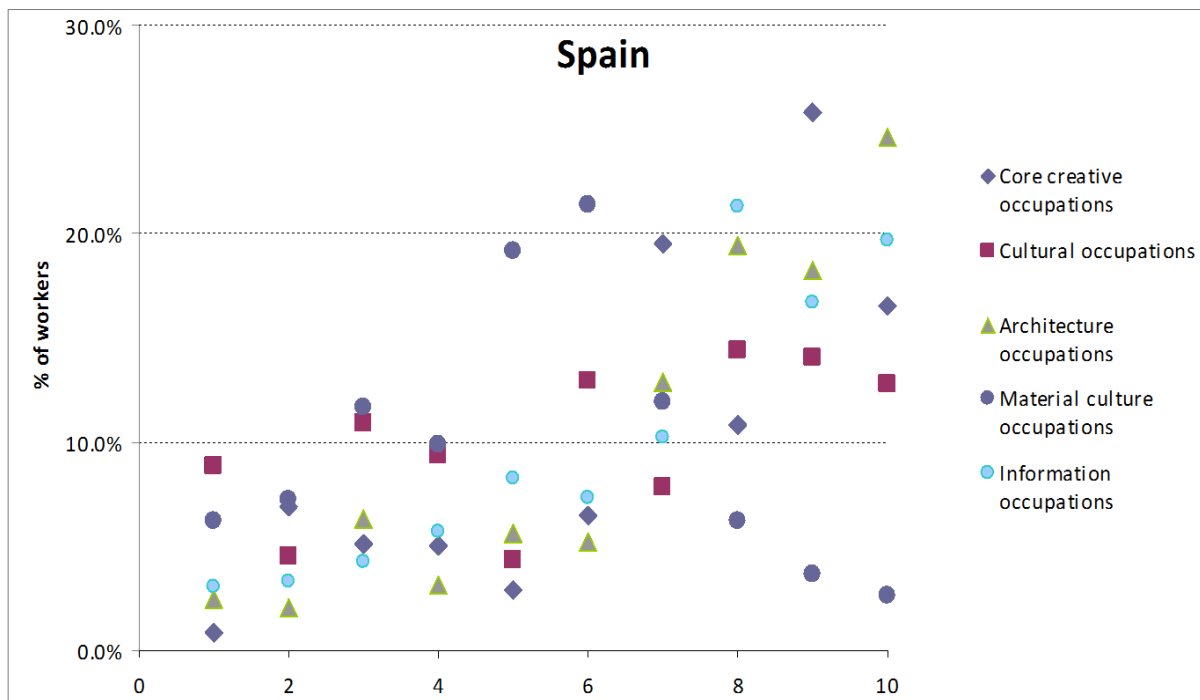


Figure 5. Distribution of workers by wage deciles in Spain



## Conclusion

This study offers an overview of the labour market characteristics of the CCOs from a comparative perspective. Despite the fact that, in the last 20 years, significant efforts have been made at the European and international levels to improve the statistics for the cultural and creative sectors, there are still huge limits to fully examining these increasingly important economic and social sectors. In particular, the creative economy and knowledge society are mostly based on their workers. The lack of complete, detailed, and comparable statistics on the labour market basically prevents an understanding of the inner dynamics of these sectors. However, a number of issues could be highlighted, starting from the existing data. The aim of this study is to explore to what extent, given the available data, it is possible to deepen our understanding of the labour market of creative workers. The results are not marginal and indicate crucial weaknesses and strengths of human capital in the CCOs. The investigation is applied to a selection of European countries where the creative economy plays a relevant role. Further research is needed, but, thanks to this study, clearer directions to further investigate CCO characteristics have been identified.

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## APPENDIX 1

### Sectors of occupations with sub-group definitions by unit group of the ISCO-08 code

Group	Sub-group	ISCO codes	Definition	ISCO codes	Unit group
<b>Core creative occupations</b>	Librarians, archivists, and curators	262	Librarians, archivists, and curators	2621	Archivists and curators
				2622	Librarians and related information professionals
	Authors, journalists, and linguists	264	Authors, journalists, and linguists	2641	Authors and related writers
				2642	Journalists
				2643	Translators, interpreters, and other linguists
	Creative and performing artists	265	Creative and performing artists	2651	Visual artists
				2652	Musicians, singers, and composers
				2653	Dancers and choreographers
				2654	Film, stage, and related directors and producers
				2655	Actors
2656				Announcers on radios, television, and other media	
			2659	Creative and performing artists not classified elsewhere	
<b>Cultural occupations</b>		343	Artistic, cultural, and culinary associate professionals	3431	Photographers
				3432	Interior designers and decorators
				3433	Gallery, museum, and library technicians
				3434	Chefs
				3435	Other artistic, cultural associate professionals
<b>Architecture occupations</b>		213	Life science professionals	2131	Biologists, botanists, zoologists, and related professionals
				2132	Farming, forestry, and fisheries advisers
				2133	Environmental protection professionals
				2161	Building architects
				2162	Landscape architects
				2163	Product and garment designers
				2164	Town and traffic planners
		2165	Cartographers and surveyors		
		216	Architects, planners, surveyors, and designers	2166	Graphic and multimedia designers
		<b>Material culture occupations</b>	Handicraft workers	731	Handicraft workers
7312	Musical instrument makers and toner				
7313	Jewellery and precious metal workers				
7314	Potters and related workers				
7315	Glass makers, cutters, grinders, and finishers				
7316	Sign writers, decorative painters, engravers, and etchers				
7317	Handicraft workers in wood, basketry, and related materials				
7318	Handicraft workers in textile, leather, and related materials				
7319	Handicraft workers not classified elsewhere				
Printing trades workers	732		Printing trades workers	7321	Pre-press technicians
				7322	Printers
				7323	Print finishing and binding workers
Wood treaters and related trades workers	752		Wood treaters, cabinet-makers, and related trades workers	7521	Wood treaters
				7522	Cabinet makers and related workers
		7523		Woodworking machine tool setters, and operators	
			7531	Tailors, dressmakers, furriers, and hatters	

	Garment and related trades workers	753	Garment and related trades workers	7532	Garment and related patternmakers and cutters				
				7533	Sewing, embroidery, and related workers				
				7534	Upholsterers and related workers				
				7535	Pelt dressers, tanners and fellmongers				
				7536	Shoemakers and related workers				
<b>Information occupations</b>				1330	Information and communications technology services managers				
				251	Software and applications developers and analysts	2511	System analysts		
						2512	Software developers		
						2513	Web and multimedia developers		
						2514	Application programmers		
				2519	Software and application developers and analysts not classified elsewhere	2519	Software and application developers and analysts not classified elsewhere		
						252	Database and network professionals	2521	Database designers and administrators
								2522	System administrators
				2523	Computer network professionals				
				2529	Database and network professionals not classified elsewhere	2529	Database and network professionals not classified elsewhere		
						351	Information and communications technology operations and user support technicians	3511	Information and communications technology operations technicians
				3512	Information and communications technology user support technicians				
				3513	Computer network and system technicians				
				3514	Web technicians				
				352	Telecommunications and broadcasting technicians	3521	Broadcasting and audiovisual technicians		
3522	Telecommunication engineering technicians								
<b>Education occupations</b>				2310	University and higher education teachers				
				232	Vocational education teachers	2320	Vocational education teachers		
						233	Secondary education teachers	2330	Secondary education teachers
				235	Other teaching professionals			2351	Education methods specialists
								2352	Special needs teachers
						2353	Other language teachers		
						2354	Other music teachers		
						2355	Other arts teachers		
						2356	Information technology trainers		
						2359	Teaching professionals not classified elsewhere		
				263	Social and religious professionals	2631	Economists		
						2632	Sociologists, anthropologists, and related professionals		
						2633	Philosophers, historians, political scientists		
2634	Psychologists								
2635	Social work and counselling professionals								
2636	Religious professionals								



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