MEASURING THE CULTURAL AND CREATIVE SECTORS EU

FINAL REPORT

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Abbreviations and symbols

AES: Adult Education Survey

AEC: Association Européenne des Conservatoires

AIDC: Automatic identification and data capture

API: Application Programming Interface

AVMS: Audiovisual Media Services

BoP: Balance of Payments

BLI: Better Life Index

BPM6: Balance of Payments and International Investment Position Manual - Sixth edition

CAE: Culture Action Europe

CAPI: Computer Assisted Personal Interviewing

CCI: Cultural and Creative Industries

CCS: Cultural and Creative Sectors

CES: Conference of European Statistics

CICAE: Confédération Internationale des Cinémas d'Art et d'Essai

CMO: Collective Management Organization

COTS: Customised Over The Shelf

CN: Combined Nomenclature

COFOG: Classification of functions of Government

COICOP: Classification of individual consumption by purpose

COMEXT: Eurostat reference database for international trade in goods

CRM: Collective Rights Management

CSA: Cultural Satellite Account

DCMS: UK Department of Culture, Media, and Sports

DESI: Digital Economy and Society Index

DG CONNECT: Directorate-General for Communications Networks, Content and Technology

DG EAC: Directorate-General for EU policy on Education, Youth, Sport and Culture

DG GROW: Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs

DLS: Digital Subscriber Line

EAS: European Associations for music in Schools

EBOPS 2010: Extended Balance of Payments Service Classification 2010

EBLIDA: European Bureau of Library, Information and Documentation Associations

EBU: European Broadcasting Union

ECCD: European Coalition for Cultural Diversity

ECOICOP: European Classification of Individual Consumption by Purpose

EDN: European Documentary Network

EENCA: European Expert Network on Culture and Audiovisual

EFA: European Festivals Association

EFAITH: European Federation of Associations of Industrial and Technical Heritage

EGDF: European Games Developer Federation

EGMUS: European Group on Museum Statistics

EMC: European Music Council

ENCC: European Network of Cultural Centres

EMA: European Music Academy

EMEA: Europe, Middle East and Africa

ERIH: European Route of Industrial Heritage

ERDF: European Regional Development Fund

ERP: Enterprise resource planning

ESPON: European Spatial Planning Observation Network

ESSnet-Culture: European Statistical System Network on Culture

ETC: European Theatre Convention

EU: European Union

EU-27: Group of the 27 countries of the European Union since 2020

EU-LFS: European Union Labour Force Survey

EU-SILC: EU Statistics on Income and Living Conditions

EUIPO: European Union Intellectual Property Office

Eurostat: statistical office of the European Union

FCS: UNESCO framework for culture statistics

FEDEC: European Federation of Professional Circus Schools

FEP: Federation of European Publishers

FSE: Federation of Screenwriters in Europe

GDPR: General Data Protection Regulation

GFS: Government Finance Statistics

GDP: Gross Domestic Product

GVA: Gross Value Added

HBS: Household Budget Survey

HETUS: Harmonized European Time Use Surveys

HIPC: Harmonized Indices of Consumer Prices

ICOMOS: International Council on Monuments and Sites

ICT: Information and Communication Technologies

ICT-Survey: Survey on the use of Information and Communication Technologies in households and by individuals

IFPI: Representing the recording industry worldwide

IP: Intellectual property

IES: Informação Empresarial Simplificada (Simplified Business Information)

IMDb: Internet Movie Database

INE: Instituto Nacional de Estatística, the National Statistical Institute of Portugal

ISCO: International Standard Classification of Occupations

ISIC: International Standard Industrial Classification of All Economic Activities

IT: Information Technology

ITS: International trade in services

ITU: International Telecommunication Union

IVF: International Video Federation

JRC: Joint Research Centre

LEG- Culture: Leadership Group on Culture

LLLS: Local Linear Least Squares

NA: National Accounts

NACE: Nomenclature des Activités Économiques dans la Communauté Européenne (Nomenclature of Economic Activities)

NAICS: North American Industry Classification System

NEMO: Network of European Museum Organisations

NESTA: National Endowment for Science, Technology and the Arts

NSI: National Statistical Institute

OECD: organization for Economic Co-operation and Development

OLS: Ordinary Least Squares

PRODCOM: Statistics on the production and manufactured goods

R&D: Research and Development

SIAE: Italian Society of Authors and Publishers

SGAE: Sociedad General de Autores y Editores

SBS: Structural Business Statistics

ToRs: Terms of Reference

UIS: UNESCO Institute for Statistics

UNCTAD: United Nations Conference on Trade and Development

UNESCO: United Nations Educational, Scientific and Cultural Organization

UNECE: United Nations Economic Commission for Europe

UNSD: United Nations Statistics Division

VOD: Video on Demand

VPN: Virtual Private Network

WEF: World Economic Forum

WIPO: World Intellectual Property Organization

Countries abbreviations:

AT: Austria

BE: Belgium (BF: Belgium Flanders & BW: Belgium Wallonia)

BG: Bulgaria

CY: Cyprus

CZ: Czechia

DE: Germany

DK: Denmark

EE: Estonia

EL: Greece

ES: Spain

FI: Finland

FR: France

HR: Croatia

HU: Hungary

IE: Ireland

IT: Italy

LT: Lithuania

LU: Luxembourg

LV: Latvia

MT: Malta

NL: Netherlands

PL: Poland

PT: Portugal

RO: Romania

SE: Sweden

SI: Slovenia

SK: Slovakia

Executive summary

The Cultural and Creative Sectors (CCS) are amongst Europe's most dynamic industries and are an important asset to generate economic growth and employment, as well as to foster social cohesion and promote diversity. According to the Annual Single Market Report 2021[1], the economic contribution of CCS is substantial and even greater than that of several other leading sectors such as telecommunications, high technology, pharmaceuticals, and the automotive industry. Moreover, the COVID pandemic crisis implied several challenges to CCS namely by accelerating major trends in digital and by reinforcing the need to increase efforts to develop new content and new business models. These challenges call for a rigorous measuring of the Cultural and Creative Sectors.

In fact, the need for measuring and having proper figures on the CCS responds to various demands ranging from the simple technical need for reliable results in national accounts to concrete policy demands that require accurate information on the linkages between various productive sectors, including the demands of specific sectors and actors that require accurate and detailed information to make better and more efficient decisions, or to advocate for their activities.

However, measuring the economic, cultural, and social value generated by the CCS and their specific sub-sectors is certainly not an easy task and face several challenges. These challenges include the lack of a common definition of the cultural and creative sectors, poor or inadequate data collection mechanisms for specific indicators, and outdated statistical classifications (e.g., NACE codes - *Nomenclature des Activités Économiques dans la Communauté Européenne*, Nomenclature of Economic Activities) regarding accounting for digitalisation and capturing the value generated by online services.

Within this context, the European Commission launched a Call for proposals to address these challenges and build a new statistical framework for measuring the cultural and creative sectors, to enable regular statistical analysis of the economic, cultural, and social potential of the CCS in Europe. The Consortium behind this Project – under the name *Measuring the Cultural and Creative Sectors in the EU* – submitted a research Proposal that was selected.

This Report is the concluding and closing document marking the end of our research. The proposal had three main goals: (i) to propose a new framework with an updated definition of the scope of the "Cultural and Creative Sectors", to better quantify the CCS and ensure comparability at European Union (EU) level of all available data; (ii) to develop new methods for capturing and quantifying online services in the CCS, and (iii) to provide updated economic figures on the CCS.

To meet these objectives, **the Project was developed in three phases**:

- The production of an inventory of main sources of data on cultural and creative sectors including both official and non-official sources as well as the publications and information on the measurement of online services.
- An investigation leading to a proposal of an updated framework for CCS statistics including a methodology for capturing online services.
- An investigation leading to the production of an updated estimate of the main macroeconomic figures of CCS and their contributions to the global economy.

[1] See SWD Annual Single Market Report 2021

The outputs of the first two phases are in two reports already delivered to the European Commission with the titles: ***Measuring CCS – Report on Inventory of Sources***[2] and ***Measuring CCS – Analysis Report***[3]. The outputs of the third phase as well as a summary of the other two reports are in this Final Report that includes this Executive Summary.

INVENTORY OF SOURCES

An exhaustive **inventory of the official statistics on the cultural and creative sectors** was carried out, encompassing all the 27 EU Member States with strong collaboration from the Member States through the members of the Eurostat Working Group on Culture Statistics. This collaboration was especially helpful regarding the check and validation of the Member States' reports. These reports were produced with the available information and after validation by the Member States and Eurostat served as the main source of the *Report on Inventory of Sources*.

The inventory of sources had two key objectives. First, to identify the main challenges facing the current measuring of the cultural and creative sectors in the European Union. Overcoming these limitations is the primary goal of the framework of CCS statistics that is proposed in Phase 2. The second key objective of this inventory was to identify the Member States' good practices that can constitute a set of suggestions to improve statistics on CCS. The inventory deliberately emphasises the limitations or gaps of the current situation (mainly those that have been identified only by this inventory of sources) since these are the features that need to be changed.

The main findings of the inventory of sources on official statistics are summarised in this Final Report and show that most current CCS statistics have serious limitations. The analysis of these limitations was already carried out in the *Guide to Eurostat Cultural Statistics of 2018* and is complemented with our *Report on Inventory of Sources*.

The main findings include:

- The current theoretical framework of EU cultural statistics is, if we exclude minor changes, **the one proposed in 2012 by the European Statistical System Network on Culture (ESSnet-Culture)**.
- However, **this framework was not adopted uniformly by the Member States and Eurostat**. While Eurostat adopted the theoretical scope proposed by ESSnet-Culture (with the changes decided later, in 2015, 2016, and 2018, by the Eurostat Working Group on Culture Statistics), several EU Member States adopted other scopes with other lists of cultural activities. There are many activities classified differently by Eurostat and by these Member States.
- We have therefore two different scopes or definitions i.e., **two different lists of activities that are covered by the term Cultural and Creative Sectors (CCS) for each Member State**: the one adopted by Eurostat that intends to guarantee the comparability of cultural data across Member States, and the one adopted by the respective Member State to produce cultural data for domestic purposes.

[2] *Report on Inventory of Sources*, file *Measuring CCS_Report on Inventory of Sources - Final_v1.3*
[3] *Analysis Report - A New Framework for Cultural and Creative Sector Statistics*, file *MeasuringCCS_Analysis Report Final_v2.0*

- **This situation of two different scopes is, in our opinion, far from being the ideal situation due to three types of reasons**. First, it is a source of confusion for the users (i.e., the main stakeholders) of the CCS statistics. When using these data, the users are confronted with two different data for the same statistical variable (for instance, cultural employment or cultural production, that are not consistent, also hampering the comparability of these data across Member States. Second, this situation is, in our opinion, one of the main reasons why several mandatory **statistics at the EU level are little (or not at all) used internally in several Member States to analyse the cultural and creative sectors. Finally, this situation is also a source of** wasted resources of the national statistical systems since the needs of data users at EU level are met independently of the needs of the data users at the national level. Of course, the adopted scope at country level must allow the production of data that responds to the specific needs of the country. However, and as it will be explained later, there are alternative ways for the scope customization that do not have the limitations referred above.

- **The difficulties in comparing national data on CCS across EU Member States are further exacerbated by using different statistical sources** to obtain the same statistics (for instance, cultural employment) and by the different organisation and governance of National Statistical Systems in the field of culture in all Member States.

- **The CCS frameworks of EU Member States are focused more on the cultural activities than on the creative activities.**

- There **is also a coverage problem in the case of the statistical surveys to Cultural and Creative Sectors** since, on one hand**,** there is no single EU harmonised statistical survey specific to Cultural and Creative Sectors (CCS), and on the other hand, most EU harmonised statistical surveys do not cover a detailed NACE level, where most CCS activities can be identified.

- **There are some statistics - available at national and EU level, but non-mandatory at the EU level - that are, on average, used internally by more Member States than some mandatory statistics at EU level.** This finding calls for making a gap analysis between, the multidimensional interest of policy makers in CCS from different policy domains in recent years and the current set of EU mandatory cultural statistics.

- **The international statistical classifications inadequately describe the cultural and creative activities and the products and services related to them**. The cultural activities, as well as the cultural products and services, are aggregated with non-cultural components. Moreover, the lists of activities and of products and services in these classifications are outdated and do not reflect the digital transformation in cultural products and services that has occurred in recent years.

- **Several practices available at the national level that can be extended to the EU level were identified.** Two of these practices can be emphasized. One is the use by some Member States of administrative sources associated with the administrative acts required to comply with mandates and obligations imposed by European Law. Another good

practice that can be extended to the EU level is to replicate the good measurement by some Member States of the cultural participation.

- **The current situation of satellite accounts in culture (CSA)**, is in a "trial and error" phase, with very different methodologies and approaches and therefore, the methodology of a satellite account for the analysis of the CCS would not be the most recommended for the objectives that lead to this research.

With regard to **non-official sources**, the Report includes a short summary of each of the non-official providers of CCS data in the EU. In that research we emphasise the importance of these non-official statistics produced by organisations and bodies that are not the ones officially mandated to do so, entities with an interest in the CCS that produce data on the CCS, responding to very different motivations and objectives. This category includes professional associations, specialised consultancies, cultural associations to intellectual property (IP) rights management societies, European projects, non-governmental organisations, cultural and creative sectors' influence groups, academic researchers. This category also includes public bodies that have no legal mandate to produce statistics.

- In general, although we are talking about very diverse and varied sources, so far, we can say that we have not identified any proposal, either explicitly or implicitly, with sufficient theoretical consistency and sufficient leadership capacity for us to propose a complete and alternative methodology that may become a better alternative surpassing the one derived from the ESSnet-Culture (ESSnet-Culture, 2012). However, we point to experiences that deserve serious attention, as they form a field of exploration where innovations can emerge. Some practices can be consolidated and homogenised, such as the one derived from the Collective Rights Management (CRM) Directive that could constitute new reliable and comparable sources for CCS statistics in the future.

- There is no doubt that we face difficulties in determining which variables to choose in order to have a clear picture of the economic dimension of CCS. But it is even more complicated if we want **to assess their impact** on **innovation, productivity**, or the regeneration of territories, and even more so on social aspects as important as **well-being, social cohesion,** or even the impacts on people in emotional, cognitive, or aesthetic terms. It is clear that there is still a long way to go.

Finally, to complement the inventory on official and non-official sources of CCS statistics, we also included **an analysis of cultural statistics provided by selected non-EU countries,** in order to allow identifying good practices that could be extended to EU countries. Following a criterion based on the (i) importance of the creative and cultural sectors in the country, (ii) the positioning of the country's CCS in the global or regional context, (iii) the development of the digital and creative online services, and (iv) the availability of information on statistics. Selected information pertained to the Republic of Korea, China, the United States, Canada, Australia, and Mexico.

The main findings from the analysis of those case studies include:

- The non-EU countries analysed rely on standard classification systems for industry or employment, which are then adopted by their respective frameworks of cultural statistics to embed different sectors and sub-sectors. Therefore, there is no unique definition and classification of

cultural sectors, even for those trade regions level, as each country adapts it to their context.

- The only country that seems to have included the digital perspective of cultural content and services in both its industry classification system and the statistics produced is **South Korea**. More concretely, this country **includes sub-categories for digital content and its main industry categories**.

- The **main source of data** on cultural and creative sectors for statistical purposes in all countries analysed **seems to be surveys.** While surveys are combined with other sources of information (e.g., administrative data and supply/demand estimates), no alternative methods for data collection have been identified in any of the countries analysed, which suggests that they may use only traditional methods (i.e., surveys and administrative data) for the production of official statistics.

UPDATED FRAMEWORK OF CULTURAL AND CREATIVE SECTORS STATISTICS

The second phase of the Project, i.e., the proposal of a new framework for CCS statistics is one of the Measuring CCS Project's main goals. The Call for Proposals requested that this framework should be built on Eurostat's already existing and planned work, and be a revised and extended version of the current framework proposed by ESSnet-Culture, filling the gaps where possible with alternative data sources.

The inventory of sources identified the main reasons why the ESSnet-Culture framework needs to be updated. This phase examined them in detail. The whole issue of the impact of the internet economy and its implication in the creation, production, and distribution of cultural content is treated separately as it becomes an essential part of this Research.

Concerning the international statistical classifications, they are still in a review process and their integration into this framework was not possible, since the whole revision process will be finalised only upon conclusion of this Project. Therefore, the analysis for proposing a revised framework for cultural and creative sector statistics is organized around the aim to achieve:

- An **updated theoretical scope or definition** for the Cultural and Creative Sector Statistics.
- A call for a **greater use of administrative sources** in producing CCS statistics.
- A call for **more comparable data on cultural participation** at EU level.

Review of the theoretical scope

The new recommended statistical framework seeks to overcome the current shortcomings through the **definition of a new theoretical scope for CCS statistics**. This is made with two main goals: (1) that our recommendations may be adopted by all Member States and Eurostat and (2) that they follow international standards.

To achieve these two goals, the changes proposed must comply with the following three **general criteria**:

- The proposed changes in the scope are to be based upon a high consensus among EU Member States.

- The proposed changes in the scope integrate the cultural and creative activities, using a world standard.
- The proposed changes in the scope are ready for their integration as soon as they are available, in the revisions of NACE Rev. 2 and International Standard Industrial Classification of All Economic Activities (ISIC).

The option for these three criteria and the way they have been applied are detailed in this Report.

We also recommended **even in case of a high consensus among the Member States** eliminating the classification of partly cultural NACE codes when there is no information available about the cultural and creative component in such codes and to reclassify these codes as either "cultural and creative activities" or as "not cultural and creative activities". This lack of information about the weight of the cultural/creative component happens very often namely at a detailed level of the NACE codes.

Since in these cases, the codes classified as partly cultural are not measured by Eurostat, classifying any activity as partly cultural is equivalent to classifying it as not cultural and creative, which in the end reduces the measurement of their economic and social importance. Therefore, the Eurostat approach produces an underestimation of the importance of CCS that we intend to avoid and this is the main reason why we recommend the reclassification of partly cultural activities even in the case of a high consensus between the Member States.

In the Report we detail this proposed process of reclassification, and we subject it to three criteria that must be met for any change to be proposed:

- The number of Member States that classify the code subject to review as fully cultural is greater than the number of those that classify it as not cultural.
- The percentage of classes (statistical subcodes) within a NACE Rev 2 code that are classified as fully cultural is greater than 50%.
- The NACE Rev. 2 code is in the NESTA (National Endowment for Science, Technology and the Arts) list of creative activities.

The three criteria for a NACE code classified as partly cultural to be reclassified as not cultural and creative are symmetrical conditions to these three conditions just mentioned. The justification for using these three criteria (and, in particular, for the second one) is given in this Final Report in full detail.

These criteria (general criteria and criteria for partly cultural activities) allowed us to propose reclassifying most of the NACE Rev. 2 codes currently classified not cultural, partly cultural, or fully cultural by Eurostat or by any one of the Member States and that needed to be reclassified.

When the use of these criteria did not allow the reclassification of a code, it means that the reclassification of this code needs further analysis, and it was submitted for a qualitative analysis conducted by experts and stakeholders in the field of cultural and creative sectors in a Stakeholder Input session that took place in the form of a workshop on 18 May 2022.

The reclassification of the NACE Rev 2 codes prompts us to add ten codes to the current framework adopted by Eurostat and exclude six from it, and therefore to recommend an updated scope for cultural and creative sector statistics. This recommended scope and

additional justifications (beyond the reclassifying criteria) for including some codes and excluding others are in this Final Report.

The ten codes added to the current scope correspond to activities that are currently classified as not cultural or partly cultural and were reclassified as cultural and creative. These codes are in Table 1. Note that all these codes integrate the NESTA list of Creative Industries which helps to mitigate the finding of the inventory of sources that the current CCS framework is focused more on the cultural activities than on the creative activities.

Table 1: Codes added to the current scope

NACE Rev. 2 Code	Code Description	Initial Classification	Recommended Classification
47.6	**Retail sale of cultural and recreation goods in specialised stores**	Partly cultural	Cultural and creative
58	**Publishing activities**	Partly cultural	Cultural and creative
58.1	**Publishing of books and periodicals, and other publishing activities**	Partly cultural	Cultural and creative
58.19	**Other publishing activities**	Not cultural	Cultural and Creative
58.2	**Software publishing**	Partly cultural	Cultural and creative
73	**Advertising and market research**	Partly cultural	Cultural and creative
73.1	**Advertising**	Partly cultural	Cultural and Creative
73.11	**Advertising agencies**	Partly cultural	Cultural and Creative
73.12	**Media representation**	Not cultural	Cultural and Creative
74	**Other professional, scientific, and technical activities**	Partly cultural	Cultural and creative

Source: Eurostat (2018, pp. 13-14) and Authors.

The six codes excluded from the current scope correspond to activities that are currently classified as fully cultural and were reclassified as not cultural and creative. These codes are in Table 2.

It should be emphasized that the exclusion of a NACE code in this table does not mean it is objectively not a cultural and creative sector. This only means that based on the adopted reclassification criteria (mainly the significant discrepancies between the member states as to qualifying it as such and the no availability of data on the cultural component of the code) for pragmatic reasons they should not be included in the list of CCS codes with regular monitoring.

It is estimated that, compared with the current CCS scope, **the recommended scope significantly increases the economic importance of CCS** in terms of Gross Value

Added (GVA) and employment. It is also shown that the recommended scope gives a much higher external trade CCS goods surplus, compared with the current CCS scope, because the recommended scope gives higher exports and lower imports.

Relating **to the different denominations used for cultural and creative sectors,** our recommendation is to maintain the current denomination - Cultural and Creative Sectors (CCS). The main reasons for this recommendation are given in this Report.

Table 2: Codes excluded from the current scope

NACE Rev. 2 Code	Code Description	Current Classification	Recommended Classification
18	**Printing and reproduction of recorded media**	Fully cultural	Not cultural and creative
18.1	**Printing and service activities related to printing**	Fully cultural	Not cultural and creative
18.11	**Printing of newspapers**	Fully cultural	Not cultural and creative
18-.12	**Other printing**	Fully cultural	Not cultural and creative
18.13	**Pre-press and pre-media services**	Fully cultural	Not cultural and creative
18.14	**Binding and related services**	Fully cultural	Not cultural and creative

Source: Eurostat (2018, pp. 13-14) and Authors.

In summary: on the matter of reviewing the scope, it is recommended that all Member States adopt the same denomination (Cultural and Creative Sectors) and the same definition (in terms of NACE codes) for Cultural and Creative Sectors. The customisation of this definition of CCS by the Member States to consider their specificities should be conducted in a way similar to that of the NACE and the national classifications of economic activities, i.e., by disaggregation of the codes of the definition adopted at European level (which would become a European classification for cultural and creative activities). Note that the main reclassification criterion that is adopted helps this customization since it accommodates in the recommended scope, several differences between the currently adopted scopes since this criterion implies the introduction of small changes, based on the consensus among EU Member States. If a Member State wishes to add other codes to the scope and therefore adopt another definition, then such Member State should use a denomination other than that of the CCS in order to avoid confusion amongst users of the information and not hamper the comparability of data between Member States.

The ideal situation would be that these proposals on the denomination (Cultural and Creative Sectors) and on the definition of CCS (and the codes to be included) be included in an EU Regulation upon their validation by the Working Group on Culture Statistics. As a second-best option, such proposals should be the object of a recommendation by the Commission and an act of self-regulation by the members of this Working Group.

More administrative sources

The **use of administrative sources**, namely those associated with the administrative acts made mandatory across EU by EU legislation, has several advantages in the case of CCS statistics. These advantages are in addition to the well-known advantages of the statistical sources (associated with the low cost and low burden to the respondents) and are given in this report, being associated to the international comparability of data and to the mitigation of the coverage problem of the EU harmonised statistical surveys.

However, despite being encouraged by the European statistical legislation, the use of administrative sources is still quite limited in most EU Member States, and it is recommended that this situation change in the case of the CCS statistics. By way of example, the Report puts the focus on the administrative acts associated with the compliance with Directive 2013/34/EU of the European Parliament and the Council on the annual financial statements.

In concrete, it is recommended the use **of administrative sources as the primary source to produce statistics on cultural and creative enterprises and as the secondary and complementary source to produce two other types of statistics: cultural and creative employment and international trade in cultural and creative goods and services**.

Better measurement of cultural practice

The measurement of cultural participation at the EU level, i.e., the measurement of **the most important dimension for the sustainability of the cultural sector.** has not significantly improved since 2012, largely due to the non-fulfilment of the ESSnet-culture recommendation of 2012, to develop a module on cultural participation with a questionnaire that *"could be included within a survey also covering sports, social and civic participation"*.

Therefore, this recommendation of adopting a module of questions on cultural participation at the EU level is made again[4]. This module is of course inspired by the one recommended by ESSnet-Culture but covers other domains and dimensions, mainly those associated with digital transformation. The module should preferably be used as a stand-alone survey, making it the first EU harmonised survey in the cultural and creative sectors. Such a survey should allow the production of comparable data at the EU level and it will decrease the burden on the respondents. In fact, it will replace the current non-harmonised national surveys on cultural participation and also the questions on cultural participation that are currently used in the harmonised European and Eurobarometer surveys. Moreover, such a survey could integrate other questions (to be decided by the EU Member States) beyond the above-mentioned module of questions.

[4] It can be argued that some EU harmonized surveys include already a module of questions on social and cultural participation. However, as it is detailed explained in the Analysis Report (see section 4.3) and in this report (see section 4.1.3), the current situation is far from being the ideal situation and for several reasons. These surveys present a periodicity too long and an insufficient coverage and comparability of data across Member States which causes implausible results. For instance, in the case of EU-SILC, the modules on social and cultural participation are only included in SILC in 2006, 2015 and 2022. On the other hand, these modules have serious limitations. According to Eurostat (2018), the data collection is based on self-reporting and the number and the formulation of questions in culture participation are not the adequate ones. These limitations contribute to the fact that these surveys give results that are implausible and have little use at national level.

This integration would facilitate the replacement of the national surveys by a harmonised survey that would increase the added value of the survey without increasing the costs.

Following ESSnet-Culture's previous recommendation, the module of questions could also, as second-best option, be integrated into a survey that covers another topic such as sports or social and civic participation.

PROPOSAL FOR A NEW METHODOLOGY TO MEASURE DIGITAL CULTURAL SERVICES

A specific work strand of the Project was dedicated to **proposing a new methodology for capturing digital cultural services**[5]. This work strand mainly comprised two sets of activities: (i) a revision of the current Cultural Statistics Framework to allow for the onboarding of digital economy indicators across the CCS, and (ii) the exploration of innovative methodologies of data collection, namely a demonstrator of data analytics capabilities – applied to the music and audio-visual sectors – and an alternative approach for a targeted survey to collect tailored information from digital actors of the CCS.

Regarding the revision of the current Cultural Statistics Framework, this comprised the following activities and outputs:

- The definition of the sectorial scope of the CCS, through a **mapping between cultural and creative sectors** (according to the Creative Europe definition) **and** economic activities of the **NACE** Classification, to link digital economy indicators to the specific CCS sub-sectors.

- A **gap analysis against the surveys currently supporting the official EU Cultural Statistical framework** (i.e., EU-LFS, SBS, COMEXT, AES, EU-SILC, HETUS, ICT-Survey, HBS, and COFOG)[6] to assess whether and to what extent these surveys already capture aspects related to the digital economy and digital cultural services.

- The **definition of dimensions to capture and measure digital economy indicators** in the context of the CCS, based on previously established methodologies at European level, such as those outlined in the Digital Economy and Society Index (DESI)[7] and the Digital Transformation Scoreboard[8]. This led to the definition of three "enabler" dimensions, namely *Digital infrastructure*, *Investment*, and *Human capital*, which represent enabling factors for the digitalisation of organisations operating in the CCS; and three "value-chain" dimensions", namely *Digital cultural production*, *Digital cultural distribution*, and *Digital cultural consumption,* which represent the new, digital value chain of the CCS, in which activities from production to distribution and consumption are now carried out by any kind of actor and at any time by leveraging on digital technologies.

[5] The term "digital cultural services" has been agreed upon and adopted throughout the project when referring to online services.
[6] EU-LFS: European Union Labour Force Survey; SBS: Structural Business Statistics; COMEXT: Eurostat's reference database for detailed statistics on international trade in goods; AES: Adult Education Survey; EU-SILC: EU Statistics on Income and Living Conditions; HETUS: Harmonised European Time Use Surveys; HBS: Household Budget Survey; COFOG: Classification of functions of Government.
[7] Digital Economy and Society Index (DESI) 2021 - DESI methodological note.
[8] European Commission. (2018). Digital transformation scoreboard 2018. Publications Office of the EU.

- The **investigation of previous work on the digital economy**, such as DG CONNECT's[9] DESI, DG GROW's[10] Digital Entrepreneurship Monitor, and OECD's[11] Going Digital[12], aimed at targeting the analysis of existing statistical surveys and other data sources that provide indicators on digital economy metrics.

- The **analysis of sources to identify indicators** that are not currently used within the Cultural Statistics Framework and that could potentially enhance it. This entailed a filtering process to select a final set of digital economy indicators to be proposed for improvement of the Framework.

- The **proposal of new potential indicators** derived from desk research and consultations with CCS stakeholders and experts that may not be currently collected through existing surveys, to address gaps on digital economy metrics.

In parallel with this work, a set of activities dedicated to the exploration of innovative and complementary methods of data collection was also carried out. In summary, this entailed:

- A **demonstration of data analytics capabilities** to collect data from online platforms and service providers of the cultural and creative sectors through the collection of metrics that can be considered representative for the production, distribution, and consumption of cultural and creative content online. The scope of the demonstrator was limited to the music and audio-visual sectors and focused on two specific platforms, YouTube and Spotify. The approach relied on sending (automated) queries to the platforms' APIs[13] to collect metrics (such as views, likes, followers,) at hourly or daily frequency for a period of seven weeks, from the two platforms. The demonstrator achieved the objective of **demonstrating that collecting high-frequency data** from online platforms and service providers of the CCS **is possible** and showed the potential to **collect extremely vast amounts of data** in a relatively short period of time. The approach represents a starting point for decision making on the use of online data for the production of statistics on the CCS.

- A proposal for a **targeted approach to survey digital actors**, which represents a way to complement the information collected through the data analytics demonstrator. This approach entails surveying online platforms and digital actors directly through targeted surveys to obtain more relevant and granular information on their activities, revenue streams, and user bases. The proposal provided a rationale for the survey, identified a preliminary set of actors, and developed a set of potential questions and indicators to be measured.

On the basis of the activities and work strands outlined above, as well as the research carried out throughout the Project, the input gathered during the consultations with CCS

[9] DG CONNECT: Directorate-General for Communications Networks, Content and Technology.
[10] DG GROW: Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs.
[11] OECD: Organization for Economic Co-operation and Development.
[12] OECD. Going Digital Toolkit.
[13] Application Programming Interface.

experts and stakeholders, and the experience from the data analytics demonstrator, the research team has formulated the following recommendations:

- **Make the necessary updates to the current EU Cultural Statistics to onboard the digital economy,** which includes the validation of existing indicators to be integrated in the framework, and the addition of new indicators on the digital economy.

- **Prepare the ground for the use of innovative and alternative methods to measure digital cultural services,** by (i) performing an analysis on the coherence, relevance, and effectiveness of the methods, (ii) carrying out a specific study on the design for the implementation of the approach, and (iii) investing in appropriate infrastructure and acquisition of expertise.

- **Up-scale data analytics capabilities,** to (i) collect data for longer and more regular periods of time and (ii) extend the number of platforms to be queried to grasp a broader view of the phenomenon of online production, consumption, and exchange of content.

- **Further develop the targeted approach,** by (i) expanding the scope of the approach in terms of platforms, sectors, and indicators, (ii) setting up mechanisms to identify relevant digital economy actors at Member State level, and (iii) collecting first-hand information on digital actors' revenues, employment, and users' characteristics

UPDATED ESTIMATION OF THE CONTRIBUTION AND IMPACT OF CCS TO EU MAIN MACROECONOMIC AGGREGATES

The last part of this Report deals with this general requirement of the Call behind this Project and presents the main results of this research.

This part follows a classification detailed in the Report, according to which the Cultural and Creative Sectors (see Table 3) is divided into four groups of activities, which fit quite closely to the structure of the NACE codes.

The groups are G1: Core Cultural; G2: Cultural Industries; G2' Cultural industries with printing; and G3; Creative Sectors

Table 3: Groups of the Cultural and Creative Sectors

Group	Name	Sub-groups	NACE codes (4 digits)*
G1	Core Cultural	Education	85.52 Cultural education
		Museums and heritage sites	91.02 Museums activities. 91.03 - Operation of historical sites and buildings and similar visitor attractions
		Library and archives	91.01 Library and archives activities
		Visual arts and writing	90.03 Artistic creation
		Performing arts	90.01 Performing arts. 90.02 Support activities to performing arts. 90.04 Operation of arts facilities
G2	Cultural Industries	Radio and TV	60 Radio and TV
		Recorded music	59.2 Sound recording and music

Group	Name	Sub-groups	NACE codes (4 digits)*
			publishing activities. 47.63 - Retail sale of music and video recordings in specialised stores. 77.22 Rental of video tape and disks. 18.2 Reproduction of recorded media
		Audio-visuals	59.1 Audio-visual 74.2 Photography
		Book and press	58 Publishing activities 47.61 Retail sale of books in specialised stores. 47.62 Retail sale of newspapers and stationery in specialised stores 74.3 Translation and interpretation
		Culture manufacturing. Artistic Craft	32.1 Manufacture of jewellery, bijouterie, and related articles. 32.20 Manufacture of musical instruments
G2'	Cultural industries	Cultural Industries with printing	18.1 Printing and service activities related to Printing
G3	Creative Sectors	Advertising	73.1 Advertising agencies
		Design	74.1 Specialised design activities
		Architecture	71.11 - Architectural activities
		Videogames	58.2 Software publishing

* In case headings are described at less than 4 digits, it means that all subgroups at that digit level are included.

On **employment,** this research has not estimated cultural workers but has sought to estimate the people working in the CCS, over a period from 2008 (before the financial crisis) to 2021. It should be noted that the UK has been excluded from the calculations because of its exit from the EU, and that the pandemic has also delayed a recovery that was beginning to take shape since the middle of the last decade. With all these nuances, **those employed in the cultural and creative sectors in 2021 accounted for 5.5 million people and 2.6% of the total employed workforce in the EU 27 as a whole.**

If we consider the average for the whole period, the proportions vary between countries from 3.8% in Estonia to 1.2% in Romania. In absolute terms and in the absence of the UK, Germany (with values above 1.1 million employed) accounts for 20% of the total. It is followed at some distance by other large countries such as France, Italy, Spain, and Poland.

What is true is that the last 14 years have not been particularly bright for the CCS. In 2021 we were still at 99% occupancy compared to 2008, albeit at 110% in terms of added value generation.

If we distribute by groups of activities according to the classifications proposed above (G1; G2; G3), we can see a certain balance between the three groups. In 2021 the cultural core accounted for 27% of the employed, the cultural industries 35%, and the creative sectors 38% of the total. In the period under consideration, we can observe a decrease of 5 percentage points of the cultural industries, which is distributed in 3% more for the creative sectors and 2% for the Core Cultural activities.

The same relative decline is also seen in the case of added value, although in 2019 (latest year available for GVA) cultural industries still accounted for 45% of the total. If we analyse the data of GVA relative to the total economy, we see that small Eastern

European countries such as Slovakia, Slovenia, and Czechia, but also Finland and Denmark, show figures above 3%. Malta is the country with the highest rate (6.7%).

In terms of employment the countries with the highest presence of G1: Core cultural activities are Estonia and Lithuania, while for G2: Cultural industries the countries with the highest percentages are Finland and Ireland, and finally in G3: Creative services the most outstanding performances on average over the period analysed are Denmark and Malta.

In the EU-27 as a whole, we can see that the productivity of the CCS as a whole is slightly above the average for the economy, and that this is mainly due to the fact that it is the productivity of the cultural industries that pushes the average upward. While both the cultural core and creative sectors show productivities below the average for the economy and at practically the same level. There are of course considerable differences between countries, which can be found in the factsheets of the individual countries.

The updated **figures on the international trade of CCS goods** are summarised in several figures in the corresponding chapter of this Report. Concerning the evolution of the international trade of CCS goods in the EU-27, there was a rising trend of transactions between EU Member States and non-EU countries between 2009 and 2019, but transactions fell from 2019 to 2020. In 2020, the Top three exporters were Germany, France, and Italy, and the Top three importers were Germany, France, and the Netherlands. Poland and the Netherlands also stand out that year in export values when compared to the remaining Member States.

Regarding the **relationship between the size of the Cultural and Creative Sectors and the overall productivity of a national economy**, the theoretical framework based on a semi-endogenous growth model allows for a causal interpretation of the effects of CCS on labour productivity and the method of estimation used (Local Linear Least Squares LLLS) provides individual country effects. The results suggests that if the weight of the CCS in the sample countries is doubled, the average labour productivity increases by 1.25%. However, there are significant differences in the effects that the CCS have on labour productivity depending on the country and the year. The largest median effects (for all years) are observed for Germany, Denmark, Ireland, Hungary, and France (all above 4%). The impacts are also positive and above the mean for Finland, Italy, Spain, Sweden, Austria, Belgium, the Netherlands, Luxembourg, and Slovakia. Below the mean, but with positive effects, we find Malta, Lithuania, Croatia, Bulgaria, and Greece. Negative median effects are observed mainly for Eastern European countries (Poland, Romania, Czechia, Latvia, Slovenia, and Estonia) plus Cyprus and Portugal.

A second measurement of the effects of CSS on the European economies has been elaborated using the **OECD multi-country input-output** tables. It requires adding a little more the sectors due to the limitations in the information. The simple value-added multiplier indicates the value added generated by the economy as a whole from a one-euro external increase in final demand for CCS. This type of multiplier incorporates both direct and indirect effects (although not the induced effects through the income). The **sectors 58-60** (publishing, dissemination, and content production and distribution activities) in the EU-27 generated on average €0.94 of value added in the economy as a whole, for each euro of expenditure in 2018. The highest multipliers are found in Ireland (€0.978), Czechia (€0.966), Sweden, and Romania (both €0.961), while the lowest are found in Portugal (€0.926), Lithuania (€0.922), and Hungary (€0.914).

As for the **Information Technology (IT) sector**, which includes IT activities (division 62) and other information service activities (division 63), the EU-27 average stands at

€0.957. In 2018, the country with the highest capacity to generate added value was Germany, where each euro of expenditure in this sector resulted in €0.975 of added value (Figure 6.23). The values of the Czechia (€0.971) and Cyprus (€0.969) also stand out. The countries with the lowest multipliers are Croatia (€0.942), Luxembourg, and Malta (both €0.937).

The multipliers of **Artistic, cultural, and recreational activities** reported €0.936 of value added per euro of expenditure in 2018 for the EU-27 average. Thus, the countries with the highest impacts were Ireland (€0.973), Germany (€0.965), and Luxembourg (€0.964), while the lowest impacts were generated in Italy (€0.908), Slovakia (€0.897), and Bulgaria (€0.941).

Finally, the report presents some **preliminary results about the relationships between CCS and well-being**[14]. The OECD Better Life Index (BLI) defines 11 dimensions of well-being that are commonly accepted and used as measures of well-being by the academic and statistical community. The dimensions combine material basis with other aspects related to the quality of life and the environment, while taking into account sustainability and the reproduction of future well-being. The theoretical framework is based on a simple model that relates the normalized well-being scores provided by the OECD to the share of persons employed in CSS and an average of the past well-being scores. The estimates use again LLLS to provide individual country effects. The results must be interpreted with caution since the framework may not control for all confounding factors in all indicators. The countries that would improve their well-being scores the most with an increase in the share of people employed in the CCS are Finland and Sweden. Whereas for countries such as Hungary and Portugal the score could reduce for some well-being indicators.

SUMMARY OF RECOMMENDATIONS AND CONCLUDING REMARKS

The Final Report concludes by summarising all the recommendations presented in the different areas covered by this research. It closes what could be compared to a mapping exercise of the whole Project and of its results as delivered, connecting the content of the initial research proposal as approved, with all the different deliverables drafted and presented, throughout this Final Report and in the several documents that have preceded it.

[14] For this analysis, we took all of the EU countries that belong to the OECD countries: 22 in total. Bulgaria, Croatia, Cyprus, Malta, and Romania cannot be included since the Better Life Index is not compiled for these non-OECD countries.

Résumé analytique

Les secteurs culturels et créatifs (SCC) comptent parmi les industries les plus dynamiques d'Europe et constituent un atout important pour générer de la croissance économique et de l'emploi, ainsi que pour favoriser la cohésion sociale et promouvoir la diversité. Selon le rapport annuel sur le marché unique 2021[15], la contribution économique des SCC est substantielle et même supérieure à celle de plusieurs autres secteurs de pointe tels que les télécommunications, la haute technologie, la pharmacie et l'industrie automobile. De plus, la crise pandémique de la COVID a impliqué plusieurs défis pour les SCC, notamment en accélérant les grandes tendances du numérique et en renforçant le besoin d'accroître les efforts pour développer de nouveaux contenus et de nouveaux modèles commerciaux. Ces défis demandent une mesure rigoureuse des secteurs culturels et créatifs.

En fait, la nécessité de mesurer et d'avoir des chiffres appropriés concernant les SCC répond à diverses requêtes, allant du simple besoin technique de résultats fiables dans les comptes nationaux à des demandes politiques concrètes, qui requièrent des informations précises sur les liens entre les différents secteurs productifs, y compris les exigences des secteurs et des acteurs spécifiques qui sollicitent des informations précises et détaillées pour prendre des décisions meilleures et plus efficaces, ou pour défendre leurs activités.

Cependant, mesurer la valeur économique, culturelle et sociale générée par les SCC et leurs sous-secteurs spécifiques n'est certainement pas une tâche facile et affronte plusieurs défis. Ces défis comprennent l'absence d'une définition commune des secteurs culturels et créatifs, des mécanismes de collecte de données mauvais ou inadéquats pour des indicateurs spécifiques et des classements statistiques obsolètes (par exemple, les codes NACE - *Nomenclature des Activités Économiques dans la Communauté Européenne,* Nomenclature des Activités Économiques) concernant la comptabilisation de la numérisation et la captation de la valeur générée par les services en ligne.

Dans ce contexte, la Commission européenne a lancé un appel à propositions pour relever ces défis et construire un nouveau cadre statistique de mesure des secteurs culturels et créatifs, afin de permettre une analyse statistique régulière du potentiel économique, culturel et social des SCC en Europe. Le consortium à l'origine de ce projet – sous la désignation de *Mesurer les secteurs culturels et créatifs dans l'UE* – a soumis une proposition d'étude qui a été sélectionnée.

Ce rapport est le document de conclusion et de clôture marquant la fin de notre étude. La proposition avait trois objectifs principaux : (i) proposer un nouveau cadre avec une définition mise à jour du périmètre des « secteurs culturels et créatifs », afin de mieux quantifier les SCC et d'assurer la comparabilité au niveau de l'Union européenne (UE) de toutes les données disponibles ; (ii) développer de nouvelles méthodes pour capturer et quantifier les services en ligne dans les SCC, et (iii) fournir des chiffres économiques mis à jour concernant les SCC.

Pour répondre à ces objectifs, **le projet a été développé en trois phases :**

- La production d'un inventaire des principales sources de données sur les secteurs culturels et créatifs, y compris les sources officielles et non

[15] Consulter le SWD Annual Single Market Report 2021

officielles ainsi que les publications et informations sur la mesure des services en ligne.
- Une enquête menant à une proposition d'un cadre mis à jour pour les statistiques SCC, y compris une méthodologie pour capturer les services en ligne.
- Une enquête menant à la production d'une estimation mise à jour des principaux chiffres macroéconomiques des SCC et de leurs contributions à l'économie mondiale.

Les résultats des deux premières phases se trouvent dans deux rapports déjà remis à la Commission européenne sous les titres : **Measuring CCS – Report on Inventory of Sources**[16] **et Measuring CCS – Analysis Report**[17]. Les résultats de la troisième phase ainsi qu'un résumé des deux autres rapports figurent dans ce rapport final qui contient ce résumé analytique.

INVENTAIRE DES SOURCES

Un **inventaire exhaustif des statistiques officielles sur les secteurs culturels et créatifs** a été réalisé, englobant l'ensemble des 27 États membres de l'UE avec une forte collaboration des États membres par le biais des membres du groupe de travail d'Eurostat sur les statistiques culturelles. Cette collaboration a été particulièrement utile en ce qui concerne la vérification et la validation des rapports des États membres. Ces rapports ont été produits avec les informations disponibles et, après validation par les États membres et Eurostat, ont servi de source principale au *Report on Inventory of Sources* (*Rapport sur l'inventaire des sources*).

L'inventaire des sources avait deux objectifs principaux. Premièrement, identifier les principaux défis auxquels est confrontée la mesure actuelle des secteurs culturels et créatifs dans l'Union européenne. Surmonter ces limitations est l'objectif principal du cadre des statistiques SCC, proposé dans la phase 2. Le deuxième objectif clé de cet inventaire était d'identifier les bonnes pratiques des États membres qui peuvent constituer un ensemble de suggestions pour améliorer les statistiques concernant les SCC. L'inventaire met délibérément l'accent sur les limites ou les lacunes de la situation actuelle (principalement celles qui n'ont été identifiées que par cet inventaire des sources), puisque ce sont ces caractéristiques qui doivent être modifiées.

Les principales conclusions de l'inventaire des sources sur les statistiques officielles sont résumées dans le présent rapport final et montrent que la plupart des statistiques SCC actuelles présentent de sérieuses limites. L'analyse de ces limites a déjà été effectuée dans le Guide to Eurostat Cultural Statistics of 2018 (*Guide des statistiques culturelles d'Eurostat de 2018*) et est complétée par notre rapport sur l'inventaire des sources.

Les principales conclusions incluent :

- Le cadre théorique actuel des statistiques culturelles de l'UE est, si l'on exclut les modifications mineures, celui proposé en 2012 par le **European Statistical System Network on Culture (réseau du Système statistique européen sur la culture)** (ESSnet-Culture).

[16] *Report on Inventory of Sources*, fichier *Measuring CCS_Report on Inventory of Sources - Final_v1.3*
[17] *Analysis Report - A New Framework for Cultural and Creative Sector Statistics*, fichier *MeasuringCCS_Analysis Report Final_v2.0*

- Toutefois, **ce cadre n'a pas été adopté de manière uniforme par les États membres et Eurostat**. Alors qu'Eurostat a adopté le périmètre théorique proposé par ESSnet-Culture (avec les modifications décidées ultérieurement, en 2015, 2016 et 2018, par le Groupe de travail d'Eurostat sur les statistiques culturelles), plusieurs États membres de l'UE ont adopté d'autres périmètres avec d'autres listes d'activités culturelles. Il y a de nombreuses activités classées différemment par Eurostat et par ces États membres.

- Nous avons donc deux périmètres ou définitions différents, c'est-à-dire **deux listes différentes d'activités sous la désignation Secteurs culturels et créatifs (SCC) pour chaque État membre :** celle adoptée par Eurostat qui vise à garantir la comparabilité des données culturelles dans tous les États membres, et celle adoptée par l'État membre respectif pour produire des données culturelles à des fins nationales.

- **À notre avis, cette situation de deux périmètres différents est loin d'être la situation idéale pour trois types de raisons.** Premièrement, c'est une source de confusion pour les utilisateurs (id les principales parties prenantes) des statistiques SCC. Lors de l'utilisation de ces données, les utilisateurs sont confrontés à deux données différentes pour la même variable statistique (par exemple, l'emploi culturel ou la production culturelle) qui ne sont pas cohérentes, entravant également la comparabilité de ces données entre tous les États membres**.** Deuxièmement, cette situation est, selon nous, l'une des principales raisons pour lesquelles **plusieurs statistiques obligatoires au niveau de l'UE sont peu (ou pas du tout) utilisées en interne dans plusieurs États membres pour analyser les secteurs culturels et créatifs**. **Finalement, cette situation est également une source** de gaspillage des ressources des systèmes statistiques nationaux, puisque les besoins des utilisateurs de données au niveau de l'UE sont satisfaits indépendamment des besoins des utilisateurs de données au niveau national. Bien sûr, le périmètre retenu au niveau du pays doit permettre la production de données répondant aux besoins spécifiques du pays. Cependant, et comme cela sera expliqué plus tard, il existe d'autres moyens pour la personnalisation des périmètres qui ne présentent pas les limitations mentionnées ci-dessus.

- **Les difficultés de comparaison des données nationales sur les SCC entre tous les États membres de l'UE se trouvent encore exacerbées par l'utilisation de différentes sources statistiques** pour obtenir les mêmes statistiques (par exemple, l'emploi culturel) et par l'organisation et la gouvernance différentes des Systèmes statistiques nationaux dans le domaine de la culture dans les États membres.

- **Les cadres SCC des États membres de l'UE se concentrent davantage sur les activités culturelles que sur les activités créatives.**

- Il existe **également un problème de couverture dans le cas des enquêtes statistiques sur les secteurs culturels et créatifs** puisque, d'une part, il n'existe pas d'enquête statistique harmonisée unique de l'UE spécifique aux secteurs culturels et créatifs (SCC), et, d'autre part, la plupart des enquêtes statistiques harmonisées de l'UE ne couvrent pas un

niveau détaillé de la NACE, où la plupart des activités de SCC peuvent être identifiées.

- **Certaines statistiques – disponibles aux niveaux national et européen, mais non obligatoires au niveau de l'UE – sont, en moyenne, utilisées en interne par plus d'États membres que certaines statistiques obligatoires au niveau de l'UE**. Ce constat appelle à effectuer une analyse des lacunes entre l'intérêt multidimensionnel des décideurs politiques pour les SCC dans différents domaines politiques au cours des dernières années et l'ensemble actuel de statistiques culturelles obligatoires de l'UE.

- **Les classifications statistiques internationales décrivent de manière inadéquate les activités culturelles et créatives et les produits et services qui leur sont liés**. Les activités culturelles, ainsi que les produits et services culturels, sont agrégés avec des composantes non culturelles. De plus, les listes d'activités et de produits et services de ces nomenclatures sont surannées et ne reflètent pas la transformation numérique des produits et services culturels survenue ces dernières années.

- **Plusieurs pratiques disponibles au niveau national pouvant être étendues au niveau de l'UE ont été identifiées.** Il convient de souligner deux de ces pratiques. L'une est l'utilisation par certains États membres de sources administratives associées aux actes administratifs requis pour se conformer aux mandats et obligations imposés par le droit européen. Une autre bonne pratique, qui peut être étendue au niveau de l'UE, consiste à reproduire la bonne mesure par certains États membres de la participation culturelle.

- **La situation actuelle des comptes satellites en culture en est encore** au stade « d'essais et d'erreurs », avec des méthodologies et des approches très différentes et, par conséquent, la méthodologie d'un compte satellite pour l'analyse des SCC ne serait être la plus recommandée pour les objectifs qui conduisent à cette étude.

Concernant **les sources non officielles**, le rapport comprend un bref résumé de chacun des fournisseurs non officiels de données SCC dans l'UE. Dans cette étude, nous mettons en relief l'importance de ces statistiques non officielles produites par des organisations et des organismes qui ne sont pas ceux officiellement mandatés pour le faire ; entités ayant un intérêt pour les SCC qui produisent des données sur les SCC, répondant à des motivations et des objectifs très divers. Cette catégorie comprend les associations professionnelles, les services de consultants spécialisés, les associations culturelles pour les sociétés de gestion des droits de propriété intellectuelle (PI), les projets européens, les organisations non gouvernementales, les groupes d'influence des secteurs culturels et créatifs, les chercheurs universitaires. Cette catégorie comprend également les organismes publics qui n'ont pas de mandat légal pour produire des statistiques.

- De manière générale, bien que nous parlions de sources très diverses et variées, jusqu'à présent, nous pouvons dire que nous n'avons identifié aucune proposition, ni explicitement ni implicitement, dotée d'une cohérence théorique acceptable et d'une capacité de leadership suffisante pour que nous proposions une méthodologie complète et alternative qui pourrait devenir une meilleure alternative surpassant celle issue de l'ESSnet-Culture (ESSnet-Culture, 2012). Cependant, nous signalons des

expériences qui méritent une attention sérieuse, car elles constituent un périmètre d'exploration où des innovations peuvent émerger. Certaines pratiques peuvent être consolidées et homogénéisées, comme celle issue de la directive sur la Gestion collective des droits (GCD) (Collective Rights Management – CRM) qui pourrait constituer à l'avenir de nouvelles sources fiables et comparables pour les statistiques SCC.

- Nul doute que nous affrontons des difficultés pour déterminer quelles variables choisir afin d'obtenir une image claire de la dimension économique des SCC. Mais c'est encore plus compliqué si l'on veut **évaluer leur impact** sur **l'innovation, la productivité**, ou la régénération des territoires, et plus encore sur des aspects sociaux aussi importants que **le bien-être, la cohésion sociale**, ou encore les impacts sur les personnes d'ordre émotionnel, cognitifs ou esthétiques. Il est clair que le chemin à parcourir est encore long.

Enfin, pour compléter l'inventaire des sources officielles et non officielles des statistiques des SCC, nous avons également inclus **une analyse des statistiques culturelles fournies par certains pays non-membres de l'UE**, afin de permettre d'identifier les bonnes pratiques qui pourraient être étendues aux pays de l'UE. Suivant un critère basé sur (i) l'importance des industries créatives et culturelles dans le pays, (ii) le positionnement des SCC du pays dans le contexte mondial ou régional, (iii) le développement des services numériques et créatifs en ligne, et (iv) la disponibilité des informations sur les statistiques. Certaines informations concernaient la République de Corée, la Chine, les États-Unis, le Canada, l'Australie et le Mexique.

Les principales conclusions de l'analyse de ces études de cas comprennent :

- Les pays non-membres de l'UE analysés s'appuient sur des systèmes de classification standard pour l'industrie ou l'emploi qui sont ensuite adoptés par leurs cadres respectifs de statistiques culturelles pour intégrer différents secteurs et sous-secteurs. Par conséquent, il n'existe pas de définition et de classification uniques des secteurs culturels, même au niveau des régions commerciales, car chaque pays l'adapte à son contexte.

- Le seul pays qui semble avoir inclus la perspective numérique des contenus et services culturels à la fois dans son système de classification des industries et dans les statistiques produites est **la Corée du Sud**. Plus concrètement, ce pays comprend des sous-catégories pour le contenu numérique et ses principales catégories d'industrie.

- La **principale source de données** sur les industries culturelles et créatives à des fins statistiques dans tous les pays analysés **semble être les enquêtes**. Alors que les enquêtes sont combinées avec d'autres sources d'information (par exemple, des données administratives et des estimations de l'offre/demande), aucune autre méthode de collecte de données n'a été identifiée dans aucun des pays analysés, ce qui suggère qu'ils peuvent n'utiliser que des méthodes traditionnelles (id des enquêtes et données administratives) pour la production de statistiques officielles.

CADRE MIS À JOUR DES STATISTIQUES DES SECTEURS CULTURELS ET CRÉATIFS

La seconde phase du projet, c'est-à-dire la proposition d'un nouveau cadre pour les statistiques de SCC, est l'un des principaux objectifs du projet de mesure des SCC. L'appel à propositions demandait que ce cadre s'édifie sur les travaux déjà

existants et prévus d'Eurostat et soit une version révisée et étendue du cadre actuel proposé par ESSnet-Culture en comblant les lacunes, dans la mesure du possible, avec des sources de données alternatives.

L'inventaire des sources a identifié les principales raisons pour lesquelles le cadre ESSnet-Culture doit être mis à jour. Cette phase les a revus en détail. Toute la question de l'impact de l'économie d'Internet et de son implication dans la création, la production et la distribution de contenus culturels est traitée séparément car elle devient une partie essentielle de cette étude. En ce qui concerne les classifications statistiques internationales, elles sont encore en cours de révision et leur intégration dans ce cadre n'a pas été possible, puisque l'ensemble du processus de révision ne sera finalisé qu'à la conclusion de ce projet.

Par conséquent, l'analyse pour proposer un cadre révisé pour les statistiques du secteur culturel et créatif est organisée autour de l'objectif à atteindre :

- Une **portée théorique ou une définition mise à jour** pour les statistiques du secteur culturel et créatif.
- Un appel **à une plus grande utilisation des sources administratives** dans la production des statistiques SCC.
- Un appel à **davantage de données comparables sur la participation culturelle** au niveau de l'UE.

Révision du périmètre théorique

Le nouveau cadre statistique recommandé vise à combler les lacunes actuelles **par la définition d'un nouveau périmètre théorique pour les statistiques SCC**. Ceci est fait avec deux objectifs principaux : (1) que nos recommandations puissent être adoptées par tous les États membres et Eurostat et (2) qu'elles respectent les normes internationales.

Pour atteindre ces deux objectifs, les modifications proposées doivent respecter les trois **critères généraux** suivants :

- Les modifications proposées dans le périmètre doivent se baser sur un large consensus parmi les États membres de l'UE.
- Les modifications proposées dans le périmètre intègrent les activités culturelles et créatives, en utilisant une norme mondiale.
- Les modifications proposées dans le périmètre sont prêtes pour leur intégration dès qu'elles seront disponibles, dans les révisions de la NACE Rév. 2 et de la Classification internationale type de toutes les activités économiques (CITI).

L'option pour ces trois critères et la manière dont ils ont été appliqués sont détaillées dans ce rapport.

Nous recommandons également d'éliminer le classement des codes NACE partiellement culturels lorsqu'il n'y a pas d'informations disponibles de la composante culturelle et créative dans ces codes et de reclasser ces codes en « activités culturelles et créatives » ou en « activités non culturelles et créatives ». Ce manque d'information sur le poids de la composante culturelle/créative se produit très souvent notamment à un niveau détaillé des codes NACE. Comme dans ces cas, les codes classés comme partiellement culturels ne sont pas mesurés par Eurostat, classer toute activité comme partiellement culturelle équivaut à la classer comme non culturelle et créative, ce qui finalement réduit la mesure

de son importance économique et sociale. Par conséquent, l'approche d'Eurostat produit une sous-estimation de l'importance des SCC que nous voulons éviter.

Dans le rapport, nous détaillons ce processus de reclassement proposé, et nous le soumettons à trois critères qui doivent être remplis pour que tout changement soit proposé :

- Le nombre d'États membres qui classent le code soumis à révision comme pleinement culturel est supérieur au nombre de ceux qui le classent comme non culturel.
- Le pourcentage de classes (sous-codes statistiques) au sein d'un code NACE Rév. 2 qui sont classées comme pleinement culturelles est supérieur à 50 %.
- Le code NACE Rév. 2 figure dans la liste des activités créatives NESTA (National Endowment for Science, Technology, and the Arts).

Les trois critères pour qu'un code NACE classé comme partiellement culturel soit reclassé comme non culturel et créatif sont des conditions symétriques aux trois conditions susmentionnées. La justification de l'utilisation de ces trois critères (et en particulier du deuxième) est détaillée dans le présent rapport final.

Ces critères (critères généraux et critères pour les activités partiellement culturelles) nous ont permis de proposer de reclasser la plupart des codes NACE Rév. 2 actuellement classés non culturels, partiellement culturels, ou pleinement culturels par Eurostat ou par n'importe lequel des États membres et qui devaient être reclassé.

Lorsque l'utilisation de ces critères n'a pas permis le reclassement d'un code, cela signifie que le reclassement de ce code nécessite une analyse plus approfondie, et il a été soumis à une analyse qualitative menée par des experts et des parties prenantes du domaine des secteurs culturels et créatifs dans une session de Stakeholder Input qui s'est tenue sous forme d'atelier le 18 mai 2022.

Le reclassement des codes NACE Rév. 2 nous pousse à ajouter dix codes au cadre actuel adopté par Eurostat et à en exclure six, et donc à recommander un périmètre mis à jour pour les statistiques du secteur culturel et créatif. Ce périmètre recommandé et ces justifications supplémentaires (outre les critères de reclassement) pour inclure certains codes et en exclure d'autres figurent dans le présent rapport final.

Les dix codes ajoutés au périmètre actuel correspondent à des activités actuellement classées comme non culturelles ou en partie culturelles et reclassées comme culturelles et créatives. Ces codes sont visibles au Tableau 1. Il est important de remarquer que ces codes integrent la liste NESTA des Industries Creatives ce qui permet de minorer le fait que le cadre actuel pour les statistiques de SCC se concentre davantage sur les activités culturelles que sur les activités créatives.

Tableau 1 : Codes ajoutés au périmètre actuel

NACE Rev. 2 Code	Description du code	Classement initial	Classement recommandé
47.6	**Commerce de détail de biens culturels et de loisirs en magasin spécialisé**	Partiellement culturel	Culturel et créatif
58	**Activités d'édition**	Partiellement culturel	Culturel et créatif
58.1	**Édition de livres et de périodiques et autres activités d'édition**	Partiellement culturel	Culturel et créatif
58.19	**Autres activités d'édition**	Non culturel	Culturel et créatif
58.2	**Édition de logiciels**	Partiellement culturel	Culturel et créatif
73	**Publicité et étude de marché**	Partiellement culturel	Culturel et créatif
73.1	**Publicité**	Partiellement culturel	Culturel et créatif
73.11	**Agences de publicité**	Partiellement culturel	Culturel et créatif
73.12	**Représentation médiatique**	Non culturel	Culturel et créatif
74	**Autres activités professionnelles, scientifiques et techniques**	Partiellement culturel	Culturel et créatif

Source : Eurostat (2018, pp. 13-14) et auteurs.

Les six codes exclus du périmètre actuel correspondent à des activités actuellement classées comme pleinement culturelles et reclassées comme non culturelles et créatives. Ces codes figurent au Tableau 2.

Il est estimé que, par rapport au périmètre actuel des SCC, **le périmètre recommandé augmente significativement l'importance économique des SCC** en termes de Valeur Ajoutée Brute (VAB) et d'emploi. Il est également montré que le périmètre recommandé donne un excédent de biens SCC du commerce extérieur beaucoup plus élevé, par rapport au périmètre SCC actuel, parce que le périmètre recommandé donne des exportations plus élevées et des importations plus faibles.

Concernant **les différentes dénominations utilisées pour les secteurs culturels et créatifs**, notre recommandation est de maintenir la dénomination actuelle - Secteurs Culturels et Créatifs (SCC). Les principales raisons de cette recommandation sont données dans le présent rapport.

Tableau 2 : Codes exclus du périmètre actuel

NACE Rev. 2 Code	Description du code	Classement actuel	Classement recommandé
18	**Impression et reproduction de supports enregistrés**	Pleinement culturel	Non culturel et créatif
18.1	**Impression et activités de service liées à l'impression**	Pleinement culturel	Non culturel et créatif
18.11	**Impression de journaux**	Pleinement culturel	Non culturel et créatif
18-.12	**Autre impression**	Pleinement culturel	Non culturel et créatif
18.13	**Services de prépresse et de prémédias**	Pleinement culturel	Non culturel et créatif
18.14	**Reliure et services connexes**	Pleinement culturel	Non culturel et créatif

Source : Eurostat (2018, pp. 13-14) et auteurs.

En résumé : en ce qui concerne la révision du périmètre, il est recommandé que tous les États membres adoptent la même dénomination (secteurs culturels et créatifs) et la même définition (en ce qui concerne les codes NACE) pour les secteurs culturels et créatifs. La personnalisation de cette définition du SCC par les États membres pour tenir compte de leurs spécificités devrait être menée de manière similaire à celle de la NACE et des nomenclatures nationales d'activités économiques, c'est-à-dire par désagrégation des codes de la définition adoptée au niveau européen (qui deviendrait une classification européenne des activités culturelles et créatives). Il faut noter que le principal critère de reclassement qui est adopté facilite cette personnalisation puisqu'il intègre dans le cadre pour les statistique SCC recommandé plusieurs différences entre les cadres actuellement adoptés, puisque ce critère implique l'introduction de petits changements, basés sur le consensus entre les États membres de l'UE. Si un État membre souhaite ajouter d'autres codes au périmètre et donc adopter une autre définition, cet État membre devrait utiliser une dénomination autre que celle du SCC afin d'éviter toute confusion parmi les utilisateurs des informations et de ne pas entraver la comparabilité des données entre États membres.

L'idéal serait que ces propositions sur la dénomination (secteurs culturels et créatifs) et sur la définition des SCC (concernant les codes NACE) soient incluses dans un règlement de l'UE après leur validation par le Groupe de travail d'Eurostat sur les statistiques culturelles. En tant que deuxième meilleur choix, de telles propositions devraient faire l'objet d'une recommandation de la Commission et d'un acte d'autorégulation de la part des membres de ce groupe de travail.

Davantage de sources administratives

L'utilisation de sources administratives, à savoir celles associées aux actes administratifs rendus obligatoires dans toute l'UE par la législation de l'UE, présente plusieurs avantages dans le cas des statistiques SCC. Ces avantages s'ajoutent à ceux bien connus des sources statistiques (associés au faible coût et à la faible charge pour les répondants) et sont donnés dans ce rapport, étant associés à la comparabilité internationale des données et à l'atténuation de la couverture de problème des enquêtes statistiques harmonisées de l'UE.

Néanmoins, bien qu'encouragée par la législation statistique européenne, l'utilisation des sources administratives est encore assez limitée dans la plupart des États membres de l'UE, et il est recommandé que cette situation change dans le cas des statistiques SCC. À titre d'exemple, le rapport met l'accent sur les actes administratifs liés au respect de la directive 2013/34/UE du Parlement européen et du Conseil sur les états financiers annuels.

Concrètement, il est recommandé **d'utiliser les sources administratives comme source primaire pour produire des statistiques sur les entreprises culturelles et créatives et comme source secondaire et complémentaire pour produire deux autres types de statistiques : l'emploi culturel et créatif et le commerce international de biens culturels et créatifs et services.**

Mieux mesurer les pratiques culturelles

La mesure de la participation culturelle au niveau de l'UE, c'est-à-dire la mesure de la dimension la plus importante pour la durabilité du secteur culturel, ne s'est pas améliorée de manière significative depuis 2012, en grande partie en raison du non-respect de la recommandation ESSnet-culture de 2012, visant à développer un module sur la participation culturelle avec un questionnaire qui "*pourrait être inclus dans une enquête portant également sur la participation sportive, sociale et civique*".

Par conséquent, **cette recommandation d'adopter un module de questions sur la participation culturelle au niveau de l'UE est à nouveau émise**[18]**.** Ce module est bien sûr inspiré de celui préconisé par ESSnet-Culture, mais couvre d'autres domaines et dimensions, principalement ceux associés à la transformation numérique. Le module devrait, de préférence, être utilisé comme une enquête autonome, ce qui en ferait **la première enquête harmonisée de l'UE dans les secteurs culturels et créatifs.** Une telle enquête devrait permettre la production de données comparables au niveau de l'UE et reduirait la charge des répondants. En fait, le module remplacera les enquêtes nationales non harmonisées actuelles sur la participation culturelle ainsi que les questions sur la participation culturelle qui sont actuellement utilisées dans les enquêtes européennes harmonisées et Eurobaromètre. En outre, une telle enquête pourrait intégrer d'autres questions (à décider par les États membres de l'UE) au-delà du module de questions susmentionné. Cette intégration faciliterait le remplacement des enquêtes nationales par une enquête harmonisée qui augmenterait la valeur ajoutée de l'enquête sans augmenter les coûts.

Par suite de la précédente recommandation d'ESSnet-Culture, le module de questions pourrait également, comme deuxième choix, être intégré dans une enquête qui couvre un autre sujet comme le sport ou la participation sociale et citoyenne.

[18] On peut affirmer que certaines enquêtes harmonisées de l'UE incluent déjà un module de questions sur la participation sociale et culturelle. Néanmoins, comme cela est expliqué en détail dans le rapport d'analyse (voir section 4.3) et dans ce rapport (voir section 4.1.3), la situation actuelle est loin d'être la situation idéale et pour plusieurs raisons. Ces enquêtes présentent une périodicité trop longue et une couverture et une comparabilité des données insuffisantes entre les États membres, ce qui entraîne des résultats peu plausibles. Par exemple, dans le cas d'EU-SILC, les modules sur la participation sociale et culturelle ne sont inclus dans SILC qu'en 2006, 2015 et 2022. D'autre part, ces modules ont de sérieuses limites. Selon Eurostat (2018), la collecte de données est basée sur l'autodéclaration et le nombre et la formulation des questions sur la participation culturelle ne sont pas adéquats. Ces limites contribuent au fait que ces enquêtes donnent des résultats peu plausibles et peu utiles au niveau national.

PROPOSITION D'UNE NOUVELLE MÉTHODOLOGIE POUR MESURER LES SERVICES CULTURELS NUMÉRIQUES

Un volet de travail spécifique du projet a été consacré à **proposer une nouvelle méthodologie pour capturer les services culturels numériques**[19]. Ce volet de travail comprenait principalement deux séries d'activités : (i) une révision du cadre actuel des statistiques culturelles pour permettre l'intégration des indicateurs de l'économie numérique dans l'ensemble des SCC, et (ii) l'exploration de méthodologies innovantes de collecte de données, à savoir un démonstrateur des capacités d'analyse de données – appliquées aux secteurs de la musique et de l'audiovisuel – et une approche alternative pour une enquête ciblée, afin de collecter des informations sur mesure auprès des acteurs numériques des SCC.

En ce qui concerne la révision du cadre actuel des statistiques culturelles, celle-ci comprenait les activités et les résultats suivants :

- La définition du périmètre sectoriel des SCC, à travers **une cartographie entre les secteurs culturels et créatifs** (selon la définition Europe créative) et les activités économiques de la classification NACE, pour relier les indicateurs de l'économie numérique aux sous-secteurs spécifiques des SCC.

- **Une analyse des lacunes par rapport aux enquêtes soutenant actuellement le cadre statistique culturel officiel de l'UE** (c'est-à-dire EU-LFS, SBS, COMEXT, AES, EU-SILC, HETUS, ICT-Survey, HBS et COFOG)[20] pour évaluer si et dans quelle mesure ces enquêtes saisissent déjà les aspects liés à l'économie numérique et aux services culturels numériques.

- **La définition des dimensions pour capturer et mesurer les indicateurs de l'économie numérique dans le cadre des SCC**, sur la base de méthodologies précédemment établies au niveau européen, telles que celles décrites dans l'indice de l'économie et de la société numériques (DESI)[21] et le Digital Transformation Scoreboard[22]. Cela a conduit à la définition de trois dimensions « facilitatrices », à savoir *l'infrastructure numérique, l'investissement et le capital humain,* qui représentent des facteurs favorables à la numérisation des organisations opérant dans les SCC ; et trois dimensions « chaîne de valeur », à savoir *la production culturelle numérique, la diffusion culturelle numérique* et *la consommation culturelle numérique,* qui représentent la nouvelle chaîne de valeur numérique des SCC, dans laquelle les activités de la production de la distribution à la consommation sont désormais exercées par tout type d'acteur et à tout moment, en s'appuyant sur les technologies numériques.

[19] La désignation « services culturels numériques » a été convenue et adoptée tout au long du projet lorsqu'il s'agit de services en ligne.

[20] EU-LFS: European Union Labour Force Survey; SBS: Structural Business Statistics; COMEXT: Eurostat's reference database for detailed statistics on international trade in goods; AES: Adult Education Survey; EU-SILC: EU Statistics on Income and Living Conditions; HETUS: Harmonised European Time Use Surveys; HBS: Household Budget Survey; COFOG: Classification of functions of Government.

[21] Digital Economy and Society Index (DESI) 2021 - DESI methodological note.

[22] European Commission. (2018). Digital transformation scoreboard 2018. Publications Office of the EU.

- **L'investigation des travaux antérieurs sur l'économie numérique**, tels que DESI par DG CONNECT's[23], Digital Entrepreneurship Monitor par DG GROW's[24] et Going Digital[25] par l'OECD[26] visait à cibler l'analyse des enquêtes statistiques existantes et d'autres sources de données qui fournissent des indicateurs sur les métriques de l'économie numérique.

- **L'analyse des sources pour identifier les indicateurs** qui ne sont pas actuellement utilisés dans le cadre des statistiques culturelles et qui pourraient potentiellement l'améliorer. Cela impliquait un processus de filtrage pour sélectionner un ensemble final d'indicateurs de l'économie numérique à proposer pour l'amélioration du cadre.

- La **proposition de nouveaux indicateurs potentiels** issus de la recherche documentaire et des consultations avec les parties prenantes et les experts des SCC qui ne sont peut-être pas actuellement collectés par le biais d'enquêtes existantes, afin de combler les lacunes en matière de la métrique de l'économie numérique.

En parallèle de ces travaux, un ensemble d'activités dédiées à l'exploration de méthodes innovantes et complémentaires de collecte de données a également été effectué. En résumé, cela impliquait :

- **Une démonstration des capacités d'analyse de données** pour collecter des données auprès de plateformes en ligne et de fournisseurs de services des secteurs culturels et créatifs grâce à la collecte de mesures pouvant être considérées comme représentatives de la production, de la distribution et de la consommation de contenu culturel et créatif en ligne. Le périmètre démonstrateur était limité aux secteurs de la musique et de l'audiovisuel et se concentrait sur deux plateformes spécifiques, YouTube et Spotify. L'approche reposait sur l'envoi de requêtes (automatisées) aux API des plateformes[27] pour collecter des métriques (telles que des vues, des *likes*, des *followers*) à une fréquence horaire ou quotidienne pendant une période de sept semaines, à partir des deux plateformes. Le démonstrateur a atteint l'objectif de **démontrer qu'il est possible de collecter des données à haute fréquence** à partir de plateformes en ligne et de fournisseurs de services des SCC et a montré le potentiel de collecter **des quantités extrêmement importantes de données** dans un laps de temps relativement court.
  L'approche représente un point de départ pour la prise de décision sur l'utilisation des données en ligne pour la production de statistiques sur les SCC.

- Une proposition **d'approche ciblée pour sonder les acteurs du numérique,** qui représente une manière de compléter les informations collectées via le démonstrateur d'analyse de données. Cette approche implique d'enquêter directement sur les plateformes en ligne et les acteurs numériques par le biais d'enquêtes ciblées, afin d'obtenir des informations plus pertinentes et granulaires sur leurs activités, leurs sources de revenus

[23] DG CONNECT: Directorate-General for Communications Networks, Content and Technology.
[24] DG GROW: Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs.
[25] OECD. Going Digital Toolkit.
[26] OECD: Organization for Economic Co-operation and Development.
[27] Interface de programmation d'applications.

et leurs bases d'utilisateurs. La proposition fournissait une justification de l'enquête, identifiait un ensemble préliminaire d'acteurs et développait un ensemble de questions et d'indicateurs potentiels à mesurer.

Sur la base des activités et des volets de travail décrits ci-dessus, ainsi que des études menées tout au long du projet, des informations recueillies lors des consultations avec les experts et les parties prenantes des SCC et de l'expérience du démonstrateur d'analyse de données, l'équipe de l'étude a formulé les recommandations suivantes :

- **Effectuer les mises à jour nécessaires des statistiques culturelles actuelles de l'UE pour intégrer l'économie numérique,** ce qui inclut la validation des indicateurs existants à intégrer dans le cadre, et l'ajout de nouveaux indicateurs sur l'économie numérique.

- **Préparer le terrain pour l'utilisation de méthodes innovantes et alternatives de mesure des services culturels numériques**, en (i) réalisant une analyse sur la cohérence, la pertinence et l'efficacité des méthodes, (ii) en menant une étude spécifique sur la conception de la mise en œuvre de l'approche, et (iii) l'investissement dans des infrastructures appropriées et l'acquisition d'expertise.

- **Accroître les capacités d'analyse de données**, pour (i) collecter des données sur des périodes plus longues et plus régulières et (ii) étendre le nombre de plateformes à interroger pour saisir une vision plus large du phénomène de production, de consommation et d'échange en ligne de contenu.

- **Développer davantage l'approche ciblée**, en (i) élargissant la portée de l'approche en ce qui a trait aux plateformes, aux secteurs et d'indicateurs, (ii) en mettant en place des mécanismes pour identifier les acteurs pertinents de l'économie numérique au niveau des États membres, et (iii) en collectant d'abord des informations sur les revenus, l'emploi et les caractéristiques des utilisateurs des acteurs numériques.

ESTIMATION MISE À JOUR DE LA CONTRIBUTION ET DE L'IMPACT DES SCC SUR LES PRINCIPAUX AGRÉGATS MACROÉCONOMIQUES DE L'UE

La dernière partie de ce rapport traite de cette exigence générale de l'appel à l'origine de ce projet, et présente les principaux résultats de cette étude.

Cette partie suit un classement détaillé dans le rapport, selon lequel les secteurs culturels et créatifs (voir tableau 3) sont divisés en quatre groupes d'activités, qui correspondent de très près à la structure des codes NACE.

Les groupes sont G1 : Activité culturelle principale ; G2 : Industries culturelles ; G2' Industries culturelles avec imprimerie ; et G3 : Secteurs créatifs.

Tableau 3 : Groupes des secteurs culturels et créatifs

Groupe	Désignation	Sous-groupes	Codes NACE (4 chiffres) *
G1	Activité culturelle principale	Éducation	85.52 Éducation culturelle
		Musée et sites historiques	91.02 Activités des musées. 91.03 - Exploitation de sites et bâtiments historiques et d'attractions touristiques similaires
		Bibliothèque et archives	91.01 Activités de la bibliothèque et des archives
		Arts visuels et création littéraire	90.03 Création artistique
		Arts du spectacle	90.01 Arts du spectacle. 90.02 Activités de soutien aux arts de la scène. 90.04 Exploitation d'installations artistiques
G2	Industries culturelles	Radio et TV	60 Radio et TV
		Musique enregistrée	59.2 Activités d'enregistrement sonore et d'édition musicale. 47.63 - Commerce de détail d'enregistrements musicaux et vidéo en magasin spécialisé. 77.22 Location de cassettes vidéo et de disques. 18.2 Reproduction de supports enregistrés
		Audiovisuels	59.1 Audiovisuel 74.2 Photographie
		Livre et presse	58 Activités éditoriales 47.61 Commerce de détail de livres en magasins spécialisés 47.62 Commerce de détail de journaux et papeterie en magasin spécialisé 74.3 Traduction et interprétation
		Fabrication culturelle. Artisanat artistique	32.1 Fabrication de bijoux, bijouterie et articles connexes. 32.20 Fabrication d'instruments de musique
G2'	Industries culturelles	Industries culturelles avec imprimerie	18.1 Activités d'impression et de service liées à l'impression
G3	Secteurs créatifs	Publicité	73.1 Agences de publicité
		Conception	74.1 Activités de conception spécialisées
		Architecture	71.11 - Activités architecturales
		Jeux vidéo	58.2 Édition de logiciels

* Lorsque les titres sont décrits à moins de 4 chiffres, cela signifie que tous les sous-groupes à ce niveau de chiffres sont inclus.

Concernant **l'emploi**, cette étude n'a pas estimé les travailleurs culturels mais a cherché à estimer les personnes travaillant dans les SCC, sur une période allant de 2008 (avant la crise financière) à 2021. Il convient de noter que le Royaume-Uni a été exclu des calculs en raison de sa sortie de l'UE, et que la pandémie a également retardé une reprise qui commençait à se dessiner depuis le milieu de la dernière décennie. Avec toutes ces nuances, les personnes employées dans les secteurs culturels et créatifs en 2021 représentaient **5,5 millions de personnes et 2,6 % de la main-d'œuvre totale occupée de l'UE-27, dans son ensemble.**

Si l'on considère la moyenne pour l'ensemble de la période, les proportions varient selon les pays de 3,8 % en Estonie à 1,2 % en Roumanie. En termes absolus et en l'absence du Royaume-Uni, l'Allemagne (avec des valeurs supérieures à 1,1 million d'employés) représente 20 % du total. Elle est suivie de loin par d'autres grands pays comme la France, l'Italie, l'Espagne et la Pologne.

Ce qui est vrai, c'est que les 14 dernières années n'ont pas été particulièrement brillantes pour les SCC. En 2021, nous étions toujours à 99 % d'occupation par rapport à 2008, mais à 110 % en termes de génération de valeur ajoutée.

Si l'on répartit par groupes d'activités selon les classements proposés ci-dessus (G1 ; G2 ; G3), on constate un certain équilibre entre les trois groupes. En 2021, les activités culturelles principales représentaient 27 % des actifs occupés, les industries culturelles 35 % et les secteurs créatifs 38 % du total. Dans la période considérée, nous pouvons observer une diminution de 5 points de pourcentage des industries culturelles, qui se répartit en 3% de plus pour les secteurs créatifs et 2% pour les activités culturelles principales.

La même baisse relative est également observée dans le cas de la valeur ajoutée, bien qu'en 2019 (dernière année disponible pour la VAB) les industries culturelles représentaient encore 45 % du total. Si nous analysons les données de VAB relatives à l'économie totale, nous voyons que les petits pays d'Europe de l'Est comme la Slovaquie, la Slovénie et la Tchéquie, mais aussi la Finlande et le Danemark, affichent des chiffres supérieurs à 3 %. Malte est le pays avec le taux le plus élevé (6,7 %).

Au sujet de l'emploi, les pays avec la plus forte présence de G1 : Activités culturelles principales sont l'Estonie et la Lituanie, tandis que pour G2 : les industries culturelles, les pays avec les pourcentages les plus élevés sont la Finlande et l'Irlande, et enfin dans G3 : services créatifs, les performances les plus remarquables en moyenne sur la période analysée sont le Danemark et Malte.

Pour l'UE-27, dans son ensemble, on constate que la productivité de l'ensemble des SCC est légèrement supérieure à la moyenne de l'économie, et que cela est principalement dû au fait que c'est la productivité des industries culturelles qui pousse la moyenne à la hausse. Tandis que les secteurs culturels de base et créatifs affichent tous deux des productivités inférieures à la moyenne de l'économie et pratiquement au même niveau. Il existe bien sûr des différences considérables entre les pays, accessibles dans les fiches d'informations de chaque pays.

Les chiffres mis à jour sur le commerce international des biens SCC sont résumés en plusieurs figures dans le chapitre correspondant du présent rapport. En ce qui concerne l'évolution du commerce international de biens SCC dans l'UE-27, il y a eu une tendance à la hausse des transactions entre les États membres de l'UE et les pays tiers entre 2009 et 2019, mais les transactions ont diminué de 2019 à 2020. En 2020, les trois principaux exportateurs étaient l'Allemagne, la France et l'Italie, et les trois principaux importateurs étaient l'Allemagne, la France et les Pays-Bas. La Pologne et les Pays-Bas se distinguent également cette année-là en valeur d'exportation par rapport aux autres États membres.

En ce qui concerne **la relation entre la taille des secteurs culturels et créatifs et la productivité globale d'une économie nationale,** le cadre théorique reposant sur un modèle de croissance semi-endogène permet une interprétation causale des effets des SCC sur la productivité du travail et la méthode d'estimation utilisée (Local Linear Least Squares LLLS) fournit des effets individuels par pays. Les résultats suggèrent que si le poids des SCC dans les pays de l'échantillon est doublé, la productivité moyenne du

travail augmente de 1,25 %. Toutefois, il existe des différences significatives dans les effets que les SCC ont sur la productivité du travail selon les pays et les années. Les effets médians les plus importants (pour toutes les années) sont observés pour l'Allemagne, le Danemark, l'Irlande, la Hongrie et la France (tous supérieurs à 4 %). Les impacts sont également positifs et supérieurs à la moyenne pour la Finlande, l'Italie, l'Espagne, la Suède, l'Autriche, la Belgique, les Pays-Bas, le Luxembourg et la Slovaquie. En dessous de la moyenne, mais avec des effets positifs, on trouve Malte, la Lituanie, la Croatie, la Bulgarie et la Grèce. Des effets médians négatifs sont observés principalement pour les pays d'Europe de l'Est (Pologne, Roumanie, Tchéquie, Lettonie, Slovénie et Estonie) plus Chypre et le Portugal.

Une deuxième mesure des effets des SCC sur les économies européennes a été élaborée à partir **des tableaux *input-output* multi-pays de l'OCDE**. Il faut y ajouter un peu plus de secteurs en raison des limites de l'information. Le multiplicateur de valeur ajoutée simple indique la valeur ajoutée générée par l'économie, dans son ensemble, à partir d'une augmentation externe d'un euro de la demande finale des SCC. Ce type de multiplicateur intègre à la fois les effets directs et indirects (mais pas les effets induits via le revenu). Les **secteurs 58-60** (édition, diffusion et activités de production et de distribution de contenu) dans l'UE-27 ont généré en moyenne 0,94 € de valeur ajoutée dans l'ensemble de l'économie, pour chaque euro de dépense en 2018. Les multiplicateurs les plus élevés se trouvent en Irlande (0,978 €), en Tchéquie (0,966 €), en Suède et en Roumanie (0,961 € chacun), tandis que les plus bas se trouvent au Portugal (0,926 €), en Lituanie (0,922 €) et en Hongrie (0,914 €).

Quant au **secteur des technologies de l'information** (TI), qui comprend les activités informatiques (division 62) et les autres activités de services d'information (division 63), la moyenne de l'UE-27 s'élève à 0,957 €. En 2018, le pays ayant la plus forte capacité à créer de la valeur ajoutée était l'Allemagne, où chaque euro de dépense dans ce secteur générait 0,975 € de valeur ajoutée (graphique 6.23). Les valeurs de la Tchéquie (0,971 €) et de Chypre (0,969 €) se distinguent également. Les pays avec les multiplicateurs les plus faibles sont la Croatie (0,942 €), le Luxembourg et Malte (0,937 € tous deux).

Les multiplicateurs **des activités artistiques, culturelles et récréatives** ont rapporté 0,936 € de valeur ajoutée par euro de dépense en 2018 pour la moyenne de l'UE-27. Ainsi, les pays avec les impacts les plus élevés étaient l'Irlande (0,973 €), l'Allemagne (0,965 €) et le Luxembourg (0,964 €), tandis que les impacts les plus faibles ont été générés en Italie (0,908 €), en Slovaquie (0,897 €) et en Bulgarie (0,941 €).

Enfin, le rapport présente **quelques résultats préliminaires sur les relations entre les SCC et le bien-être**[28]. L'indicateur du vivre mieux (en anglais, BLI) de l'OCDE définit 11 dimensions du bien-être qui sont communément acceptées et utilisées comme mesures du bien-être par les communautés universitaire et statistique. Les dimensions combinent la base matérielle avec d'autres aspects liés à la qualité de vie et à l'environnement, tout en tenant compte de la durabilité et de la reproduction du bien-être futur. Le cadre théorique repose sur un modèle simple qui relie les scores de bien-être normalisés fournis par l'OCDE à la part de personnes employées en SCC et à une moyenne des scores de bien-être antérieurs. Les estimations utilisent à nouveau LLLS pour fournir des effets individuels par pays. Les résultats doivent être interprétés avec prudence car le cadre peut ne pas contrôler tous les facteurs de confusion dans tous les indicateurs. Les pays qui amélioreraient le plus leur bien-être avec une augmentation

[28] Pour cette analyse, nous avons pris tous les pays de l'UE appartenant aux pays de l'OCDE : 22 au total. La Bulgarie, la Croatie, Chypre, Malte et la Roumanie ne peuvent pas être incluses car l'indicateur du vivre mieux n'est pas compilé pour ces pays non- membres de l'OCDE.

de la part des personnes employées dans les SCC sont la Finlande et la Suède. Alors que pour des pays tels que la Hongrie et le Portugal, le score pourrait diminuer pour certains indicateurs du bien-être.

RÉSUMÉ DES RECOMMANDATIONS ET OBSERVATIONS FINALES

Le rapport final se termine par un résumé de toutes les recommandations présentées dans les différents domaines couverts dans cette étude. Il clôt ce qui pourrait être comparé à un exercice de cartographie de l'ensemble du projet et de ses résultats tels que livrés, reliant le contenu de la proposition d'étude initiale, telle qu'approuvée, avec tous les différents éléments livrables rédigés et présentés, tout au long de ce rapport final et dans les différents documents qui l'ont précédé.

Zusammenfassung

Die Kultur- und Kreativwirtschaft gehört zu den dynamischsten Branchen in Europa und ist ein wichtiger Faktor für Wirtschaftswachstum und Beschäftigung, sowie für die Förderung des sozialen Zusammenhalts und der Vielfalt. Laut dem jährlichen Binnenmarktbericht 2021[29] ist der wirtschaftliche Beitrag der Kultur- und Kreativwirtschaft beträchtlich, und sogar noch größer als der mehrerer anderer führender Branchen wie Telekommunikation, Hochtechnologie, Pharmazeutik und Automobilindustrie. Darüber hinaus brachte die COVID-Pandemie mehrere Herausforderungen für die CCS mit sich, insbesondere durch die Beschleunigung wichtiger digitaler Trends und die Notwendigkeit, die Anstrengungen zur Entwicklung neuer Inhalte und neuer Geschäftsmodelle zu verstärken. Diese Herausforderungen erfordern eine rigorose Bewertung des Kultur- und Kreativsektors.

Die Notwendigkeit, den CCS zu messen und über korrekte Zahlen zu verfügen, entspricht verschiedenen Erfordernissen, die von der einfachen technischen Notwendigkeit zuverlässiger Ergebnisse in den volkswirtschaftlichen Gesamtrechnungen bis hin zu konkreten politischen Erfordernissen reichen, die genaue Informationen über die Verbindungen zwischen verschiedenen Produktionssektoren erfordern, einschließlich der Erfordernisse spezifischer Sektoren und Akteure, die genaue und detaillierte Informationen benötigen, um bessere und effizientere Entscheidungen zu treffen oder um für ihre Aktivitäten eintreten zu können.

Die Messung des wirtschaftlichen, kulturellen und sozialen Werts, der von der Kultur- und Kreativwirtschaft und ihren spezifischen Teilsektoren geschaffen wird, ist jedoch sicherlich keine leichte Aufgabe und steht vor mehreren Herausforderungen. Zu diesen Herausforderungen gehören das Fehlen einer gemeinsamen Definition des Kultur- und Kreativsektors, mangelhafte oder unzureichende Datenerhebungsmechanismen für bestimmte Indikatoren und veraltete statistische Klassifikationen (z. B. NACE-Codes - Nomenclature des Activités Économiques dans la Communauté Européenne, *Statistische Systematik der Wirtschaftszweige in der Europäischen Gemeinschaft*) in Bezug auf die Berücksichtigung der Digitalisierung und die Erfassung des durch Online-Dienste generierten Werts.

In diesem Zusammenhang hat die Europäische Kommission eine Aufforderung zur Einreichung von Vorschlägen veröffentlicht, um diese Herausforderungen anzugehen und einen neuen statistischen Rahmen für die Messung des Kultur- und Kreativsektors zu schaffen, der eine regelmäßige statistische Analyse des wirtschaftlichen, kulturellen und sozialen Potenzials des Kultur- und Kreativsektors in Europa ermöglicht. Das Konsortium hinter diesem Projekt - unter dem Namen *Measuring the Cultural and Creative Sectors in the EU* - hat einen Forschungsvorschlag eingereicht, der ausgewählt wurde.

Der vorliegende Bericht ist das abschließende Dokument, das das Ende unserer Forschung darstellt. Der Vorschlag hat drei Hauptziele: (i) Vorschlag eines neuen Rahmens mit einer aktualisierten Definition des Umfangs des "Kultur- und Kreativsektors", um den CCS besser zu quantifizieren und die Vergleichbarkeit aller verfügbaren Daten auf Ebene der Europäischen Union (EU) zu gewährleisten; (ii) Entwicklung neuer Methoden zur Erfassung und Quantifizierung von Online-Diensten im CCS und (iii) Bereitstellung aktualisierter Wirtschaftszahlen zum CCS.

Um diese Ziele zu erreichen, **wurde das Projekt in drei Phasen entwickelt**:

[29]Siehe SWD Annual Single Market Report 2021

- Erstellung eines Inventars mit den wichtigsten Datenquellen für den Kultur- und Kreativsektor, einschließlich amtlicher und nichtamtlicher Quellen, sowie Veröffentlichungen und Informationen über die Messung von Online-Diensten.
- Eine Untersuchung, die zu einem Vorschlag für einen aktualisierten Rahmen für CCS-Statistiken führt, einschließlich einer Methodik für die Erfassung von Online-Diensten.
- Eine Untersuchung, die zur Erstellung einer aktualisierten Schätzung der wichtigsten makroökonomischen Zahlen der Kultur- und Kreativwirtschaft und ihres Beitrags zur Weltwirtschaft führt.

Die Ergebnisse der ersten beiden Phasen liegen der Europäischen Kommission bereits in zwei Berichten vor, mit folgenden Titeln: ***Measuring CCS – Report on Inventory of Sources***[30] und ***Measuring CCS – Analysis Report***[31]. Die Ergebnisse der dritten Phase sowie eine Zusammenfassung der beiden anderen Berichte sind in diesem Abschlussbericht enthalten, der auch diese Zusammenfassung enthält.

QUELLENVERZEICHNISS

Es wurde eine **umfassende Bestandsaufnahme der amtlichen Statistiken über den Kultur- und Kreativsektor** durchgeführt, die alle 27 EU-Mitgliedstaaten umfasste, in enger Zusammenarbeit mit den Mitgliedstaaten über die Mitglieder der EurostatArbeitsgruppe für *Kulturstatistik*. Diese Zusammenarbeit war besonders hilfreich bei der Überprüfung und Validierung der Berichte der Mitgliedstaaten. Diese Berichte wurden mit den verfügbaren Informationen erstellt und dienten nach der Validierung durch die Mitgliedstaaten und dem Eurostat als Hauptquelle für den *Bericht über die Bestandaufnahme der Quellen.*

Mit der Bestandsaufnahme der Quellen wurden zwei Hauptziele verfolgt. Erstens sollten die wichtigsten Herausforderungen für die derzeitige Messung des Kultur- und Kreativsektors in der Europäischen Union ermittelt werden. Die Überwindung dieser Einschränkungen ist das Hauptziel des in Phase 2 vorgeschlagenen Rahmens für CCS-Statistiken. Das zweite Hauptziel dieser Bestandsaufnahme bestand darin, die bewährten Verfahren der Mitgliedstaaten zu ermitteln, die eine Reihe von Vorschlägen zur Verbesserung der Statistiken über die Kultur- und Kreativwirtschaft darstellen können. In der Bestandsaufnahme werden bewusst die Beschränkungen oder Lücken der derzeitigen Situation hervorgehoben (hauptsächlich diejenigen, die nur durch diese Bestandsaufnahme der Quellen ermittelt wurden), da dies die Merkmale sind, die geändert werden müssen.

Die wichtigsten Ergebnisse der Bestandsaufnahme der Quellen zur amtlichen Statistik werden in diesem Abschlussbericht zusammengefasst und zeigen, dass die meisten aktuellen CCS-Statistiken schwerwiegende Einschränkungen aufweisen. Die Analyse dieser Einschränkungen wurde bereits im *Leitfaden zur Eurostat-Kulturstatistik 2018* vorgenommen und wird durch unseren *Bericht über die Bestandaufnahme der Quellen* ergänzt.

Zu den wichtigsten Erkenntnissen gehören:

[30]*Report on Inventory of Sources*, datei *Measuring CCS_Report on Inventory of Sources - Final_v1.3*
[31]*Analysis Report - A New Framework for Cultural and Creative Sector Statistics*, datei *MeasuringCCS_Analysis Report Final_v2.0*

- Der derzeitige theoretische Rahmen der EU-Kulturstatistiken ist, wenn geringfügige Änderungen ausgeschloßen werden, **der im Jahr 2012 vom Netzwerk des Europäischen Statistischen Systems für Kultur (ESSnet-Culture) vorgeschlagen wurde.**

- **Dieser Rahmen wurde jedoch von den Mitgliedstaaten und Eurostat nicht einheitlich angenommen.** Während Eurostat den vom ESSnet-Kultur vorgeschlagenen theoretischen Geltungsbereich übernahm (mit den später, 2015, 2016 und 2018, von der Eurostat-Arbeitsgruppe für Kulturstatistik beschlossenen Änderungen), haben mehrere EU-Mitgliedstaaten andere Geltungsbereiche mit anderen Listen kultureller Aktivitäten angenommen. Es gibt viele Aktivitäten, die von Eurostat und von den Mitgliedstaaten unterschiedlich klassifiziert werden.

- Es gibt also **zwei verschiedene Bereiche oder Definitionen, d. h. zwei verschiedene Listen von Aktivitäten, die unter den Begriff Kultur- und Kreativsektor (CCS) für jeden Mitgliedstaat fallen:** die von Eurostat angenommenen Aktivitäten, die die Vergleichbarkeit der Kulturdaten zwischen den Mitgliedstaaten gewährleisten sollen, und die vom jeweiligen Mitgliedstaat angenommen wurden, um Kulturdaten für nationale Zwecke zu erstellen.

- **Diese Situation mit zwei unterschiedlichen Erfassungsbereichen ist unserer Meinung nach aus drei Gründen alles andere als ideal.** Erstens ist sie ein Verwirrungsfaktor für die Nutzer (d. h. die Hauptakteure) der CCS-Statistiken. Bei der Verwendung dieser Daten werden die Nutzer mit zwei verschiedenen Daten für dieselbe statistische Variable (z. B. kulturelle Beschäftigung oder kulturelle Produktion) konfrontiert die nicht konsistent sind, was auch die Vergleichbarkeit dieser Daten zwischen den Mitgliedstaaten beeinträchtigt. Zweitens ist diese Situation unserer Meinung nach einer der Hauptgründe dafür, dass mehrere obligatorische **Statistiken auf EU-Ebene in mehreren Mitgliedstaaten nur wenig (oder gar nicht) für die interne Analyse des Kultur- und Kreativsektors verwendet werden. Schließlich ist diese Situation auch eine Quelle** verschwendeter Ressourcen in den nationalen statistischen Systemen, da der Bedarf der Datennutzer auf EU-Ebene unabhängig vom Bedarf der Datennutzer auf nationaler Ebene gedeckt wird. Natürlich muss der auf Länderebene festgelegte Erfassungsbereich die Erstellung von Daten ermöglichen, die dem spezifischen Bedarf des jeweiligen Landes entsprechen. Wie später noch erläutert wird, gibt es jedoch alternative Möglichkeiten für die Anpassung des Erfassungsbereichs, die nicht die oben genannten Einschränkungen aufweisen.

- **Die Schwierigkeiten beim Vergleich nationaler Daten zu CCS zwischen den EU-Mitgliedstaaten werden zusätzlich verschärft, dass unterschiedliche statistische Quellen** verwendet werden, um dieselben Statistiken zu erhalten (z. B. Beschäftigung im Kulturbereich), und dass die nationalen statistischen Systeme im Kulturbereich in den Mitgliedstaaten unterschiedlich organisiert und verwaltet werden.

- **Die CCS-Rahmenregelungen der EU-Mitgliedstaaten sind eher auf kulturelle als auf kreative Aktivitäten ausgerichtet.**

- **Auch bei den statistischen Umfragen zum Kultur- und Kreativsektor** gibt es ein Erfassungsproblem, da es einerseits keine einzige EU-weit harmonisierte statistische Umfrage speziell für den Kultur- und Kreativsektor (CCS) gibt und andererseits die meisten EU-weit harmonisierten statistischen Umfragen keine detaillierte NACE-Ebene abdecken, auf der die meisten CCS-Aktivitäten ermittelt werden können.

- **Es gibt einige Statistiken - die auf nationaler und EU-Ebene verfügbar sind, jedoch nicht obligatorisch auf der EU-Ebene - die im Durchschnitt von mehr Mitgliedstaaten intern verwendet werden als einige obligatorische Statistiken der EU.** Dieses Ergebnis erfordert eine Lückenanalyse zwischen dem mehrdimensionalen Interesse von politischen Entscheidungsträgern an CCS aus verschiedenen Politikbereichen in den letzten Jahren und den aktuellen obligatorischen Kulturstatistiken der EU.

- **Die internationalen statistischen Klassifikationen beschreiben die kulturellen und kreativen Aktivitäten sowie die damit verbundenen Produkte und Dienstleistungen nur unzureichend.** Die kulturellen Aktivitäten sowie die kulturellen Produkte und Dienstleistungen werden mit nicht-kulturellen Komponenten zusammengefasst. Darüber hinaus sind die Listen der Aktivitäten, sowie der Produkte und Dienstleistungen in diesen Klassifikationen veraltet und spiegeln nicht den digitalen Wandel der letzten Jahre bei kulturellen Produkten und Dienstleistungen wider.

- **Es wurden mehrere auf nationaler Ebene vorhandene Praktiken ermittelt, die auf die EU-Ebene übertragen werden können.** Zwei dieser Praktiken können hervorgehoben werden. Eine ist die Verwendung von Verwaltungsquellen durch einige Mitgliedstaaten, die mit den Verwaltungsakten verbunden sind, die zur Erfüllung der durch das europäische Recht auferlegten Mandate und Verpflichtungen erforderlich sind. Eine weitere bewährte Praxis, die auf die EU-Ebene ausgedehnt werden kann, besteht darin, die gute Messung der kulturellen Beteiligung durch einige Mitgliedstaaten zu übernehmen.

- **Die derzeitige Situation der Satellitenkonten im Kulturbereich befindet sich noch** in einer "Versuch-und-Irrtum"-Phase, mit sehr unterschiedlichen Methoden und Ansätzen, und daher wäre die Methodik eines Satellitenkontos für die Analyse des CCS nicht die empfehlenswerteste für die Ziele dieser Forschung.

Was die **nichtamtlichen Quellen** betrifft, so enthält der Bericht eine kurze Zusammenfassung der einzelnen nichtamtlichen Anbieter von CCS-Daten in der EU. In dieser Untersuchung betonen wir die Bedeutung dieser nicht-offiziellen Statistiken, die von Organisationen und Einrichtungen erstellt werden, die nicht offiziell damit beauftragt sind; Einrichtungen mit einem Interesse an der CCS, die Daten über die CCS erstellen und dabei auf sehr unterschiedliche Motivationen und Ziele reagieren. Zu dieser Kategorie gehören Berufsverbände, spezialisierte Beratungsunternehmen, Kulturverbände, Gesellschaften für die Verwaltung von Rechten an geistigem Eigentum (IP), europäische Projekte, Nichtregierungsorganisationen, Einflussgruppen der Kultur- und Kreativbranche und akademische Forscher. Zu dieser Kategorie gehören auch öffentliche Einrichtungen die keinen gesetzlichen Auftrag zur Erstellung von Statistiken haben.

- Obwohl wir über sehr unterschiedliche und vielfältige Quellen sprechen, können wir im Allgemeinen sagen, dass wir bisher keinen Vorschlag identifizieren konnten, weder explizit noch implizit, mit ausreichender theoretischer Konsistenz und ausreichender Führungskapazität, um eine vollständige und alternative Methodik vorzuschlagen, die eine bessere Alternative als die von der ESSnet-Kultur abgeleitete sein könnte (ESSnet-Kultur, 2012). Wir weisen jedoch auf Erfahrungen hin, die besondere Beachtung verdienen, da sie ein Forschungsfeld bilden, aus dem Innovationen hervorgehen können. Einige Praktiken können konsolidiert und homogenisiert werden, wie z. B. die aus der Richtlinie über die kollektive Rechtewahrnehmung (CRM) abgeleitete, die in Zukunft neue zuverlässige und vergleichbare Quellen für CCS-Statistiken darstellen könnte.

- Zweifellos ist es schwierig zu bestimmen, welche Variablen ausgewählt werden sollten, um ein klares Bild der wirtschaftlichen Dimension von CCS zu erhalten. Noch komplizierter wird es jedoch, wenn wir **ihre Auswirkungen** auf **Innovation, Produktivität** oder die Wiederbelebung von Gebieten bewerten wollen, und noch mehr, wenn es um so wichtige soziale Aspekte wie **Wohlbefinden, sozialen Zusammenhalt** oder sogar die Auswirkungen auf die Menschen in emotionaler, kognitiver oder ästhetischer Hinsicht geht. Es ist klar, dass noch ein langer Weg vor uns liegt.

Zur Ergänzung der Bestandsaufnahme der amtlichen und nichtamtlichen Quellen für CCS-Statistiken haben wir schließlich auch eine **Analyse der Kulturstatistiken ausgewählter Nicht-EU-Länder** vorgenommen, um bewährte Verfahren zu ermitteln, die auf EU-Länder übertragen werden könnten. Als Kriterien dienten (i) die Bedeutung der Kultur- und Kreativwirtschaft im jeweiligen Land, (ii) die Positionierung der Kultur- und Kreativwirtschaft des Landes im globalen oder regionalen Kontext, (iii) die Entwicklung der digitalen und kreativen Online-Dienste und (iv) die Verfügbarkeit von statistischen Informationen. Ausgewählte Informationen beziehen sich auf die Republik Korea, China, die Vereinigten Staaten, Kanada, Australien und Mexiko.

Die wichtigsten Erkenntnisse aus der Analyse dieser Fallstudien sind:

- Die untersuchten Nicht-EU-Länder stützen sich auf Standardklassifizierungssysteme für die Industrie oder die Beschäftigung, die dann von ihren jeweiligen kulturstatistischen Rahmenwerken übernommen werden, um verschiedene Sektoren und Teilsektoren einzubinden. Daher gibt es keine einheitliche Definition und Klassifizierung von Kultursektoren, auch nicht für die Ebene der Handelsregionen, da jedes Land diese dem eigenen Kontext anpasst.

- Das einzige Land, das die digitale Perspektive kultureller Inhalte und Dienstleistungen sowohl in sein Klassifizierungssystem für die Industrie als auch in die erstellten Statistiken aufgenommen hat, ist **Südkorea**. Konkret umfasst dieses **Land Unterkategorien für digitale Inhalte und die wichtigsten Industriekategorien.**

- Die **wichtigste Datenquelle** über die Kultur- und Kreativwirtschaft für statistische Zwecke scheinen in allen untersuchten Ländern **Umfragen zu sein**. Zwar werden Umfragen mit anderen Informationsquellen (z. B. Verwaltungsdaten und Angebots-/Nachfrage-Schätzungen) kombiniert, doch wurden in keinem der untersuchten Länder alternative Methoden der

Datenerhebung ermittelt, was darauf schließen lässt, dass sie für die Erstellung amtlicher Statistiken ausschließlich traditionelle Methoden (d. h. Umfragen und Verwaltungsdaten) verwenden.

AKTUALISIERTER RAHMEN FÜR DIE STATISTIK DES KULTUR- UND KREATIVSEKTORS

Die zweite Phase des Projekts, d. h. der Vorschlag eines neuen Rahmens für CCS-Statistiken, ist eines der Hauptziele des Projekts *Measuring CCS*. In der Aufforderung zur Einreichung von Vorschlägen wurde gefordert, dass dieser Rahmen auf den bereits bestehenden und geplanten Arbeiten von Eurostat aufbaut und eine überarbeitete und erweiterte Version des aktuellen, von ESSnet-Culture vorgeschlagenen Rahmens sein sollte, wobei die Lücken nach Möglichkeit mit alternativen Datenquellen geschlossen werden sollten.

Das Quellenverzeichnis identifizierte die Hauptgründe, warum das ESSnet-Culture-Framework aktualisiert werden muss. Während dieser Phase wurden sie erneut im Detail untersucht. Die gesamte Frage der Auswirkungen der Internetökonomie und ihrer Auswirkungen auf die Schaffung, Produktion und Verbreitung kultureller Inhalte wird separat behandelt, da sie ein wesentlicher Bestandteil dieser Untersuchung wird. Die internationalen statistischen Klassifikationen befinden sich noch in einem Überprüfungsprozess und ihre Integration in diesen Rahmen war nicht möglich, da der gesamte Überarbeitungsprozess erst nach Abschluss dieses Projekts abgeschlossen sein wird.

Daher ist die Analyse für den Vorschlag eines überarbeiteten Rahmens für Statistiken über den Kultur- und Kreativsektor auf das zu erreichende Ziel ausgerichtet:

- Ein **aktualisierter theoretischer Anwendungsbereich oder eine Definition** für die Statistik des Kultur- und Kreativsektors.
- Eine Forderung nach einer **stärkeren Nutzung von administrativen Quellen** bei der Erstellung von CCS-Statistiken.
- Eine Forderung nach **mehr vergleichbaren Daten über die kulturelle Beteiligung** auf EU-Ebene.

Überprüfung des theoretischen Anwendungsbereichs

Mit dem neuen empfohlenen statistischen Rahmen sollen die derzeitigen Unzulänglichkeiten durch die Festlegung eines neuen **theoretischen Geltungsbereichs für CCS-Statistiken** überwunden werden. Dies geschieht durch zwei Hauptziele: (1) dass unsere Empfehlungen von allen Mitgliedstaaten und dem Eurostat angenommen werden können und (2) dass sie internationalen Standards entsprechen.

Um diese beiden Ziele zu erreichen, müssen die vorgeschlagenen Änderungen folgende drei **allgemeine Kriterien** erfüllen:

- Die vorgeschlagenen Änderungen sollen auf einem hohen Konsens zwischen den EU-Mitgliedstaaten basieren.
- Die vorgeschlagenen Änderungen integrieren die kulturellen und kreativen Tätigkeiten unter Verwendung eines weltweiten Standards.
- Die vorgeschlagenen Änderungen des Erfassungsbereichs können in die Überarbeitungen der NACE Rev. 2 und der Internationalen Standardklassifikation der Wirtschaftszweige (ISIC) integriert werden, sobald sie zur Verfügung stehen.

Die Option für diese drei Kriterien und die Art und Weise ihrer Anwendung werden in diesem Bericht detailliert beschrieben.

Wir empfehlen auch, die Klassifizierung von teilweise kulturellen NACE-Codes abzuschaffen, wenn keine Informationen über das Gewicht der kulturellen und kreativen Komponente in diesen Codes vorliegen, und diese Codes entweder als "kulturelle und kreative Tätigkeiten" oder als "nicht kulturelle und kreative Tätigkeiten" neu zu klassifizieren. Dieser Mangel an Informationen über das Gewicht der kulturellen/kreativen Komponente kommt sehr häufig vor, nämlich auf der detaillierten Ebene der NACE-Codes. Da in diesen Fällen die als teilweise kulturell eingestuften Codes von Eurostat nicht gemessen werden, ist die Einstufung einer Tätigkeit als teilweise kulturell gleichbedeutend mit der Einstufung als nicht kulturell und kreativ, was letztlich die Messung ihrer wirtschaftlichen und sozialen Bedeutung verringert. Daher führt der Eurostat-Ansatz zu einer Unterschätzung der Bedeutung von CCS, die wir vermeiden wollen.

In dem Bericht beschreiben wir diesen vorgeschlagenen Prozess der Neuklassifizierung im Detail und unterwerfen ihn drei Kriterien, die erfüllt sein müssen, damit eine Änderung vorgeschlagen werden kann:

- Dass die Zahl der Mitgliedstaaten, die den zu überprüfenden Code als vollständig kulturell einstufen, größer ist als die Zahl der Mitgliedstaaten, die ihn als nicht kulturell einstufen.
- Dass der Prozentsatz der Klassen (statistische Untercodes) innerhalb eines Codes der NACE Rev. 2, die als vollständig kulturell eingestuft werden, über 50 % liegt.
- Dass der Code der NACE Rev. 2 in der Liste der kreativen Tätigkeiten der NESTA (National Endowment for Science, Technology, and the Arts) enthalten ist.

Die drei Kriterien, die erfüllt sein müssen, damit ein als teilweise kulturell eingestufter NACE-Code als nicht kulturell und kreativ eingestuft werden kann, sind symmetrisch zu den eben genannten drei Bedingungen. Die Begründung für die Verwendung dieser drei Kriterien (insbesondere das zweite) wird in diesem Abschlussbericht ausführlich dargelegt.

Anhand dieser Kriterien (allgemeine Kriterien und Kriterien für teilweise kulturelle Tätigkeiten) konnten wir eine Neuklassifizierung der meisten Codes der NACE Rev. 2 vorschlagen, die derzeit von Eurostat oder einem der Mitgliedstaaten als nicht kulturell, teilweise kulturell oder vollständig kulturell eingestuft werden und die neu klassifiziert werden müssten.

Wenn die Anwendung dieser Kriterien die Neueinstufung eines Codes nicht ermöglichte, bedeutete dies, dass die Neueinstufung dieses Codes einer weiteren Analyse bedarf. Dieser wurde dann einer qualitativen Analyse unterzogen, die von Experten und Interessenvertretern im Bereich des Kultur- und Kreativsektors in einer Stakeholder-Input-Sitzung durchgeführt wurde, die in Form eines Workshops am 18. Mai 2022 stattfand.

Die Neuklassifizierung der Codes der NACE Rev. 2 veranlasst uns, zehn Codes zu dem von Eurostat angenommenen aktuellen Rahmen hinzuzufügen und sechs davon auszuschließen, und daher einen aktualisierten Erfassungsbereich für die Statistik des Kultur- und Kreativsektors zu empfehlen. Dieser empfohlene Erfassungsbereich und zusätzliche Begründungen (über die Neuklassifizierungskriterien hinaus) für die

Aufnahme einiger Codes und den Ausschluss anderer, sind in diesem Abschlussbericht enthalten.

Die zehn dem derzeitigen Geltungsbereich hinzugefügten Codes entsprechen Aktivitäten, die derzeit als nicht kulturell oder teilweise kulturell klassifiziert sind und als kulturell und kreativ neu klassifiziert wurden. Diese Codes werden in der Tabelle 1 aufgeführt.

Tabelle 1: Codes, die dem aktuellen Geltungsbereich hinzugefügt wurden

NACE Rev. 2 Code	Code Beschreibung	Anfängliche Klassifizierung	Empfohlene Klassifizierung
47.6	**mit Kultur- und Freizeitartikeln in Fachgeschäften**	Teilweise kulturell	Kulturell und kreativ
58	**Verlagstätigkeiten**	Teilweise kulturell	Kulturell und kreativ
58.1	**Herausgabe von Büchern und Zeitschriften sowie andere Verlagstätigkeiten**	Teilweise kulturell	Kulturell und kreativ
58.19	**Weitere Verlagstätigkeiten**	Nicht kulturell	Kulturell und kreativ
58.2	**Softwareveröffentlichung**	Teilweise kulturell	Kulturell und kreativ
73	**Werbung und Marktforschung**	Teilweise kulturell	Kulturell und kreativ
73.1	**Werbung**	Teilweise kulturell	Kulturell und kreativ
73.11	**Werbeagenturen**	Teilweise kulturell	Kulturell und kreativ
73.12	**Mediale Vertretung**	Nicht kulturell	Kulturell und kreativ
74	**Sonstige freiberufliche, wissenschaftliche und technische Tätigkeiten**	Teilweise kulturell	Kulturell und kreativ

Quelle: *Eurostat (2018, pp. 13-14) and Authors.*

Die sechs Codes, die aus dem aktuellen Anwendungsbereich ausgeschlossen wurden, entsprechen Aktivitäten, die derzeit als vollständig kulturell eingestuft sind und als nicht kulturell und kreativ neu klassifiziert wurden. Diese Codes werden in der Tabelle 2 aufgeführt.

Es wird geschätzt, dass der empfohlene Geltungsbereich die wirtschaftliche Bedeutung der Kultur- und Kreativwirtschaft in Bezug auf die Bruttowertschöpfung (BWS) und die Beschäftigung im Vergleich zum derzeitigen Geltungsbereich der Kultur- und Kreativwirtschaft erheblich steigert. Es wird auch gezeigt, dass der empfohlene Anwendungsbereich im Vergleich zum derzeitigen CCS-Anwendungsbereich, zu einem viel höheren Außenhandelsüberschuss bei CCS-Waren führt, da der empfohlene Anwendungsbereich zu höheren Ausfuhren und niedrigeren Einfuhren führt.

Es wird geschätzt, dass **der empfohlene Geltungsbereich die wirtschaftliche Bedeutung** der Kultur- und Kreativwirtschaft in Bezug auf die Bruttowertschöpfung

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In Bezug **auf die verschiedenen Bezeichnungen die für die Kultur- und Kreativsektoren** verwendet werden, lautet unsere Empfehlung, die derzeitige Bezeichnung - Kultur- und Kreativsektoren (CCS) - beizubehalten. Die Hauptgründe für diese Empfehlung werden in diesem Bericht dargelegt.

Tabelle 2: Codes ausgeschlossen vom aktuellen Geltungsbereich

NACE Rev. 2 Code	Code Beschreibung	Anfängliche Klassifizierung	Empfohlene Klassifizierung
18	**Druck und Vervielfältigung von bespielten Medien**	Vollständig kulturell	Nicht kulturell und kreativ
18.1	**Druck- und Servicetätigkeiten im Zusammenhang mit dem Drucken**	Vollständig kulturell	Nicht kulturell und kreativ
18.11	**Drucken von Zeitungen**	Vollständig kulturell	Nicht kulturell und kreativ
18-.12	**Anderer Druck**	Vollständig kulturell	Nicht kulturell und kreativ
18.13	**Prepress- und Premedia-Dienstleistungen**	Vollständig kulturell	Nicht kulturell und kreativ
18.14	**Binde- und verwandte Dienstleistungen**	Vollständig kulturell	Nicht kulturell und kreativ

Quelle: *Eurostat (2018, pp. 13-14) and Authors.*

Zusammenfassend: Im Hinblick auf die Überprüfung des Anwendungsbereichs wird empfohlen, dass alle Mitgliedstaaten dieselbe Bezeichnung (Kultur- und Kreativsektoren) und dieselbe Definition (in Form von NACE-Codes) für die Kultur- und Kreativsektoren annehmen. Die Anpassung dieser Definition der Kultur- und Kreativwirtschaft durch die Mitgliedstaaten zur Berücksichtigung ihrer Besonderheiten sollte ähnlich wie bei der NACE und den nationalen Wirtschaftszweigsystematiken erfolgen, d. h. durch Disaggregation der Codes der auf europäischer Ebene angenommenen Definition (die eine europäische Klassifizierung für kulturelle und kreative Aktivitäten werden soll). Wenn ein Mitgliedstaat weitere Codes in den Geltungsbereich aufnehmen und somit eine andere Definition annehmen möchte, sollte er eine andere Bezeichnung als die der CCS verwenden, um Verwirrung bei den Nutzern der Informationen zu vermeiden und um die Vergleichbarkeit der Daten zwischen den Mitgliedstaaten nicht zu beeinträchtigen.

Die ideale Situation wäre, dass diese Vorschläge zur Bezeichnung (Kultur- und Kreativsektoren) und zur Definition von CCS (in Bezug auf NACE-Codes) nach ihrer Validierung durch die Eurostat-Arbeitsgruppe für Kulturstatistik in eine EU-Verordnung aufgenommen werden. Als zweite Option sollten solche Vorschläge Gegenstand einer Empfehlung der Kommission und ein Akt der Selbstregulierung durch die Mitglieder dieser Arbeitsgruppe sein.

Weitere administrative Quellen

Die **Verwendung administrativer Quellen**, insbesondere solcher im Zusammenhang mit den durch EU-Rechtsvorschriften vorgeschriebenen Verwaltungsakten in der gesamten EU, hat im Fall von CCS-Statistiken mehrere Vorteile. Diese Vorteile kommen zu den bekannten Vorteilen der statistischen Quellen hinzu (verbunden mit den geringen Kosten und dem geringen Aufwand für die Auskunftgebenden) und werden in diesem Bericht, verbunden mit der internationalen Vergleichbarkeit der Daten und der Minderung des Erfassungsbereichs Problem der harmonisierten statistischen Erhebungen der EU, genannt.

Trotz der Förderung durch die europäische Statistikgesetzgebung ist die Verwendung von administrativen Quellen in den meisten EU-Mitgliedstaaten immer noch recht begrenzt, daher wird empfohlen, dass diese Situation im Fall der CCS-Statistiken geändert wird. Als Beispiel legt der Bericht den Schwerpunkt auf, die Verwaltungsakte im Zusammenhang mit der Einhaltung der Richtlinie 2013/34/EU des Europäischen Parlaments und des Rates über die Jahresabschlüsse.

Konkret wird **die Verwendung von Verwaltungsquellen als primäre Quelle für die Erstellung von Statistiken über Kultur- und Kreativunternehmen und als sekundäre und ergänzende Quelle für die Erstellung von zwei anderen Arten von Statistiken** empfohlen: Beschäftigung im Kultur- und Kreativbereich und internationaler Handel mit kulturellen und kreativen Waren und Dienstleistungen.

Bessere Messung der kulturellen Praxis

Die Messung der kulturellen Teilhabe auf EU-Ebene, d. h. die Messung der **wichtigsten Dimension für die Nachhaltigkeit des Kultursektors**, hat sich seit 2012 nicht wesentlich verbessert, was vor allem auf die Nichterfüllung der ESSnet-Kulturempfehlung von 2012 zurückzuführen ist, ein Modul zur kulturellen Teilhabe mit einem Fragebogen zu entwickeln, der «*in eine Erhebung aufgenommen werden könnte, die auch die sportliche, soziale und Bürgerbeteiligung abdeckt*».

Daher wird **erneut empfohlen, ein Modul mit Fragen zur kulturellen Teilhabe auf EU-Ebene zu verabschieden**[32]**.** Dieses Modul lehnt sich natürlich an das vom ESSnet-Kultur empfohlene Modul an, deckt aber auch andere Bereiche und Dimensionen ab, vor allem diejenigen, die mit der digitalen Transformation zusammenhängen. Das Modul sollte vorzugsweise als eigenständige Erhebung verwendet werden, so dass es die **erste EU-weit harmonisierte Erhebung im Kultur- und Kreativsektor wäre**. Eine solche Erhebung sollte die Erstellung vergleichbarer Daten auf EU-Ebene ermöglichen und den Aufwand für die Befragten nicht erhöhen. Tatsächlich wird es die derzeitigen nicht harmonisierten nationalen Umfragen zur kulturellen Teilhabe und auch die Fragen zur

[32] Es kann argumentiert werden, dass einige EU-weit harmonisierte Erhebungen bereits ein Modul mit Fragen zur sozialen und kulturellen Teilhabe enthalten. Wie jedoch im Analysebericht (siehe Abschnitt 4.3) und in diesem Bericht (siehe Abschnitt 4.1.3) ausführlich erläutert wird, ist die derzeitige Situation aus mehreren Gründen weit vom Idealzustand entfernt. Diese Erhebungen weisen eine zu lange Periodizität und einen unzureichenden Erfassungsbereich und eine unzureichende Vergleichbarkeit der Daten zwischen den Mitgliedstaaten auf, was zu unplausiblen Ergebnissen führt. Im Fall von EU-SILC beispielsweise sind die Module zur sozialen und kulturellen Teilhabe nur in den Jahren 2006, 2015 und 2022 in SILC enthalten. Diese Module weisen auch gravierende Einschränkungen auf. Laut Eurostat (2018) basiert die Datenerhebung auf Selbstauskünften und die Anzahl und Formulierung der Fragen zur kulturellen Teilhabe sind nicht angemessen. Diese Einschränkungen tragen dazu bei, dass diese Erhebungen unplausible Ergebnisse liefern und auf nationaler Ebene kaum von Nutzen sind.

kulturellen Teilhabe ersetzen, die derzeit in den harmonisierten europäischen und Eurobarometer-Umfragen verwendet werden. Darüber hinaus könnten in eine solche Erhebung auch andere Fragen (die von den EU-Mitgliedstaaten festzulegen sind) aufgenommen werden, die über das oben erwähnte Fragenmodul hinausgehen. Diese Integration würde es erleichtern, die nationalen Umfragen durch eine harmonisierte Umfrage zu ersetzen, die den Mehrwert der Umfrage erhöhen würde, ohne die Kosten zu steigern.

Entsprechend der früheren Empfehlung von *ESSnet-Culture* könnte das Fragenmodul auch als zweitbeste Option in eine Umfrage integriert werden, die ein anderes Thema wie Sport oder soziale und zivile Beteiligung abdeckt.

VORSCHLAG FÜR EINE NEUE METHODIK ZUR MESSUNG DIGITALER KULTURELLER DIENSTLEISTUNGEN

Ein spezieller Arbeitsbereich des Projekts war dem **Vorschlag einer neuen Methodik zur Erfassung digitaler kultureller Dienstleistungen gewidmet**[33]. Dieser Arbeitsbereich umfasste hauptsächlich zwei Gruppen von Aktivitäten: (i) eine Überarbeitung des aktuellen kulturstatistischen Rahmens, um die Aufnahme von Indikatoren der digitalen Wirtschaft in den CCS zu ermöglichen, und (ii) die Erkundung innovativer Methoden der Datenerhebung, nämlich einen Demonstrator für Datenanalysefähigkeiten - angewandt auf den Musik- und den audiovisuellen Sektor - und einen alternativen Ansatz für eine gezielte Erhebung, um maßgeschneiderte Informationen von digitalen Akteuren des CCS zu sammeln.

Die Überarbeitung des aktuellen kulturstatistischen Rahmens umfasste die folgenden Aktivitäten und Ergebnisse:

- Die Definition des sektoralen Geltungsbereichs des CCS durch eine **Zuordnung zwischen Kultur- und Kreativsektoren** (gemäß der Definition von Creative Europe) **und** Wirtschaftszweigen der **NACE-**Klassifikation, um Indikatoren der digitalen Wirtschaft mit den spezifischen CCS-Teilsektoren zu verknüpfen.

- **Eine Lückenanalyse der Erhebungen, die derzeit den offiziellen kulturstatistischen Rahmen der EU unterstützen** (d.h., EU-LFS, SBS, COMEXT, AES, EU-SILC, HETUS, ICT-Survey, HBS, and COFOG)[34] um zu bewerten, ob und inwieweit diese Erhebungen bereits Aspekte im Zusammenhang mit der digitalen Wirtschaft und digitalen Kulturdienstleistungen erfassen.

- **Die Definition von Dimensionen zur Erfassung und Messung von Indikatoren** für die digitale Wirtschaft im Kontext der CCS, basierend auf zuvor auf europäischer Ebene etablierten Methoden, wie sie im Index für

[33] Im Rahmen des Projekts wurde der Begriff «digitale kulturelle Dienstleistungen» vereinbart und verwendet, wenn es um Online-Dienste geht.

[34] EU-AKE: Arbeitskräfteerhebung der Europäischen Union; SUS: Strukturelle Unternehmensstatistik; COMEXT: Referenzdatenbank von Eurostat für detaillierte Statistiken über den internationalen Warenverkehr; AES: Erhebung über die Erwachsenenbildung; EU-SILC: EU-Statistik über Einkommen und Lebensbedingungen; HETUS: Harmonisierte europäische Zeitbudgeterhebungen; HBS: Haushaltsbudgeterhebung; COFOG: Klassifikation der Aufgaben des Staates.

die digitale Wirtschaft und Gesellschaft (DESI)[35] unb im *Digital Transformation Scoreboard*[36] - Anzeiger für die digitale Transformation - beschrieben sind. Dies führte zur Definition von drei "Wegbereiter"-Dimensionen, nämlich digitale Infrastruktur, Investitionen und Humankapital, die Faktoren darstellen, die die Digitalisierung von Organisationen, die im CCS tätig sind, ermöglichen; und drei "Wertschöpfungsketten"-Dimensionen, nämlich digitale Kulturproduktion, digitaler Kulturvertrieb und digitaler Kulturkonsum, die die neue, digitale Wertschöpfungskette des CCS darstellen, in der Aktivitäten von der Produktion über den Vertrieb bis zum Konsum nun von jeder Art von Akteur und zu jeder Zeit unter Nutzung digitaler Technologien durchgeführt werden.

- Die Untersuchung **früherer Arbeiten zur digitalen Wirtschaft,** wie DG CONNECT's[37] DESI, DG GROW's[38] Digital Entrepreneurship Monitor, und OECD's[39] Going Digital[40], der OECD, zielte auf die Analyse bestehender statistischer Erhebungen und anderer Datenquellen ab, die Indikatoren zu Kennzahlen der digitalen Wirtschaft liefern.

- Die **Analyse der Quellen diente dazu, Indikatoren** zu ermitteln, die derzeit nicht im Rahmen der Kulturstatistik verwendet werden und diese potenziell verbessern könnten. Dies beinhaltete einen Filterungsprozess zur Auswahl einer endgültigen Reihe von Indikatoren für die digitale Wirtschaft, die zur Verbesserung des Rahmens vorgeschlagen werden sollten.

- Der **Vorschlag für neue potenzielle Indikatoren**, die aus Sekundärforschung und Konsultationen mit CCS-Akteuren und Experten abgeleitet werden und die möglicherweise derzeit nicht durch bestehende Erhebungen erfasst werden, um Lücken bei den Metriken zur digitalen Wirtschaft zu schließen.

Parallel zu diesen Arbeiten wurde eine Reihe von Aktivitäten durchgeführt, die der Erforschung innovativer und ergänzender Methoden der Datenerhebung gewidmet waren. Zusammengefasst bedeutete dies Folgendes:

- Eine **Demonstration von Datenanalysefähigkeiten** zur Erhebung von Daten von Online-Plattformen und Dienstleistern des Kultur- und Kreativsektors durch die Sammlung von Metriken, die als repräsentativ für die Produktion, den Vertrieb und den Konsum von kulturellen und kreativen Online-Inhalten angesehen werden können. Der Anwendungsbereich des Demonstrators war auf den Musik- und audiovisuellen Sektor beschränkt und konzentrierte sich auf zwei spezifische Plattformen, YouTube und Spotify. Der Ansatz beruhte auf dem Senden von (automatisierten) Abfragen an die APIs der Plattformen, um

[35] Digital Economy and Society Index (DESI) 2021 - DESI methodological note. Index für die digitale Wirtschaft und Gesellschaft (DESI) 2021 - DESI-Methodenleitfaden.
[36] European Commission. (2018). Digital transformation scoreboard 2018. Publications Office of the EU. European Commission. (2018). Digital Transformation Scoreboard 2018. Amt für Veröffentlichungen der EU.
[37] DG CONNECT: Directorate-General for Communications Networks, Content and Technology.
[38] *DG GROW: Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs.*
[39] *OECD: Organization for Economic Co-operation and Development.*
[40] *OECD. Going Digital Toolkit.*

über einen Zeitraum von sieben Wochen stündlich oder täglich Metriken (wie Aufrufe, Likes, Follower) von den beiden Plattformen zu sammeln. Mit dem Demonstrationsprojekt wurde das Ziel erreicht, zu zeigen, **dass die Erhebung von Hochfrequenzdaten** von Online-Plattformen und Dienstanbietern des CCS **möglich ist**, und es zeigte das Potenzial in relativ kurzer Zeit **extrem große Datenmengen zu sammeln**. Der Ansatz stellt einen Ausgangspunkt für die Entscheidungsfindung über die Nutzung von Online-Daten für die Erstellung von Statistiken über die Beitrittsländer dar.

- Ein Vorschlag für einen **gezielten Ansatz zur Befragung digitaler Akteure** der eine Möglichkeit darstellt, die durch den Datenanalyse-Demonstrator gesammelten Informationen zu ergänzen. Dieser Ansatz beinhaltet die direkte Befragung von Online-Plattformen und digitalen Akteuren durch gezielte Umfragen, um relevantere und detailliertere Informationen über ihre Aktivitäten, Einnahmequellen und Nutzerbasis zu erhalten. Der Vorschlag lieferte eine Begründung für die Umfrage, identifizierte eine vorläufige Reihe von Akteuren und entwickelte eine Reihe potenzieller Fragen und Indikatoren, die gemessen werden sollten.

Auf der Grundlage der oben beschriebenen Aktivitäten und Arbeitsbereiche, sowie der im Rahmen des Projekts durchgeführten Forschungsarbeiten, der bei den Konsultationen mit CCS-Experten und Interessengruppen gesammelten Beiträge und der Erfahrungen mit dem Datenanalyse-Demonstrator, hat das Forschungsteam die folgenden Empfehlungen formuliert:

- **Die notwendigen Aktualisierungen der aktuellen EU-Kulturstatistik vorzunehmen, um die digitale Wirtschaft einzubeziehen**, was die Validierung bestehender Indikatoren, die in den Rahmen integriert werden sollen, und die Hinzufügung neuer Indikatoren für die digitale Wirtschaft umfasst.

- **Vorbereitung zum Einsatz innovativer und alternativer Methoden zur Messung digitaler kultureller Dienstleistungen** durch (i) Analyse der Kohärenz, Relevanz und Wirksamkeit der Methoden, (ii) die Durchführung einer spezifischen Studie über das Design für die Umsetzung des Ansatzes und (iii) Investitionen in eine geeignete Infrastruktur und den Erwerb von Fachwissen.

- **Ausbau der Datenanalysekapazitäten**, um (i) Daten über längere und regelmäßigere Zeiträume zu sammeln und (ii) die Zahl der abzufragenden Plattformen zu erhöhen, um einen breiteren Überblick über das Phänomen der Online-Produktion, des Konsums und des Austauschs von Inhalten zu erhalten.

- **Weiterentwicklung des zielgerichteten Ansatzes durch** (i) Ausweitung des Anwendungsbereichs des Ansatzes in Bezug auf Plattformen, Sektoren und Indikatoren, (ii) Einrichtung von Mechanismen zur Ermittlung relevanter Akteure der digitalen Wirtschaft auf Ebene der Mitgliedstaaten und (iii) Sammlung von Informationen aus erster Hand über die Einnahmen der digitalen Akteure, die Beschäftigung und die Merkmale der Nutzer.

AKTUALISIERTE SCHÄTZUNG DES BEITRAGS UND DER AUSWIRKUNGEN VON CCS AUF DIE WICHTIGSTEN MAKROÖKONOMISCHEN AGGREGATE DER EU

Der letzte Teil dieses Berichts befasst sich mit diesen allgemeinen Vorrausetzungen für den Aufruf hinter diesem Projekt und stellt die Hauptergebnisse dieser Forschung vor.

Dieser Teil folgt einer im Bericht ausführlichen Klassifikation, wonach die Kultur- und Kreativwirtschaft (siehe Tabelle 3) in vier Tätigkeitsgruppen eingeteilt wird, die sich recht eng an die Struktur der NACE-Codes anpassen.

Die Gruppen sind G1: Kernkultur; G2: Kulturindustrien; G2' Kulturindustrien mit Druckerei; und G3; Kreative Sektoren

Tabelle 3: Gruppen des Kultur- und Kreativsektors

Gruppe	Name	Untergruppen	NACE codes (4-stellig)*
G1	Kernkultur	Bildung	85.52 Kulturelle Bildung
		Museen und Kulturerbstätten	91.02 Museumsaktivitäten. 91.03 - Betrieb von historischen Stätten und Gebäuden und ähnlichen Besucherattraktionen
		Bibliothek und Archive	91.01 Bibliotheken und Archive
		Bildende Kunst und Schreiben	90.03 Künstlerische Kreation
		Darstellende Künste	90.01 Darstellende Künste. 90.02 Unterstützende Tätigkeiten für die darstellenden Künste. 90.04 Betrieb von künstlerischen Einrichtungen
G2	Kulturindustrien	Radio und TV	60 Radio und TV
		Aufgenommene Musik	59.2 Tonträger- und Musikverlagstätigkeiten 47.63 - Einzelhandelsverkauf von Musik- und Videoaufzeichnungen in Fachgeschäften. 77.22 Verleih von Videokassetten und CD. 18.2 Vervielfältigung von bespielten Medien
		Audio-visuelle Medien	59.1 Audiovisuell 74.2 Fotografie
		Buch und Presse	58 Verlagstätigkeit 47.61 Einzelhandelsverkauf von Büchern in Fachgeschäften. 47.62 Einzelhandel mit Zeitungen und Schreibwaren in Fachgeschäften 74.3 Übersetzen und Dolmetschen
		Kulturproduktion. Kunsthandwerk	32.1 Herstellung von Schmuck, Bijouterie und ähnlichen Erzeugnissen. 32.20 Herstellung von Musikinstrumenten
G2'	Kulturindustrien	Kulturindustrie mit Druck	18.1 Druckerei und Erbringung von Dienstleistungen für den Druck
G3	Kreative Sektoren	Werbung	73.1 Werbeagenturen
		Design	74.1 Spezialisierte Designtätigkeiten
		Architektur	71.11 - Architekturtätigkeiten
		Videospiele	58.2 Softwareverlag

* Falls Rubriken mit weniger als 4 Ziffern beschrieben werden, bedeutet dies, dass alle Untergruppen auf dieser Ziffernebene enthalten sind.

Was die **Beschäftigung** anbelangt, so wurden in dieser Studie keine Schätzungen der in der Kultur Beschäftigten vorgenommen, sondern es wurde versucht, die im CCS beschäftigten Personen über einen Zeitraum von 2008 (vor der Finanzkrise) bis 2021 zu schätzen. Es sei darauf hingewiesen, dass das Vereinigte Königreich aufgrund seines Austritts aus der EU von den Berechnungen ausgeschlossen wurde, und dass die Pandemie eine Erholung, die seit Mitte des letzten Jahrzehnts Gestalt annahm, verzögert hat. Somit **sind es im Jahr 2021 5,5 Millionen Menschen die in der Kultur- und Kreativbranche beschäftigt sind, ungefähr 2,6% aller Beschäftigten der gesamten EU.**

Wird der Durchschnitt für den gesamten Zeitraum betrachtet, so variieren die Anteile zwischen den Ländern von 3,8% in Estland bis 1,2% in Rumänien. In absoluten Zahlen und ohne das Vereinigten Königreichs macht Deutschland (mit Werten über 1,1 Millionen Beschäftigten) 20% des Gesamtwerts aus. Mit einigem Abstand folgen andere große Länder wie Frankreich, Italien, Spanien und Polen.

Allerdings gilt, dass die letzten 14 Jahre für die CCS nicht besonders gut waren. Im Jahr 2021 lag die Auslastung im Vergleich zu 2008 immer noch bei 99%, allerdings bei 110% in Bezug auf die Wertschöpfung.

Bei der Aufteilung nach Tätigkeitsgruppen, gemäß den oben vorgeschlagenen Klassifizierungen (G1; G2; G3), lässt sich ein gewisses Gleichgewicht zwischen diesen drei Gruppen feststellen. Im Jahr 2021 entfielen 27% der Beschäftigten auf den kulturellen Kernbereich, 35% auf die Kulturwirtschaft und 38% auf die kreativen Sektoren. Im betrachteten Zeitraum ist ein Rückgang von 5% in der Kulturwirtschaft zu beobachten, der sich auf 3% mehr für die kreativen Sektoren und 2% für die kulturellen Kernaktivitäten aufteilt.

Der gleiche relative Rückgang ist auch bei der Wertschöpfung zu beobachten, obwohl die Kulturwirtschaft im Jahr 2019 (dem letzten für die BWS verfügbaren Jahr) immer noch 45% der Gesamtwertschöpfung ausmachte. Wenn wir die Daten der BWS im Verhältnis zur Gesamtwirtschaft analysieren, sehen wir, dass kleine osteuropäische Länder wie die Slowakei, Slowenien und die Tschechische Republik, aber auch Finnland und Dänemark, Zahlen über 3% aufweisen. Malta ist das Land mit der höchsten Quote (6,7%).

In Bezug auf die Beschäftigung sind die Länder mit der höchsten Präsenz von G1: Kernkulturelle Aktivitäten Estland und Litauen, während für G2: Kulturindustrien die Länder mit den höchsten Prozentsätzen Finnland und Irland sind, und schließlich für G3: Kreative Dienstleistungen, mit herausragendem Durchschnitt über den analysierten Zeitraum befinden sich Dänemark und Malta.

In der gesamten EU können wir feststellen, dass die Produktivität der Kultur- und Kreativwirtschaft insgesamt leicht über dem Durchschnitt der Wirtschaft liegt, was hauptsächlich darauf zurückzuführen ist, dass die Produktivität des Kulturgewerbes den Durchschnitt nach oben treibt. Der kulturelle Kernsektor und der Kreativsektor weisen hingegen Produktivitäten auf, die unter dem Durchschnitt der Wirtschaft liegen und sich beide praktisch auf dem gleichen Niveau befinden. Natürlich gibt es erhebliche Unterschiede zwischen den Ländern, die in den Factsheets der einzelnen Länder zu finden sind.

Die aktualisierten **Zahlen zum internationalen Handel mit CCS-Gütern** sind im entsprechenden Kapitel dieses Berichts in mehreren Abbildungen zusammengefasst. Was

die Entwicklung des internationalen Handels mit CCS-Gütern in der gesamnten EU betrifft, so war zwischen 2009 und 2019 eine steigende Tendenz bei den Transaktionen zwischen EU-Mitgliedstaaten und Nicht-EU-Ländern zu beobachten, die jedoch von 2019 bis 2020 zurückging. Im Jahr 2020 waren die drei größten Exporteure Deutschland, Frankreich und Italien, und die drei größten Importeure waren Deutschland, Frankreich und die Niederlande. Polen und die Niederlande haben sich auch in diesem Jahr bei den Exportwerten im Vergleich zu den übrigen Mitgliedstaaten hervorgehoben.

Was die **Beziehung zwischen der Größe des Kultur- und Kreativsektors und der Gesamtproduktivität einer Volkswirtschaft betrifft**, so ermöglicht der theoretische Rahmen, der auf einem semi-endogenen Wachstumsmodell basiert, eine kausale Interpretation der Auswirkungen des Kultur- und Kreativsektors auf die Arbeitsproduktivität, und die verwendete Schätzmethode (Local Linear Least Squares LLLS) die individuelle Ländereffekte liefert. Die Ergebnisse deuten darauf hin, dass sich die durchschnittliche Arbeitsproduktivität um 1,25% erhöht, wenn der Anteil der CCS in den Stichprobenländern verdoppelt wird. Allerdings gibt es je nach Land und Jahr erhebliche Unterschiede in den Auswirkungen des CCS auf die Arbeitsproduktivität. Die größten medianen Auswirkungen (für alle Jahre) werden für Deutschland, Dänemark, Irland, Ungarn und Frankreich beobachtet (alle über 4%). Auch für Finnland, Italien, Spanien, Schweden, Österreich, Belgien, die Niederlande, Luxemburg und die Slowakei sind die Auswirkungen positiv und liegen über dem Mittelwert. Unter dem Mittelwert, aber mit positiven Auswirkungen, befinden sich Malta, Litauen, Kroatien, Bulgarien und Griechenland. Negative Medianeffekte werden hauptsächlich für osteuropäische Länder (Polen, Rumänien, Tschechien, Lettland, Slowenien und Estland) sowie für Zypern und Portugal beobachtet.

Eine zweite Messung der Auswirkungen von CSS auf die europäischen Volkswirtschaften wurde anhand der **länderübergreifenden Input-Output-Tabellen** der OECD vorgenommen. Der einfache Wertschöpfungsmultiplikator gibt die gesamtwirtschaftliche Wertschöpfung an, die durch einen externen Anstieg der Endnachfrage nach CCS um einen Euro generiert wird/entsteht. Diese Art von Multiplikator umfasst sowohl direkte als auch indirekte Effekte (allerdings nicht die durch das Einkommen induzierten Effekte). Die **Sektoren 58-60** (Verlagswesen, Verbreitung, Produktion und Vertrieb von Inhalten) in der EU-27 generierten im Durchschnitt 0,94 € an Wertschöpfung in der Gesamtwirtschaft für jeden Euro an Ausgaben im Jahr 2018. Die höchsten Multiplikatoren finden sich in Irland (0,978 €), der Tschechischen Republik (0,966 €), Schweden und Rumänien (jeweils 0,961 €), die niedrigsten in Portugal (0,926 €), Litauen (0,922 €) und Ungarn (0,914 €).

Was den **Sektor Informationstechnologie (IT)** betrifft, der IT-Tätigkeiten (Abteilung 62) und sonstige Informationsdienstleistungen (Abteilung 63) umfasst, liegt der EU-27-Durchschnitt bei 0,957 €. Das Land mit der höchsten Wertschöpfungskapazität war Deutschland im Jahr 2018, wo jeder Euro an Ausgaben in diesem Sektor zu einem Mehrwert von 0,975 Euro führte (Abbildung 6.23). Die Werte der Tschechischen Republik (0,971 €) und Zyperns (0,969 €) stechen ebenfalls hervor. Die Länder mit den niedrigsten Multiplikatoren sind Kroatien (0,942 €), Luxemburg und Malta (jeweils 0,937 €).

Die Multiplikatoren für **Kunst-, Kultur- und Freizeitaktivitäten** wiesen im Jahr 2018 für den EU-27-Durchschnitt eine Wertschöpfung von 0,936 € pro Euro auf. Die Länder mit den höchsten Auswirkungen waren demnach Irland (0,973 €), Deutschland (0,965 €) und Luxemburg (0,964 €), während die niedrigsten Auswirkungen in Italien (0,908 €), der Slowakei (0,897 €) und Bulgarien (0,941 €) erzielt wurden.

Schließlich präsentiert der Bericht einige **vorläufige Ergebnisse über die Beziehungen zwischen CCS und Wohlbefiden**[41]**.** Der OECD Better Life Index (BLI) definiert 11 Dimensionen des Wohlbefindens, die von der akademischen und statistischen Gemeinschaft allgemein akzeptiert und als Maß für das Wohlbefinden verwendet werden. Die Dimensionen kombinieren die materielle Basis mit anderen Aspekten der Lebensqualität und der Umwelt, wobei die Nachhaltigkeit und die Reproduktion des zukünftigen Wohlbefindens berücksichtigt werden. Der theoretische Rahmen basiert auf einem einfachen Modell, das die von der OECD bereitgestellten normalisierten Wohlstandswerte mit dem Anteil der Beschäftigten im CSS und einem Durchschnitt der früheren Wohlstandswerte in Beziehung setzt. Die Schätzungen verwenden wiederum LLLS, um individuelle Ländereffekte zu ermitteln. Die Ergebnisse sind mit Vorsicht zu interpretieren, da der Rahmen möglicherweise nicht für alle Indikatoren Störfaktoren berücksichtigt. Die Länder, die ihre Wohlbefindenswerte am stärksten verbessern würden, wenn der Anteil der Beschäftigten in der CCS erhöht würde, sind Finnland und Schweden. Für Länder, wie Ungarn und Portugal hingegen könnte sich der Wert für einige Indikatoren zum Wohlbefinden verringern.

ZUSAMMENFASSUNG DER EMPFEHLUNGEN UND SCHLUSSBEMERKUNGEN

Der Abschlussbericht schließt mit einer Zusammenfassung aller Empfehlungen, die in den verschiedenen von dieser Untersuchung abgedeckten Bereichen vorgelegt wurden. Er schließt ab, was mit einer Bestandsaufnahme des gesamten Projekts und seiner Ergebnisse vergleichen könnte, indem er den Inhalt des ursprünglichen Forschungsvorschlags in seiner genehmigten Form mit all den verschiedenen Ergebnissen verbindet, die in diesem Abschlussbericht und in den verschiedenen Dokumenten, die ihm vorausgingen, ausgearbeitet und vorgestellt wurden.

[41]Für diese Analyse wurden alle EU-Länder berücksichtigt, die zu den OECD-Ländern gehören: insgesamt 22. Bulgarien, Kroatien, Zypern, Malta und Rumänien können nicht berücksichtigt werden, da der Better Life Index für diese Nicht-OECD-Länder nicht erstellt wird.

1 Introduction

Cultural and Creative Sectors (CCS) are among Europe's most dynamic industries and represent an important asset to generate economic growth and employment, as well as to foster social cohesion and promote diversity. According to the Annual Single Market Report 2021[42], the Cultural and Creative Industries (CCI) generate € 477 billion of value added (corresponding to 3.95% of EU GDP) and employ 8.02 million people, with a presence of around 1.2 million firms across Europe. Therefore, according to this source the economic contribution of CCS is greater than that of telecommunications, high technology, pharmaceuticals, or the automotive industry. Moreover, the COVID pandemic crisis implied several challenges to CCS namely by accelerating major trends in digital and by reinforcing the need to increase efforts to develop new content and new business models. These challenges call for a rigorous measuring of the Cultural and Creative Sectors. Moreover, the COVID pandemic crisis implied several challenges to CCS namely by accelerating major trends in digital and by reinforcing the need to increase efforts to develop new content and new business models. These challenges call for a rigorous measuring of the Cultural and Creative Sectors.

In fact, the need for measuring and having proper figures on the CCS responds to various demands ranging from the simple technical need for reliable results in national accounts to concrete policy demands that require accurate information on the linkages between various productive sectors, including the demands of specific sectors and actors that require accurate and detailed information to make better and more efficient decisions, or to advocate for their activities.

However, measuring the economic, cultural, and social value generated by the CCS and their specific sub-sectors is certainly not an easy task. Challenges in measuring the impact of the CCS include (i) a lack of a common definition of the cultural and creative sectors and differences in reporting across different countries, which create issues for data comparability, (ii) poor or inadequate data collection mechanisms for specific indicators or sub-sectors, and (iii) outdated statistical classifications (e.g., NACE codes) in terms of accounting for digitalisation and capturing the value generated by online services.

Within this context, the European Commission launched a Call for proposals to address these challenges and to build a new statistical framework for measuring the cultural and creative sectors, in order to enable a regular statistical analysis of their economic, cultural, and social potential in Europe.

This research Project, carried out under the name *Measuring the Cultural and Creative Sectors in the EU* was approved as a reply to that Call. It had three main goals: (i) to propose a new framework with an updated definition of the scope of the "Cultural and Creative Sectors" to better quantify the CCS and ensure comparability at EU level of all available data; (ii) to develop new methods for capturing and quantifying online services in the CCS, and (iii) to provide updated economic figures on the CCS, namely employment, Gross Value Added (GVA), imports, and exports.

To meet its objectives, this Project was developed in three phases:

[42] See SWD Annual Single Market Report 2021.

- An inventory of main sources of data on cultural and creative sectors including both official and non-official sources, as well as the publications and information on the measurement of online services.
- The proposal of an updated framework of CCS statistics including a methodology for capturing online services that would enable regular statistical production, and analysis of the economic, cultural, and social potential of the CCS in EU.
- The production of an updated estimate for the main macroeconomic figures of CCS and their contribution to the global economy.

The outputs of the first two phases are in two Reports already delivered to the European Commission, under the titles *Measuring CCS – Report on Inventory of Sources* and *Measuring CCS – Analysis Report.*

This Final Report contains a summary of these two reports (that correspond to Chapters 3, 4, and 5) and presents the outputs of the third phase (Chapter 6) as well as the concluding remarks (Chapter 7) and the recommendations (Chapter 8). More specifically, the structure of this report is as follows.

Chapter 2 provides the methodological approach that has been followed during the Project, highlighting the main activities carried out and the role of different stakeholders in providing input to the research team.

Chapter 3 summarises the main contributions from the inventory of sources carried out in the first phase of the Project. In particular, the chapter summarises the research and findings related to official statistics. Moreover, it provides an overview of the main sources and organisations producing "non-official" statistics, highlights some of the key methods used to measure the CCS in non-official statistics, and touches upon the attempts to measure digital cultural services by both public and private organisations. Finally, it briefly outlines six case studies on measuring CCS in non-EU countries.

Chapter 4 is dedicated to summarizing the proposal for a revised framework for cultural and creative sector statistics. The analysis focuses on proposing an updated scope for the cultural and creative sector statistics, a greater use of administrative sources for producing CCS statistics, and the issue of comparability of data on cultural participation at EU level. Moreover, the chapter also provides a proposal to bring the digital economy within the actual scope of CCS statistics. To do so, it provides a definition of digital cultural services, it outlines a mapping that links the different CCS sub-sectors with the NACE classification, it carries out a gap analysis on the surveys currently used in the Cultural Statistics Framework, and it proposes a set of dimensions and indicators – both existing and new ones – to capture digital economy indicators and aspects in the revised framework. The chapter is concluded with the proposal of a transition process of the statistical framework of the cultural and creative sectors from the current situation to the recommended updated framework.

Chapter 5, in turn, presents a proposal for a new methodology to measure digital services in the cultural and creative sectors, which relies on innovative approaches and data analytics methods. The proposal is complementary to the update of existing surveys outlined in Chapter 4. In particular, the chapter presents the approach used for a demonstrator of data analytics capabilities applied to the music and audio-visual sectors to collect publicly available metrics from selected online platforms. In addition, the chapter presents an alternative approach to collect information from digital actors of the CCS based on the design of targeted surveys to interrogate such actors directly.

Chapter 6 presents an updated estimation on the contribution and impact of CCS to EU main macroeconomic aggregates. Estimates are presented for employment, Gross Value Added, productivity of labour force, and foreign trade in cultural goods. Also assessed, in a more exploratory way, are the impacts of CCS on labour productivity and well-being, and the multiplier effects of CCS over the whole economy

Chapter 7 presents a series of concluding remarks, and outlines how the activities carried out in the Project correspond to the tasks and objectives contained in the proposal originally presented. For each research activity listed in the proposal, we explain the corresponding tasks performed.

Finally, **Chapter 8** presents a synthesis of the recommendations.

This report also has an executive summary and a list of the bibliographic references cited.

As a final note but no less important, we cannot lose this opportunity to thank all the participants in the different meetings organized by this Project and the members of the Advisory Board for their useful contributions. A special thanks goes to the members of this Eurostat Working Group on Cultural Statistics as well as to Eurostat for their collaboration, which was indispensable to carry out the inventory of sources of official statistics. Of course, any remaining errors or omissions are the exclusive responsibility of the research team.

2 Methodological approach

Throughout the development of the Project *Measuring Cultural and Creative Sectors in the EU*, several work packages were implemented using a number of techniques across different steps to provide the set of deliverables in the scope of the Project. At the core of the overall research approach implemented by the consortium, two core packages aimed at:

1. Understanding the current situation in the cultural and creative sectors statistics.
2. Proposing enhancements to the related cultural statistics framework.
3. Proposing improvements to bring the measuring of the digital economy within the scope of the Cultural Statistics Framework.
4. Demonstrating the feasibility of using alternative methods of data collection for measuring the digital economy within the sector.
5. Updating macroeconomic and social indicators, and once the data are available, explore the relationships between the economic dimension of cultural sectors and aspects such as productivity or well-being.

To fulfil these objectives, the first main activities were carried out as part of a work package dedicated to the **identification and assessment of information sources** allowing to understand the current situation in the measurement of the cultural and creative sectors.

The main activities comprised an initial step of **identification of the main sources of data on cultural and creative sectors, including both official and non-official sources**. This identification resulted from an effort combining desk research and direct interaction with relevant source holders and stakeholders, to obtain relevant information at the European, national, regional, and international levels.

Once the main sources had been identified, a preliminary assessment of the quality of the data in terms of reliability (with a clear differentiation between statistical surveys, administrative sources, and other data materials) was carried out; this preliminary assessment also served to identify the main gaps of the data, either in terms of geographic coverage and reference period or in terms of comparability across countries.

In this context it is important to emphasize the **elaboration of a country report for each of the 27 Member states** with an exhaustive inventory of the official statistics on the cultural and creative sectors. These reports received contributions from Eurostat and were sent to the Member States to be checked and validated and almost all Member States not only validated the reports but also gave useful contributions. After validation, these reports served as the main source of the *Report on Inventory of Sources of official* statistics.

In addition, an **identification of publications and information on the measuring of digital economy indicators took place** to complement the analysis with the understanding of information sources related to digital services in the sector. This complementary analysis was further developed to assess the possibility of using data analysis technologies to monitor the trade and consumption of cultural and creative content through digital services.

This initial identification and assessment benefited from **external knowledge gathered through means of a Hackathon event** where several actors from the cultural and creative sectors and from academia provided their views and suggestions to improve the analysis.

A second set of activities was carried out as part of a work package dedicated to the proposal of improvements to the current cultural statistics framework. The proposal of improvements was supported by a process of **revising and extending the current framework to choose those activities considered cultural and creative**, and thus, when needed, to redefine and better delimitate the current cultural and creative sectors and to allow producing regular comparable statistics on culture and creative sectors at the European level.

In this context it is important to emphasize **the process of updating the scope, i.e., the list of NACE Rev. 2 codes that define Cultural and Creative Sectors**. Given the sensitivity of the topic, the whole process leading to this reviewed list was based on clear and objective criteria to the extent that it was possible to do so. The resulting proposal for an updated scope was also presented in several forums, including a Webinar with the participation of the 27 Member States.

The revision process was complemented by a review of the definition of digital cultural services, and the **identification of key dimensions to be measured to account for the impact of digital technologies and digital services within the cultural and creative sectors**, which serves as a baseline to define the specific indicators and updates to the statistical tools that will ensure better measurement of digital cultural services at EU level.

An assessment of the structure of the current Cultural Statistics Framework and the different surveys that support it served to highlight the extent to which the surveys used within the current cultural statistics framework do or do not rely on indicators related to the digital economy to illustrate or infer metrics on digital cultural services from official surveys. The assessment highlighted that the digital economy component is only partially covered within the Cultural Statistics Framework, thereby providing insight on the needs for integration of the digital economy dimension within the cultural and creative sectors.

Regarding the different figures with the macroeconomic aggregates and the impacts of Chapter 6, in order not to complicate a linear reading of the results and given that this Final Report aims to be disseminated to a wide audience, **in the methodological appendix to this chapter we provide a summary of how we proceeded in constructing the databases** on which the figures we report are based. In the case of data on international trade in cultural goods **we explain the methodology at the beginning of the point, to clarify the fact that we are dealing with data on trade in goods only, and not in services**. For the more exploratory aspects of productivity and welfare impacts, we synthesise the basic methodology in the text with the help of some footnotes.

We also worked in a proposal to use alternative automated information and data collection methods to measure metrics reflecting the key dimensions. Its implementation was made possible through a demonstrator collecting data from two digital services platforms in the audio-visual and music sector. This demonstrator relied on data extraction through APIs to demonstrate the feasibility of the approach. An additional and complementary approach to implicate key industry stakeholders in the provision of systems' data on cultural services exchanges was also formulated with the aim at initiating a dialogue between stakeholders to improve future data collection and statistical reporting in the sector.

The **use of administrative sources to produce CCS statistics was** analysed, given the important proprieties of this statistical source that are even increased in the case of the production of CCS statistics. At the end we recommend a greater use of this source to produce CCS statistics and, in particular, to produce statistics of CCS enterprises. In

this analysis the identification in a Member State employing good practice with the use of administrative sources was especially useful.

The **statistics on cultural participation** deserve special attention since, although (according to ESSnet-Culture, for instance) this dimension is among the most important dimensions of culture, the statistics continue to have substantial limitations, namely regarding international comparability. The national surveys on cultural participation as well as the European and Eurobarometer surveys were analysed.

These activities benefited from the **views and suggestion of key stakeholders from the sector during an Input Session** dedicated to the exchange of results from the Project and opinions from an informed and expert audience and also of **a Webinar with the participation of the 27 Member States.**

Finally, note that **both core research work packages were subject to external validation and feedback made by an Advisory Board** consisting of independent experts in the fields of cultural and creative sectors to provide strategic input and consultation of the activities. The main role of the Advisory Board has therefore been to provide advice to the research team, and act as support to the quality assurance supported by a gender-balanced panel of experts coming from academic, statistical, and industrial backgrounds.

3 Inventory of sources

This inventory of sources identifies the main limitations facing the current measuring of the cultural and creative sectors in the European Union along with the Member States' good practices that can constitute a set of suggestions to improve statistics on CCS. The inventory deliberately emphasizes the limitations or gaps of the present situation (mainly those that have been identified only by this inventory of sources) since these are the features that need to be changed. Overcoming these limitations will be the primary objective of the framework for CCS statistics, proposed in Chapter 4.

3.1 Main goals

To meet the objectives mentioned in Chapter 1, the Project *Measuring Cultural and Creative Sectors in the EU* started by carrying out an inventory of sources that had as its main goals:

- Inventory of the main sources of data on cultural and creative sectors, including both official and non-official sources, as well as the publications and information on the measurement of online services.
- Assessment of the quality and identification of the gaps in the data, namely in terms of reliability and in terms of the comparability across EU Member States.
- Identification of publications and information on the measuring of online services, as well as on the use of data analysis technologies to monitor the trade and consumption of digital cultural goods and services; and
- Recognition of good practices in some countries and organisations that could potentially be extended to other countries.

This chapter summarises the main contributions regarding to official and non-official statistics, touches upon the measuring of digital cultural services, and briefly outlines six case studies on measuring CCS in non-EU countries.

More detailed information and analyses are included in the above-mentioned *Report on Inventory of Sources*.

3.2 Official Statistics main findings

An exhaustive inventory of the official statistics on the cultural and creative sectors was carried out. The research team produced an inventory of official culture statistics, i.e., those statistics produced and disseminated by the institutions – at the EU and Member States level – that have a legal mandate**.** These official statistics must satisfy a set of legally imposed principles that intend to guarantee the reliability, comparability, independence, and usefulness of the data as well as the protection of the data providers. These principles help to make the official statistics a component of a democratic society[43].

[43] See in particular "Statistics in the Democratic Process at the End of the 20th Century". This publication is the Anniversary publication for the 40th Plenary Session of the Conference of European Statistics (CES). The publication, edited by Holder et al. (1992), has ten contributions. Each of them is dedicated to one of the principles of official statistics that have been approved by

The inventory of official statistics encompassed information from all the 27 EU Member States by elaborating a country report for each of them[44]. These national reports were produced with the available information about the respective EU Member State. Then, they were completed with contributions received from Eurostat. Finally, the reports were sent to the Member States to be checked and validated. These reports also included, whenever it was considered necessary or convenient, some questions that were important to clarify. We received contributions from the statistical authorities of almost all of the EU Member States. The contacts in the countries were the members of the Eurostat Working Group on Culture Statistics. These Member States' reports provided the main contribution to the inventory of sources.

The outputs of the exercise of inventory of sources are in the *Report on Inventory of Sources*. The main findings of the inventory of sources of official statistics are summarised in the following points. This inventory deliberately emphasizes the limitations or gaps of the current situation since these are the aspects that need to be changed:

1. The current theoretical framework of EU cultural statistics is, if we exclude minor changes, the one proposed in 2012 by the European Statistical System Network on Culture (ESSnet-Culture). This network gave by far the main contribution to the development of cultural statistics in the EU to date. This framework has ten cultural domains: Heritage, Archives, Libraries, Book and Press, Visuals Arts, Performing Arts, Audiovisual and Multimedia, Architecture, Advertising, and Art crafts. The framework also has six cultural functions: Creation, Production/Publishing, Dissemination/Trade, Preservation, Education, and Management/Regulation. This structure of the framework makes it close but different from the United Nations Educational, Scientific and Cultural Organization (UNESCO) framework for culture statistics (FCS). ESSnet-Culture compares the conceptual framework with the statistical activities in the NACE Rev. 2 (statistical classification of economic activities in the European Community). As a result, it was possible to define a list of cultural activities (by crossing the domains with the functions) in terms of the NACE Rev. 2 codes that provides the scope of the statistical components to be used in harmonised surveys.

2. However, the **Member States and Eurostat have not adopted the ESSnet-Culture framework in a uniform way**. While Eurostat adopted the theoretical scope proposed by ESSnet-culture (with the changes decided later, in 2015, 2016, and 2018, by the Eurostat Working Group on Cultural Statistics), several EU Member States adopted other scopes. There are activities classified fully cultural by Eurostat and partly cultural or even not cultural by several Member States. We also have a symmetrical situation. i.e., there are economic activities classified partly cultural or not cultural by Eurostat, and these same activities are classified fully cultural by several Member States. A good illustration of this situation is given in Table 3.1: in 41 activities classified as fully cultural by Eurostat, only in 17 there are no exceptions, i.e., these 17 activities are also classified as fully cultural by all the Member States. Also, there are only 5 activities with one exception, i.e. only one Member State that does not classify the activity as fully cultural. This means that there are only twenty two activities (out of 41) where all the Member States, or all minus one, follow the classification of Eurostat and

the Economic Commission for Europe and one of the contributions is of a research coordinator of this project that, at that time was a member of the board of the CES.

[44] More precisely, 28 country reports were produced: one for each EU Member State except for Belgium, for which two reports were produced.

consequently there are 19 activities (almost half of the total) that are classified as fully cultural by Eurostat but are classified in a different way (partly cultural or not cultural) by two or more Member States.

Table 3.1: Activities that are classified fully cultural by Eurostat and by the EU Member States with no – or only one – exception

NACE Rev. 2 Code	Description	Number of Exceptions
58.13	Publishing of newspapers	0
58.14	Publishing of journals and periodicals	0
59.11	Motion picture, video, and television programme production activities	0
59.12	Motion picture, video, and television programme post-production activities	0
59.2	Sound recording	0
60	Programming and broadcasting activities	0
60.1	Radio broadcasting	0
60.2	Television programming and broadcasting activities	0
71.11	Architectural activities	0
74.1	Specialised design activities	0
90	Creative, arts, and entertainment activities	0
90.0	Creative, arts, and entertainment activities	0
90.01	Performing arts	0
90.02	Support activities to performing arts	0
90.03	Artistic creation	0
90.04	Operation of arts facilities	0
91.02	Museums activities	0
58.11	Book publishing	1
59	Motion picture, video, and television programme production, sound recording, and music publishing activities	1
59.1	Motion picture, video, and television programme activities	1
91.01	Library and archives activities	1
91.03	Operation of historical sites and buildings and similar visitor attractions	1

Source: Authors.

3. We have therefore **two different scopes** i.e., two different definitions or lists of activities that are covered by the denomination Cultural and Creative Sectors (CCS) for **each Member State**: the one adopted by Eurostat that seeks to guarantee the comparability of cultural data across Member States, and the other one adopted by the Member State to produce cultural data for domestic purposes. There are even significant differences between the scope adopted by Eurostat for all the Member States and the scope adopted by several Member States, since some activities are classified fully cultural by Eurostat and partly or even not cultural by nine or more Member States, and vice versa. These are the cases of the activities with codes (see Table 3.2): 18 (Printing and reproduction of recorded media) 32.12 (Manufacture of jewellery and related articles) and 18.1 (Printing and service activities related to printing). Table 3.2 shows that these activities are not classified fully cultural by, respectively 14, 13, 10, and 9 Member States (of 23 analysed).

Table 3.2: Activities that are classified as Fully Cultural by Eurostat and have a different classification by nine or more EU Member States

NACE Rev. 2 Code	Description	Number of Exceptions
18.11	**Printing of newspapers**	9
18.12	**Other printing**	9
18.13	**Pre-press and pre-media services**	9
18.2	**Reproduction of recorded media**	9
18.14	**Binding and related services**	10
18.1	**Printing and service activities related to printing**	11
32.12	**Manufacture of jewellery and related articles**	13
18	**Printing and reproduction of recorded media**	14

Source: EU Member State Reports on CCS official statistics

Table 3.3 shows a similar situation to that of Table 3.2. In this case we have activities classified as not cultural by Eurostat but classified as fully cultural by seven or more Member States. The activities for which the classification as fully cultural is adopted by a greater number of Member States are: 91.04 (10 Member States), 73.12: Media Representation and 58.19: Other publishing activities (9 Member States).

Table 3.3: Activities that are classified as Not Cultural by Eurostat but are classified as Fully Cultural by seven or more Member States

NACE Rev. 2 Code	Description	Number of EU Member States
93.29	**Other amusement and recreation activities**	7
93.21	**Activities of amusement parks and theme parks**	8
58.19	**Other publishing activities**	9
73.12	**Media representation**	9
91.04	**Botanical and zoological gardens and nature reserves activities**	10

Source: Member State Reports on CCS official statistics in the EU Member States.

This **situation of two different scopes is far from being the ideal situation due to three types of reasons.** First, it is a source of confusion for the users (i.e., the main stakeholders) of the CCS statistics. When using these data, the users are confronted with two different data for the same statistical variable (for instance cultural employment or cultural production) that are not consistent, also hampering the comparability of these data across Member States. Second, this situation is, in our opinion, one of the main reasons why several mandatory **statistics at the EU level are little (or not at all) used internally in several Member States to analyse the cultural and creative sectors**. Finally, this situation is also a source of wasted resources of the national statistical systems, since the needs of data users at EU level are met independently of the needs of the data users at the national level. A good example of why this situation is not, the right one is that, as we have just referred, for some statistical surveys that are mandatory at EU level, several EU Member States limit their activity to collecting data and sending them to Eurostat (see below) and they do not use these data to satisfy the data needs at national level. For these needs, such Member States conduct other statistical surveys which increases the costs of producing statistics and create confusion in the statistical users.

4. The inventory of sources identified **eight different denominations across the EU Member States for the activities covered in our Report as Cultural and Creative Sectors.** More specifically, the other seven denominations are: *cultural sector, cultural and creative industries, creative industries, cultural and economic sectors, cultural and culture-related classes, culture and media sector and cultural industries*. The denomination that is used by the greatest number of Member States is "*cultural sector*". This is followed by *"cultural and creative industries" and by "cultural and creative sectors*. These different denominations are also found in the responses to a recent survey conducted by Eurostat to the members of the Eurostat Working Group on Culture Statistics. The questions had multiple choice responses and some countries provided more than one denomination. According to this survey, the denomination that is used by most Member States is "cultural and creative industries" (12 countries), followed by culture (11 countries), cultural sector(s) (10 countries), and cultural and creative sector(s) (8 countries)[45]. The basis for the use of different denominations is not clear. These different denominations should not come as a surprise to the ESSnet-Culture. In their final report, they write *"the concept of cultural and creative industries is used in various documents, and it is not standardised"*[46]*.* It also extends to different realities (creative industries, creative goods, creative economy, creative cities, creative regions, creative class, etc.) and covers different cultural sectors in academic documents and national strategies, concluding that *"not only the notion of 'creativity' cannot be statistically measured but also the notion of 'industries'*

[45] However, the numbers of the two sources are not strictly comparable even though the contacts in the EU Member States were the same, i.e., the members of the Eurostat Working Group on Culture Statistics. In fact, while the numbers of the Report on Inventory of Sources refer to all the 28 EU Member States (Belgium counts for two and only Romania and Ireland could not be confirmed), the numbers of the Eurostat survey refer to only 25 countries, of which only 23 are EU Member States. The other countries are Norway and Switzerland, and 5 EU Member States did not respond to the survey.

[46] Moreover, when the members of the Working Group on Culture Statistics were asked by Eurostat (see above) "Is the concept of CCS (or similar) used in your country defined somewhere in a legal act?" only 5 countries answered "Yes" with 17 countries answering "No".

has different meanings"[47]*,* and therefore "*ESSnet-Culture strongly recommends when speaking about creative and cultural industries to clearly mention the sectors that are covered*" (ESSnet-Culture 2012, p. 59). Therefore, in the *Report on Inventory of Sources* the denominations culture and culture and creative sectors are used interchangeably.

5. **The difficulties in comparing national data on culture/CCS across EU Member States are exacerbated by two other factors:**

    - EU Member States use different sources to produce the same data. It was verified that some Member States use statistical surveys and other countries use administrative sources to obtain the same statistics. The most striking example is the case of the cultural employment statistics, for which both sources are adopted. It is well known that the comparison of data from statistical surveys with data from administrative sources faces several difficulties.
    - There are different organisations of National Statistical Systems on culture. A second reason why the comparability of data across EU Member States may be difficult has to do with the different organisation and governance of culture and of the statistical systems in the field of culture at national level, i.e., the institutions that in each EU Member State have the legal mandate to produce and disseminate culture statistics differ across the EU. While in most Member States the National Statistical Institute (NIS) is the only institution with this mandate, there are others where the legal mandate is shared between the NIS and another public institution (usually the Ministry of Culture).

    Even if the strict comparability of data across countries will never be fully achievable, all feasible efforts seeking greater harmonization should be made, given the key advantages of the data comparability.

6. **The CCS frameworks of EU Member States are more focused on the cultural activities than on the creative activities**. This situation is not strange to the idea of ESSnet-Culture stated above that *"creativity cannot be statistically measured"* and a good illustration of this is that practically all the denominations mentioned above contain the term culture, but the term creative is included in only very few. Another illustration is that when, in a recent Eurostat survey, those Member States that use denominations for CCS concept that do not include the term "creative" are asked about which activities they would consider to be creative, only few gave a concrete answer. This situation will tend to change, given the growing importance of the creative industries.

7. **There is also a coverage problem at the EU level in the case of the statistical surveys to cultural and creative sectors**. In fact, there is no single EU harmonised statistical survey specific to Cultural and Creative Sectors (CCS), and at the same time, most harmonised statistical surveys do not cover a detailed NACE level. However, it is precisely at this detailed NACE level where most CCS activities can be identified. This lack of coverage calls for the use of other kinds of statistical sources, namely the administrative sources.

[47] The term "industry" can refer to either an economic sector (the production of an economic good, either material or a service, within an economy) or to the manufacturing activity generating reproducible goods.

8. **However, the use of administrative sources to produce CCS statistics falls short of what is desired**. The administrative sources represent only about one-fifth of these sources, while the statistical sources represent slightly less than two thirds, and the remainder is composed of mixed sources, mainly statistical surveys linked with administrative sources. It is possible to verify that the Nordic Member States, namely Denmark and Finland, are those where the administrative sources have a greater weight in the total number of sources. There is clearly an insufficient use of administrative sources, which as will be later emphasized, are particularly useful in the case of the CCS statistics.

9. Due to the factors mentioned in the previous points**, most CCS statistics have significant limitations**. The analysis of these limitations is done in the Guide to Eurostat Culture Statistics of 2018 and has been complemented with our *Report on Inventory of Sources*. With respect to the specific current CCS business statistics, an important work is to overcome the current issues related to cultural employment and cultural enterprises. These are, for instance, the cases of the exclusion of the secondary jobs from the cultural employment and that structural business statistics describe only market-oriented enterprises that do not usually include non-profit companies or public services that are largely subsidized. Also, it is very difficult to obtain data from the micro-enterprises, which account for a high percentage of cultural enterprises. Moreover, and as just mentioned, the EU harmonised statistical surveys do not cover the cultural and creative activities with the necessary detail and extension. All of this affects the picture for areas such as culture and, therefore, to date it is still not possible to fully map the CCS including all dimensions that contribute to the sector's uniqueness, such as the public and private entrepreneurship and the involvement of non-standard workers in CCS.

10. The *Report on Inventory of Sources* makes a distinction between the mandatory statistics at EU level and other cultural statistics available at national and EU level. Both groups of statistics are presented exhaustively with a focus on current limitations and on expected changes and developments. In terms of the statistics that are used at national level to analyse the cultural and creative sectors, two striking features were identified:

    a) **There are mandatory statistics at the EU level that are little (or not at all) used internally in several Member States to analyse the cultural and creative sectors**. This situation occurs for all mandatory statistics. However, these mandatory statistics can be divided into two groups. One group includes the mandatory statistics that are used by most of the EU Member States. These are the cases, for instance, of labour force survey statistics and structural business statistics. However, there is another group of mandatory statistics that almost no EU Member State uses internally. These are mainly the cases of the statistics on the production of manufactured goods (Prodcom) and statistics on the international trade in goods and services. In case of Prodcom, we did not identify even a single country that uses these statistics internally to analyse the cultural and creative sectors. Therefore, in this second group of statistics, almost all EU Member States limit their activity to collect data and send them to Eurostat. Sometimes, to analyse the cultural and creative sectors the Member States prefer to use other statistics coming from other administrative sources or from statistical surveys. This is the

case of the cultural practices' surveys carried out by several Member States.

b) **Some other statistics – available at national and EU level but non-mandatory statistics at the EU level – are, on average, used internally by more Member States than some mandatory statistics**. The use is particularly important in the cases of household budget survey statistics and museum statistics. In the case of household budget survey statistics, 17 Member States (in a total of 24 responses) claim that they use these data internally to analyse the CCS. In the case of museum statistics this number is still higher (21 in a total of 25 answers).

This finding calls for the need of making a gap analysis between the multidimensional interest of policy makers in CCS from different policy domains in recent years and the current set of EU mandatory cultural statistics.

11. Another important challenge that CCS statistics face **is associated with the way that international statistical classifications represent the cultural and creative activities and products and services**. It happens that the cultural activities are aggregated with non-cultural activities (for many codes in NACE Rev. 2), by which activities are classified as "partly cultural". This also happens with the cultural products and services that in some cases appear aggregated with other products and services. This is the case, for instance, in the *European Classification of Individual Consumption by Purpose* (ECOICOP). The problem with the aggregation is that the weight in the aggregate of the cultural/creative component is not known, and therefore it becomes difficult to measure this component. Moreover, the lists of activities and of products and services in these classifications are outdated and do not reflect the digital transformation in cultural products and services that has occurred in recent years and that has introduced new ICT players into the CCS field. The value of these integrated, multi-market ICT players for the CCS should be statistically identified.
It is important to use the opportunities offered by the revision of the statistical classifications (and particularly of NACE) to give more prominence to the CCS, especially considering the digital transformation.

12. The inventory of sources **identified several practices available at the national level that could be extended to the EU level**, of which two will be emphasized here:

a) The use by some EU Member States of administrative sources associated with the administrative acts that aim to comply with European Legislation. In this case, in addition to the well-known advantages of this statistical source (associated with the low cost and low burden on the respondents), the use of administrative sources brings several other advantages associated with the fact that the forms, concepts, and definitions are the same in all of the EU Member States, which is especially important for assuring the international comparability of the data. Moreover, the administrative sources could mitigate the finding already mentioned that the EU harmonised statistical surveys do not cover the cultural and creative sectors with the necessary detail and extension.

b) Another practice that can be extended to the EU level has to do with measuring the cultural participation, which is by far the most-covered dimension at the national level. Many Member States conduct statistical surveys dealing with cultural participation. These statistics cover not only

the cultural habits of the population but also other aspects such as leisure time and cultural image in the population. These surveys are not harmonised at the European level, so it is difficult to compare the data across EU Member States. Nevertheless, they can be used as an inspiration for an EU harmonized survey in cultural participation.

13. Concerning the **satellite accounts in culture (CSA)**, in general, we can make several concluding remarks about the current situation in the European Union:

    a) We are still in a prototyping and "trial and error" phase, with very different methodologies and approaches. Moreover, the availability of data differs across the Member States, and the data are heterogeneous and unconsolidated. Many of the needed data sources are available in only some EU countries, limiting the possibility of developing a common CSA for all EU countries at this time.

    b) Among the Member States most advanced in the methodological development of CSA, it is probably time to discuss how to incorporate other indicators related to issues such as the gender gap, environmental impact, digital transformation, etc. In the same way, as stated by the WIPO, "While 'value added', 'employment', and 'trade' remain important and comparable economic indicators, they are not fully capable of describing the dynamics of copyright-based economic activities."

    c) Preliminarily, we can affirm that the methodology of a satellite account for the analysis of the CCS would not be the first choice for the objectives of the proposal *Measuring Cultural and Creative Sectors in the EU*. Even so, in the medium and long term, it would be worthwhile to take actions to homogenise the approaches and to scale up the extension of this methodology to a pan-European level.

3.3 Non-official statistics main findings

Given the complexity of the education, creation, production, distribution, consumption, and preservation of cultural goods and services, **there is no clear line that allows distinguishing unequivocally between official and non-official statistics**. We can try to establish a distinction between several levels of non official statistics.

In the first level, there are those statistics of a clearly identified official nature. They are usually produced by official statistical bodies, which obey a set of principles intended to guarantee their quality, reliability, and international comparability, to be incorporated in the national statistical plans. This category also includes statistics from public bodies that have no legal mandate to produce them.

At the second level, we have other official statistics which do not fall specifically under the cultural domain, but may contain very significant data to explain culture-related phenomena (e.g., "Harmonised European Time Use Surveys" (HETUS[48]) or the "Statistics on Income and living Conditions").

[48] The Harmonised European Time Use Surveys (HETUS) are national surveys conducted in European countries to quantify how much time people spend on various activities, including paid work, household chores, family care, personal care, voluntary work, social life, travel, and leisure – including cultural activities.

At the third level we can find statistics actually produced by official bodies that are not part of the official national statistics, but which can provide data on CCS with perspectives different from those of the formally official statistics, or perhaps with a greater territorial or socio-demographic detail, or sometimes incorporating other types of indicators. We can classify here the kind of statistical information usually provided by regional or local governments or by specialised state agencies, or by regulatory bodies (such as cinema box-office data from national film agencies).

Finally, there are non-official statistics that are produced by other organisations and bodies with an interest in the CCS, as well as by a variety of different agents producing data on the CCS, responding to very different motivations and objectives. This category includes professional associations, specialised consultancies, cultural associations to IP rights management societies, European projects, non-governmental organisations, cultural and creative sectors' influence groups, and academic researchers.

In this section, all these different sources described in the last paragraph are approached in a non-exhaustive way. In our *Report on Inventory of Sources* we identified six main categories of actors producing non-official statistics:

- Sectorial CCS organisations and observatories;
- International organisations producing non-official statistics;
- Author societies and collective management organisations;
- Projects undertaken by European organisations;
- Academies;
- Private consultancy firms producing specific sectoral studies.

In general, although we are talking about very diverse and varied sources, so far, we can say that we have not identified any proposal, either explicitly or implicitly, with sufficient theoretical consistency and sufficient leadership capacity to become a complete alternative methodology that surpasses the one derived from the ESSnet-Culture (ESSnet-Culture, 2012).

Nevertheless, we must remain attentive to these alternative sources of statistical information because some experiences can be interesting and may form a field of exploration from which innovations can emerge. It may also be the case that some practices including the identification of relevant data can eventually be consolidated and homogenised in such a way that they could constitute new reliable and comparable sources for CCS statistics (perhaps such as the one derived from the DIRECTIVE 2014/26/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL[49] which imposes Collective Management Organisations (CMOs) to publish Annual Transparency Reports).

There is no doubt that we face difficulties in determining which variables to choose in order to gain a clear picture of the economic dimension of CCS. But it is even more complicated if we want to assess their impacts on innovation, productivity, or the regeneration of territories, and even more so on social aspects that are as important as well-being, social cohesion, or even the impacts on people in emotional, cognitive or aesthetic terms. It is clear that there is still a long way to go.

A short summary of each of the non-official providers of CCS data is presented in the paragraphs below.

[49] DIRECTIVE 2014/26/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on collective management of copyright and related rights and multi-territorial licensing of rights in musical works for online use in the internal market.

Sectorial CCS organisations and observatories

This category includes organisations that are in charge of **generating, systematising, and distributing information related to the cultural and creative sectors**, either in an aggregated way or for a specific sector or territory. This includes **associations or federations of agents in different cultural sectors** (e.g., EGDF, IFPI, FEP, FSE, IVF and EBU, for sectors such as videogames, music, broadcasting, screenwriting)[50], which tend to provide *facts and figures* style documents based on aggregated data from their members or partners. In terms of sectorial observatories, at European level it is important to mention the **European Audiovisual Observatory** (which includes in its portfolio several databases, such as AVMS, Lumière, Lumière VOD, MAVISE, IRIS Merlin)[51] and **European Union Intellectual Propriety Office (EUIPO) Observatory** (which provides evidence-based contributions and data to enable EU policymakers to shape effective IP enforcement policies). Moreover, for cultural sectors such as museums, heritage, and the performing and visual arts, there are **European-wide organisations undertaking to collect and provide statistics at territorial level**, including among others organisations such as NEMO (Museums), EBLIDA (Libraries and Archives), Europeana (Heritage) and EFA (Festivals)[52].

From a territorial perspective, the Basque Observatory of Culture and the Grenoble Cultural Policy Observatory are in turn examples of observatories providing **data at more local or regional level**, as well as the Cultural and Creative Cities Monitor project, developed by the Joint Research Centre (JRC) of the European Commission to help policymakers identify local strengths and opportunities and compare their cities with similar urban centres.

Finally, this category also encompasses organisations such as cultural networks, civil society organisations, and other cultural actors, which tend to develop statistics and information as a mechanism for self-knowledge, internal management, and to increase funding opportunities. For example, it includes organisations related to the management of arts education (AEC, EAS, EMC, and FEDEC)[53], networks of cultural facilities (CICAE, EDN, and ENCC)[54], heritage enthusiast (EFAITH, EMA, ERIH, and ICOMOS)[55] or those

[50] EGDF: European Games Developer Federation; IFPI: Representing the recording industry worldwide; FEP: Federation of European Publishers; FSE: Federation of Screenwriters in Europe; IVF: International Video Federation; EBU: European Broadcasting Union.
[51] AVMS: Audiovisual Media Services; Lumière: systematic compilation of available data on admissions of the films released in European cinemas since 1996; Lumière VOD: directory of European works (film and TV content) available on on-demand services in Europe; MAVISE: database on audiovisual media services, video sharing platforms and their jurisdiction in Europe; IRIS Merlin: legal database that covers all audiovisual media, all key areas, all key players, all legal developments since 1995.
[52] NEMO: Network of European Museum Organisations; EBLIDA: European Bureau of Library, Information and Documentation Associations; Europeana: Europe's digital library, museum, gallery and archive; EFA: European Festivals Association.
[53] AEC: Association Européenne des Conservatoires; EAS: European Associations for music in Schools; EMC: European Music Council; FEDEC: European Federation of Professional Circus Schools.
[54] CICAE: Confédération Internationale des Cinémas d'Art et d'Essai; EDN: European Documentary Network; ENCC: European Network of Cultural Centres.
[55] EFAITH: European Federation of Associations of Industrial and Technical Heritage; EMA: European Music Academy; ERIH: European Route of Industrial Heritage; ICOMOS: International Council on Monuments and Sites.

agents and platforms simply represent, advocate, and promote the role of culture in European society (b.creative, ECCD, CAE, and ETC)[56].

International organisations producing non-official statistics

International organisations provide a global overview on CCS statistics usually based on data from sources that can fit under the category of both official and non-official statistics.

This includes organisations such as **UNESCO**, **WIPO** and the **OECD**, which tend to gather data from national sources – and in some cases complement them with their own surveys and estimates – with the aim of ensuring **international comparability** of CCS statistics.

For example, the **UNESCO Institute for Statistics (UIS)** has four different databases on cultural statistics: i) on feature films (offering data on feature films production, distribution, and exhibition, as well as cinemas infrastructure), ii) on measuring expenditure on preservation, protection, and conservation of all cultural and natural heritage (in line with the Sustainability Development Goals and targets[57]), iii) on cultural employment, and iv) on international trade in cultural goods (from the Comtrade[58] database).

The **United Nations Conference on Trade and Development (UNCTAD)**[59] is another UN Agency that collects and develops statistical databases on cultural trade, which also includes a dataset on the creative Economy as well as data on the trade volumes of digitally-deliverable services.

Authors' societies and collective management organisations

Authors' societies are typically organised in **collective management entities**, in which authors can negotiate a fair pay and align with platforms/users the terms of the access to the creative content they produce. In particular, copyright management societies are among the most interested in the existence of statistical data on cultural production and distribution, as they can be used to calculate and generate royalties for authors.

These organisations usually submit **annual reports** that include collection figures of the copyrights they manage, by type of rights and media where these rights are generated (radio, TV, online, other... whether in national territory or abroad), as well as data on the socio-demographic characteristics of the author-members, or other key data on the CCS collected from various sources (e.g., TEOSTO in Finland).

In some countries, such as Spain, some of the official cultural statistics or surveys come from copyright collecting societies' initiatives (e.g., the *Encuestas de Hábitos y Prácticas Culturales*, which was initiated at the end of the last century by the *SGAE - Sociedad General de Autores y Editores*).

[56] b.creative: an international non-profit association that is linked to KEA European Affairs, an international policy design research centre specialised in culture and creative industries; ECCD: European Coalition for Cultural Diversity; CAE: Culture Action Europe; ETC: European Theatre Convention.
[57] UN DESA (n.d.): Sustainable Development Goal 11, Target 11.4 "*Strengthen efforts to protect and safeguard the world's cultural and natural heritage*".
[58] UN Comtrade (n.d.)
[59] UNCTADstat (n.d.)

SGAE publishes a report of music and audio-visual performing arts, including annual figures for each Spanish region on the number of events programmed, spectators, and the amounts collected from ticket sales in different performing arts, music, and cinema. In Italy, **SIAE** (the *Italian Society of Authors and Publishers*) is responsible for a *Show Business Observatory*, which monitors all activities of the show and entertainment business in Italy, with analyses of concerts, cinema, operas, musical comedies, ballets, exhibitions, and travelling show attractions. In Denmark, **Koda**, conducts a series yearly analysis on the economics of the music sector, and the usage of music. It published its first gender statistics survey in 2020[60].

Following the Collective Rights Management (CRM) Directive61 – which obliges Collective Management Organisations (CMOs) to publish Annual Transparency Reports – almost all European CMOs publish transparency reports. Information on royalties collected by CMOs can be a very valuable source for estimating the economic value of cultural creations and the production and consumption of artistic productions.

Projects undertaken by European organisations

This category includes **theoretical and practical projects and studies at European level** that have developed methodologies and supported the dynamics to generate data in the CCS. The impulse of the EU through **different funding programmes has stimulated the development of projects** that have addressed in one way or another the approach to statistics of the cultural and creative sectors.

This includes calls such as the **INTERREG** programmes, which are key instruments of the EU to support regional cooperation across borders through projects co-funded by the European Regional Development Fund (ERDF), with more than 4,000 projects and €1 billion devoted to cultural heritage and arts between 2014 and 2020. It also includes the **Horizon 2020** programme, the program behind the funding of research projects such as **DISCE** – which aims to reassess the role of CCI as contributors to growth, quality employment, and competitiveness – and **CICERONE**, which explores the evolving relationship between culture and economy, analysing flows of products and ideas that generate economic and cultural value. Projects such as **SOSTENUTO**, **CreativeMed**, and **MESOC - UNCHARTED - INVENT** also fall under the umbrella of EU-funded projects.

Other initiatives in this category include:

- **CREATIVE FLIP**: a Pilot project co-funded by the EU that supports healthy and sustainable ecosystems for the CCI in key policy areas such as Finance, Learning, Innovation, and IPR/Patenting. The project recommends the use of alternative data sources for CCS such as satellite accounts, the inclusion of micro-enterprises, and digital platforms in EU statistical systems, and an improved use of EU surveys and Eurobarometer.

- **MUSIC MOVES EUROPE**: a framework of European Commission's initiatives and actions in support of Europe's music sector, including a feasibility study on the establishment of a European Music Observatory and analysis of market trends and gaps in funding needs.

[60] Koda (2020)
[61] DIRECTIVE 2014/26/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on collective management of copyright and related rights and multi-territorial licensing of rights in musical works for online use in the internal market.

- **European Spatial Planning Observation Network (ESPON)**: A programme measuring the socio-economic impact of cultural heritage at territorial level, including projects such as "*The Role and Spatial Effects of Cultural Heritage and Identity*" (2004-2006), an analysis of *Material Cultural Heritage as a Strategic Territorial Development Resource* (2018-2019), and research in the field of heritage, societal impact, and well-being (*Cultural Heritage as a Source of Societal Well-being in European Regions – ESPON HERIWELL, 2020*).

Academies

The academic sphere has also contributed to CCS statistics with several studies, in areas such as **measuring the size of the CCS and delimiting their spatial location, and measuring their impact on the rest of the economy.**

An important line of research is on the **territorial location, mapping, and cluster analysis of CCS**. This is particularly important **because CCS are place-based industries**[62]. Studies on the impacts of the **CCS on innovation**[63], productivity[64], **resilience to financial crises**[65]**,** and **different regional growth models**[66] have also been carried out.

It should be noted that academic works – especially those that deal in depth with macroeconomic relationships – **are grounded on the provision of data from official sources** like Eurostat or national institutions, making some sectoral disaggregation difficult (most of the studies aggregate sectors such as audiovisual or design with performing arts or heritage). This makes it **challenging to determine the specific channels of impact on complex aspects such as innovation, productivity,** or even **well-being**.

Private consultancy firms producing specific sectorial studies

Specialised consultancies have contributed to define standard references for the economic dimension of the CCS. Firms such as KEA[67], TERA[68], Ernst & Young[69], Ecoryis, Deloitte[70], and IDEA[71] have produced studies and analyses of the cultural and creative sectors over the years.

These studies have focused on measuring the **economic contributions and competitiveness** of different cultural and creative sectors and industries, **employment**, **financing**, **value added, and turnover** data; but also on detecting the **impacts of**

[62] Boix-Domènech, Hervás-Oliver, & De-Miguel-Molina, 2015; Cooke & Lazzeretti, 2008
[63] Lazzeretti (2013)
[64] Boix-Domènech & Soler-i-Marco, 2017
[65] Fontainha & Lazzaro (2019)
[66] Boix-Domènech, De-Miguel-Molina, & Hervás-Oliver (2013); Boix-Domènech, De-Miguel-Molina, & Rausell-Köster (2021)
[67] The Economy of Culture in Europe (2006)
[68] Building a Digital Economy: The Importance of Saving Jobs in the EU's Creative Industries (2010); The economic contribution of the creative industries to EU GDP and employment (2014)
[69] Creating growth Measuring cultural and creative markets in the EU (2014); Rebuilding Europe. The cultural and creative economy before and after the COVID-19 crisis (2021)
[70] Market Analysis of the Cultural and Creative Sectors in Europe (with KEA, 2021)
[71] Mapping the creative value chains: A study on the economy of culture in the digital age (2017) (together with KEA and VUB-SMIT), on behalf of the European Commission DG EAC (together with KEA and VUB-SMIT), on behalf of the European Commission DG EAC.

piracy on European creative production, insights on the **use of crowdfunding** as a source of funding within the CCS, and the **impact of the COVID-19** pandemic[72].

3.3.1 Key methods to measure CCS in non-official statistics

Data collection methods vary from one organisation to another, but can be generally classified as either qualitative (e.g., open-ended surveys, interviews, direct observations, focus groups) or quantitative (e.g., close-ended surveys, structured observation, registries, records).

The main methods include developing and submitting self-created surveys, i.e., created by the organisations themselves, making use of standard questionnaires, the collection of data from customs records and enterprise surveys, national sources and industry partners, and registries of different natures. For example, the UNESCO Institute for Statistics (UIS) creates and makes use of **dedicated surveys** (*Global survey on cultural employment; biennial survey on feature film and cinema statistics*), while the United Nations Statistics Division (UNSD) uses **customs records**, **business registries**, and **enterprise surveys** to compile data for the Comtrade database.

The databases on the European Audio-visual Observatory (i.e., MAVISE, LUMIERE, and LUMIERE VOD) collect data from **registries of the European audiovisual regulatory authorities,** from **national sources** such as **film and cinema institutes,** centres or federal authorities, and from **partners, including Video on Demand (VOD) services and film portals.**

Finally, in the heritage and museum sectors, organisations such as **ESPON** and **European Group on Museum Statistics (EGMUS)** make use of **cross-sectional surveys** (measuring different dimensions of cultural heritage and societal well-being) and **standard questionnaires** (based on international standards and practices of the participating countries).

3.3.2 Measuring digital cultural services

As mentioned, several public and private organisations (including international and European organisations, sectorial organisations, and private companies), have also made attempts to measure digital cultural services, at least to some extent.

With this respect, **official statistics still lack appropriate measurement methods to account for the value of digital services** and the consumption of digital content, as the digitisation of cultural and creative content is still a relatively recent phenomenon, and a **field that continues to evolve** quickly.

Challenges in this matter include lack of a shared theoretical and methodological framework and consequently: **lack of standardised classifications** and data comparability across countries, **data availability**, difficulties to **determine the points at which value is created** in CCS' digital side (due to digitisation and globalisation allowing persons to consume content at any time and place), and **lack of methods for**

[72] Cultural and creative sectors in post-COVID-19 Europe – crisis effects and policy recommendations (2021), on behalf of the European Parliament CULT committee (together with Goethe-Institute and experts Sylvia Amann and Joost Heinsius)

data valuation (e.g., while data can be quantified in Kilobytes, Megabytes, and so on, capturing their economic value is not straightforward).

Despite these challenges, **several organisations have started developing methodologies or adapting their surveys to produce updated figures and statistics on digital cultural content and services**. Some organisations produce **reports and statistical analysis** on specific sub-sectors of the CCS (e.g., IFPI, providing figures on industry revenues and breaking them down between physical and digital revenues), others make available **datasets regarding on-demand services** (LUMIERE VOD and MAVISE, under the European Audiovisual Observatory, focus on VoD and video streaming services), while some organisations use **surveys to collect information on digitalisation** in their sectors (ENUMERATE, EBLIDA, and EBU).

Finally, different private companies (e.g., Statista, eMarketer, and Newzoo) combine all these methods and **collect information through surveys, industry partners, and third party-sources** to produce reports, forecasts, and charts on digital culture and media.

3.4 Case studies of non-EU countries

To complement the official and non-official sources identified at EU level, an overview and analysis of cultural statistics provided by selected non-EU countries have been carried out in order to identify practices that could be extended to EU countries.

The selection of examples for this analysis is based on a set of pre-defined criteria which includes:

- **Importance of the creative and cultural sectors and industries** in the country (e.g., size of the creative and cultural economy, etc.);
- **Positioning of the country's CCS** in the global context or regional context (e.g., cultural and creative industries trade);
- Development of the digital and creative online services; and
- **Availability of information** on statistics (i.e., how well the country measures CCS).

Based on these criteria, the following countries were considered:

- Republic of Korea, which has the top "Creative Economy Strategy" according to the EU Innovation Union Scoreboard Index (2014-2016), and has also ranked at the top of the Bloomberg Innovation Index for four years (2014-2017) (UNCTAD, 2017);
- China, which is – according to UNCTAD 2018 – the world's largest exporter and importer of creative goods and services;
- United States, which dominates the group of the developed regions of top creative goods exporters (UNCTAD 2018);
- Canada, which has well-structured statistics information and strategy: Creative Canada Strategy to grow the CCI;
- Australia, which ranked at the top of the Global Creativity Index in 2015, which is a model of economic development; and
- Mexico, which is ranked number 1 in exports of creative assets in Latin America and the Caribbean and has proven to be an important exporter of animation, videogames, software, and digital content at a global level.

The main takeaways from the analysis of the different case studies are the following:

- The non-EU countries analysed **rely on standard classification systems for industry or employment**, which are then adopted by their respective frameworks of cultural statistics to embed different sectors and sub-sectors. Therefore, **there is no unique definition and classification of cultural sectors**, even at those trade regions' level, as each country adapts it to their own context. For example, the **North American Industry Classification System (NAICS), which is used by three of the countries analysed, is adapted by each one** of these countries to produce their culture classifications.
- The only country that seems to have included the digital perspective of cultural content and services in both its industry classification system and the statistics produced is **South Korea**. This country **includes sub-categories for digital content and its main industry categories**.
- The main source of data on cultural and creative sectors and industries for statistical purposes seems to be surveys in all the countries analysed. While surveys are combined with other sources of information (e.g., administrative data and supply/demand estimates), no alternative methods for data collection have been identified in any of the countries analysed, which suggests that they may use only traditional methods (i.e., surveys and administrative data) for the production of official statistics.

4 Updated framework of Cultural and Creative Sector Statistics

This chapter presents the main contributions on a revised framework of cultural and creative sectors statistics.

Section 4.1 focuses on an updated scope for the cultural and creative sector statistics, a greater use of administrative sources for producing CCS statistics, and on producing comparable data on cultural participation at EU level.

Section 4.2 focuses on a new proposal to onboard the measuring of digital cultural services and the digital economy in the Cultural Statistics Framework. This section provides a definition of digital cultural services, outlines a mapping that links the different CCS sub-sectors with the NACE classification, carries out a gap analysis on the surveys currently used in the Cultural Statistics Framework, and proposes a set of dimensions and indicators – both existing and new ones – to capture digital economy indicators and aspects in the revised framework.

Section 4.3 presents a proposal of a transition process of the statistical framework of the cultural and creative sectors from the current situation to the recommended updated framework.

More in-depth analyses of the updates proposed in sections 4.1 and 4.2 are presented in the different volumes of the above-cited document *Analysis Report - A New Framework for Cultural and Creative Sector Statistics*.

4.1 A new framework for Cultural and Creative Sector Statistics

The proposal of a new framework for CCS statistics is one of the Measuring CCS Project's main goals. According to the proposal, this framework will be built on Eurostat's already existing and planned work and will be a revised and extended version of the current framework proposed by ESSnet-Culture, filling in the gaps where possible with existing alternative data sources.

The *Report on Inventory of Sources* identified five main reasons, explained above, why the ESSnet-Culture framework needs to be updated and that will be summarized below.

1. The framework was not implemented in the same way across all the EU Member States, making it extremely difficult to produce comparable data at EU level that is consistent with the data used at national level. In fact, for several Member States we have two different frameworks, each with a different scope, i.e., a different list of activities that covers the cultural and creative sectors: the framework that is the one adopted by Eurostat that seeks to produce comparable data at EU level and the other framework that is the one adopted by the Member State to produce data for domestic purposes. As explained above (see section 3.2), the use of these two frameworks is far from being the ideal situation since it has several limitations which hamper the production of reliable statistical comparable data to be used both at national and EU levels. This is, in our opinion,

one of the main reasons why the CCS statistical scope currently adopted by Eurostat needs to be updated.[73]

2. The EU harmonised statistical surveys do not cover the cultural and creative sectors with the necessary detail and extension. In addition, the use of administrative sources is insufficiently developed, despite the substantial advantages of this statistical source that are even greater in the case of CCS statistics. Encouraging the use of the administrative sources identified during the inventory of sources appears to be a particularly advantageous way to overcome this limitation.

3. The statistics on the most important dimension of culture, i.e., cultural participation, have seen little notable progress in the last ten years. The European and Eurobarometer surveys do not respond adequately in terms of coverage, periodicity, and comparability of data. Simultaneously, the national surveys on cultural participation are not harmonised. It is necessary to correct this situation considering the current situation of the cultural participation measurement in the Member States that was identified during the inventory of sources.

4. The international statistical classifications, in which the framework is anchored, are outdated and do not adequately represent the important economic and social changes that have occurred in recent years. This situation calls for the integration of the updated international statistical classifications in the new framework.

5. The evolution of the Internet and new ICT in recent years has enormous implications for the production, distribution, and consumption of cultural and creative products and services that are not adequately considered by the current framework. Consequently, measuring these products and services, namely the digital services, raises new and important challenges.

The last reason has an autonomous treatment, given its special importance and the fact that the Internet and ICT impact all the dimensions of the cultural and creative activities. On the other hand, the international statistical classifications are still in a review process, and they should be integrated into this framework as soon as that process is concluded.[74]

For all the above, the analysis for proposing a revised framework for cultural and creative sector statistics carried out in this Chapter 3 is mainly focused on the characteristics associated with the first three reasons to revise the current framework. As a result, this analysis reported in the following pages is organised into three theme areas relating to:

- A proposal for an updated scope for the Cultural and Creative Sector Statistics or, in the vocabulary of the Call for Proposals, an updated "*definition of cultural and creative sectors in terms of international statistical classifications, in line with Eurostat's work*" (p. 6).

[73] Of course, this update is a necessary but not sufficient condition to guarantee comparability of data across countries. It is also fundamental that the Member States adopt a comparable survey methodology (namely at the level of the periodicity, phrasing of the questions and data collection methods). On the other hand, the adopted scope at country level must allow the production of data that responds to the specific needs of the country. However, and as, it will be explained later there are alternative ways for the scope customization that do not have the limitations referred above.
[74] Unfortunately, this integration will not be possible in this project since the whole revision process will be finalised only after the project's conclusion.

- A justified recommendation for a greater use of administrative sources in producing CCS statistics.
- A justified recommendation to produce comparable data on cultural participation at EU level.

If these recommendations are followed, we will have strongly contributed to achieving a desired result of the Call for Proposals that was at the origin of this Project: "improved statistics of cultural and creative sectors, taking into account all possible sources of comparable data" (p.6).

In this analysis we use the findings of the first phase of this Project, included in the *Report on Inventory of Sources,* which have been summarised in Chapter 3 of this Report.

4.1.1 An updated scope for the Cultural and Creative Sector Statistics

We are proposing an updated scope for CCS statistics in the terms and according to the parameters detailed below.

In the process of revising and extending the current framework we follow a similar approach to what was done by ESSnet-Culture when they reviewed the European framework for cultural statistics in 2012. Therefore, we follow a pragmatic approach, instead of starting by proposing a new theoretical definition for what is meant by "culture" or "cultural" that would simply be one more addition to a list of definitions that is already too long.[75]

The challenges and the two main objectives are also comparable to those of ESSnet-Culture. In fact, the main objective is still to define CCS in statistical terms, i.e., to identify the cultural and creative activities to thereby redefine and better delimitate the current cultural and creative sectors. The other objective, correlated with the first one, is to propose a framework that will allow producing regular comparable statistics on culture and creative sectors at the European level.

Nevertheless, our starting point is different. While ESSnet-Culture had as its main task to update the framework proposed by the Leadership Group on Culture (LEG-Culture) in 2000, which had some minimal differences compared with the UNESCO framework that had been updated in 2009, our main task is to update the list of activities (in terms of NACE Rev 2 codes) proposed by ESSnet-Culture in 2012, with the updates approved by the Eurostat Working Group on Culture Statistics in 2015, 2016, and 2018.

4.1.1.1 Recommended General criteria

The *Report on Inventory of Sources* emphasised the shortcomings of this scope, namely that there are several cultural and creative activities with classifications that differ between Eurostat and the EU Member States, which makes it extremely difficult to produce comparable data at EU level on CCS that are used by Eurostat and by all the Member States.

[75] In fact, there are many theoretical definitions of culture, and it is neither necessary nor recommended to add another. Kroeber and Kluckhohn found 164 definitions of culture already in use in 1952. Also, the definition of cultural and creative sectors is already specified in the Regulation (EU) 2021/818, art 2.

Therefore, the new recommended statistical framework intends to overcome these shortcomings through the definition of a new theoretical scope of CCS statistics, with two goals defined for the scope: (1) to be ideally adopted by all Member States and Eurostat and (2) to follow international standards.

To achieve these goals, the changes to be introduced in the current scope comply with clear and objective criteria. **The three following general criteria are adopted**:

- The **changes in the scope are based upon a high consensus** among EU Member States.
- The changes in the scope integrate the cultural and creative activities **according to a respected world standard**.
- The **changes in the scope are ready to integrate the revisions of** NACE Rev. 2 and ISIC as soon as they are available.

The **first criterion** implies that the revised scope introduces the minimum of changes in the current scopes as adopted by Eurostat and by the EU Member States, since the changes are concentrated in the activities for which there is a low consensus about their current classification. There are **four main reasons** to opt for this criterion of a high consensus. First, the classification currently adopted by Eurostat is basically the one proposed in 2012 by ESSnet–Culture, which represents the *main contribution to date* to the measurement of the cultural and creative sectors in Europe. Therefore, any change in this classification must be the subject of an in-depth analysis and should be carried out only in the case of a solid justification and a high consensus among the EU Member States. Second, a significant change in the theoretical scope would provoke important ruptures in the statistical series, which must be avoided to the greatest extent possible, therefore calling for the introduction of the minimum number of changes to the current framework. Third, it can be expected that a small number of changes in the scope with a high consensus will be better accepted by the EU Member States than several changes proposed or imposed without consensus. Finally, the introduction of small changes, based on the consensus among EU Member States helps to accommodate in the recommended scope, several differences between the currently adopted scopes. These two last reasons will make it easier for all EU Member States to accept voluntarily a renewed single scope which is particularly important, since currently no European legislation makes this statistical classification of cultural and creative activities mandatory.

In order to apply in clear and operational way this criterion of striving for a consensus among the EU Member States before a change can be proposed, we have calculated a *consensus score* for each of the NACE codes on a scale of 0-100. We have also defined a threshold for this score that separates the list of NACE codes for which there is high consensus from those codes for which there is low consensus. The threshold for the consensus score is set at 75 points. This means that the activities with a consensus score lower than 75 points will be recorded on the list of codes with a low consensus, and therefore these codes are candidates to be reclassified. The activities with a consensus score higher than 75 points will go to the list of codes with high consensus, and therefore their classification is not to be changed. The choice of the threshold was submitted to a sensitivity analysis to check whether or not the composition of the two code lists was sensitive to the threshold choice. The results of this analysis showed that the two lists are little sensitive to changes in the value chosen for this threshold.

The **second criterion** to be respected by the new scope – that is, the use of a respected world standard – is only applied to the reclassification of the activities that according to the filter of the first criterion fall in the list of those activities with a low consensus on the current classification. This second criterion states that the reclassification of such

activities should follow as much as possible the UK Department of Culture, Media, and Sports (DCMS) list of creative industries with the changes introduced by NESTA, the UK's innovation foundation (see Bachshi et al. 2013). NESTA presents an improved methodology that retains the strengths of the DCMS's approach while addressing its deficiencies. The changes introduced by NESTA to the DCMS list of creative industries sought to gather in this list the important economic and technological changes such as digitalisation that has occurred since the end of last century, when that DCMS list was first proposed. At the same time, they aim to provide a more solid theoretical foundation to that list. This second criterion implies that when the classification of a code has a low consensus (according to the previous criterion) a change in the classification currently adopted by Eurostat for this code (from not cultural and creative to cultural and creative, or vice versa) is not automatic. This change will or will not be proposed if such a change in the classification is or is not supported by the list of the creative industries as proposed by NESTA list of creative industries.

We consider that this DCMS classification with the changes introduced by NESTA, has indeed became a world standard of classification of creative industries, and it has been adopted widely outside the UK. To our knowledge, there is no other classification of creative industries with a wider adoption.

It is legitimate to ask ourselves why to use this criterion of the NESTA list of creative industries, which is a list adopted by a country that does not belong to the European Union.

First of all, it must be underscored that this second criterion, and the use it makes of the NESTA list as a reference, is clearly less important than, or subsidiary to, the first criterion, i.e., the criterion of a high consensus among EU Member States. This second criterion is used only when there is no consensus among Member States and to support and complement the first criterion: no activity is proposed to be or not classified as cultural and creative simply because it is or not on the NESTA list of creative industries.

That said, there are at least two types of reasons for such an option. First, the use of the NESTA list of creative industries gives greater emphasis to the creative dimension being complementary to the current Eurostat scope, which, as it was already referred, favours the cultural dimension. Moreover, as the focus of the NESTA classification is the creative intensity (proportion of total employment within an industry engaged in creative occupations), this second criterion also allows considering the direct and indirect impacts of creative works/professions on economy, increasing, in this way, the perception of the socio-economic importance of the CCS sectors. Second, the NESTA list of creative industries is well justified and has indeed become a world standard of creative industries that is adopted widely outside the UK. In the absence of a international statistical classification in this field, the use of NESTA list of creative industries appears to be the best approximation. Also, for data comparability purposes it is important to use world standards to the greatest extent possible.

Finally, the justification for **the third criterion** – readiness for integration of the proposed changes in the ongoing revisions of NACE Rev 2 and ISIC – is easily understood. International statistical classifications are an indispensable tool to assure comparability of data across countries. Moreover, these statistical classifications (mainly NACE) constitute the main anchor of the current CCS statistical scope, and their revision is also one of the reasons why the scope needs to be updated.

4.1.1.2 Recommended Criteria for Partly Cultural Activities

It is also **recommended, even in case of a high consensus among the Member States, eliminating the classification of partly cultural NACE** codes when there is no data available about the cultural and creative component of such codes and to reclassify these codes as either "cultural and creative activities" or as "not cultural and creative activities". This lack of data on the cultural/creative component of the code happens very often namely at a detailed level of the NACE codes (three digits or more). Since in these cases, the codes classified as partly cultural are not measured by Eurostat, classifying any activity as partly cultural is equivalent to classifying it as not cultural and creative, which in the end reduces the measurement of their economic and social importance. The Eurostat approach produces an underestimation of the importance of CCS that we intend to avoid.[76]

Therefore, in the case of partly cultural codes and when there is no data about the cultural and creative component, these codes are submitted to a reclassification even if there is a high consensus among the Member States about the classification of partly cultural codes. This high consensus was, in fact, the situation for all the codes classified as partly cultural in Eurostat (2018, pp. 13-14) with only one exception: code 73.11: Advertising Agencies that deserves a low consensus.

To reclassify a code classified as partly cultural we use the criterion of the percentage of activities classified as fully cultural in the total of the NACE Rev. 2 code. We use this criterion because we do not have data at a detailed level of the NACE code, and therefore we do not know the weight of the cultural activities in the code. Of course, this metric is a rough estimate of the weight of cultural activities in the code and may bring serious errors into the reclassification process. Therefore, we need to complement this metric with others to reduce the error of the reclassification process.

Another metric that is used in this reclassification process of an activity is based on the classification given to this activity by the EU Member States (similar to the consensus score used in the general criteria). More specifically, this metric is equal to the difference between the number of EU Member States that classify the activity as fully cultural and the number of EU Member States that classify the same activity as not cultural. The partly cultural activity will be reclassified as fully cultural and creative only when this metric takes a positive value (i.e., when the number of EU Member states that classify the activity as fully cultural is greater than the number of EU Member States that classify the same activity as not cultural), and will be classified as not cultural and creative in the opposite case. As explained, we also use the NESTA list of creative activities to check and validate the reclassification recommendations.

[76] This way of treating partly cultural codes is explicitly assumed in the Guide to Eurostat -Culture Statistics - Eurostat (2018) for the case of cultural employment. It is explicitly stated (see p. 17) "*Due to the lack of information regarding their cultural part, the ISCO four-digit and NACE three-digit codes that are only partly cultural are not considered as cultural in the algorithm." and "cultural employment is underestimated as a result" (p. 19). There are only two exceptions (see pp. 13-14)) that mitigate this underestimation since these two codes are not* considered fully cultural from a theoretical point of view, but they were included for practical reasons. These exceptions refer to the EU - Labour force survey with availability of three digits codes only*: 1) code 91 was considered fully cultural not withstanding that code 91.04 (notwithstanding the code* 91.04 was excluded from the scope of culture); 2) *Code 58.1 was also considered fully cultural* even though non-cultural codes 58.12 and 58.19 These exceptions are justified by practical reasons and not based in clear and objective criteria.

In summary, a NACE Rev. 2 code classified as a partly cultural activity with a high consensus among Member States will be proposed for reclassification as a cultural and creative activity whenever all of the following three conditions are met[77]:

- The number of Member States that classify this code as fully cultural is greater than the number of those that classify it as not cultural.
- The percentage of classes (statistical subcodes) within a NACE Rev 2 code that are classified as fully cultural is greater than 50%.
- The NACE Rev. 2 code is in the NESTA list of creative activities.

Correspondingly, a NACE Rev. 2 code classified as a partly cultural activity will be proposed for reclassification as a not cultural and creative activity when these three conditions apply in the opposite sense.

Concerning the reclassification of the partly cultural activities, it is important to emphasise two points:

- This reclassification of partly cultural codes with a high consensus among the Member States is needed only when we do not have data about the cultural and creative component, i.e., when the weight of the cultural and creative component in the total value of the code cannot be determined. When there are such data, we treat the code as partly cultural which means that we use the exact values instead of the reclassification process, which is always a proxy.[78]

  Therefore, the reclassification of a partly cultural code with a high consensus does not depend on the NACE digit level of the code but of having or not data about the cultural and creative component of the code. It happens however that the higher is the NACE digit level, the higher is the probability of not having data about the cultural and creative component of the code. [79]

- When a partly cultural code is reclassified into a cultural and creative code, the weight of the CCS sector in the whole economy is overestimated, since

[77] For the codes classified partly cultural but whose classification deserves a low consensus (there is only code 73.11 Advertising agencies), we adopt the general criteria.

[78] For instance, the division 18 - Printing and Reproduction of Recorded Media has two groups (18.1 and 18.2). The group 18.1- Printing and service activities related to printing is reclassified as not cultural and creative and the group 18.2 was classified cultural and creative through qualitative analysis. When the data are collected at 3-digit level, the different classifications of 18.1 and 18.2 are considered and code 18 is classified as partly cultural. On the contrary, if the data are collected only at NACE 2-digit level, then, according to the adopted criteria, all the division 18 is classified as not cultural and creative. Moreover, it happens that the group 18.2 accounts for a very small share of 18 (around 2% in terms of the GVA-Gross Value Added) and therefore the proxy we adopt when we classify the whole division 18 as not cultural and creative becomes a good estimate. This situation, i.e., the situation in which the group with a different classification account for a small share of the division occurs in most of the similar cases, which improves the quality of the estimates. This same methodology is adopted with the codes in a similar situation. This is, for instance, the case of the code 73-Advertising and Market Research that has two groups (73.1 and 73.2). The group 73.1 Advertising is reclassified as cultural and creative and the group 73.2 Market research and Public Opinion Polling is classified (by Eurostat and Member States) as not cultural and creative.

[79] This is, in certain way, a similar approach to that of Eurostat when classifies an activity as fully cultural "for practical reasons". However, and contrarily to Eurostat approach, our approach is applied systematically to all statistical surveys and with clear criteria.

a code that is only partly cultural is reclassified as a fully cultural and creative code. On the contrary, this weight is underestimated when a partly cultural activity is reclassified into a not cultural and creative activity, since the cultural component of this code is not counted. Therefore, these two types of mis-estimation will tend to offset each other, reducing the estimation error, which is not currently occurring in the case of the current Eurostat methodology, a situation that results in a systematic underestimation of the weight of the CCS sector in the whole economy.[80]

These criteria (general criteria or partly cultural criteria) allow the reclassification of most of the NACE Rev. 2 codes currently classified not cultural, partly cultural, or fully cultural by Eurostat or by any one of the Member States that need to be reclassified. When the application of these criteria cannot result in a clear proposal for the reclassification of a code (because the criteria give incompatible indications), it means that the reclassification of this code needs further analysis. In these cases, the possible reclassification was subjected to a qualitative analysis conducted by experts and stakeholders in the field of cultural and creative sectors in a Stakeholder Input session organized within our Research.[81]

This deep review of a possible reclassification of some of the NACE Rev. 2 codes has led us to add some codes to the current framework adopted by Eurostat, and to exclude others, thereby recommending an updated scope for cultural and creative sector statistics.

4.1.1.3 Recommendations for an updated scope of the Cultural and Creative Sector statistics

The recommendations concerning the updated scope for the Cultural and Creative Sector Statistics include:

1. The reclassification of codes currently classified as fully cultural or not cultural.
2. The reclassification of the codes currently classified as partly cultural.
3. The reclassification of codes through qualitative analysis.
4. The list of codes that are added to the current scope of the cultural and creative sector statistics.
5. The list of codes that are excluded from the current scope of the cultural and creative sector statistics.
6. The list of codes that integrate the updated scope of the cultural and creative Sector statistics.
7. The denomination to be adopted by Cultural and Creative sectors.
8. The customization by the Member States of the EU definition of Cultural and Creative Sectors.

[80] A more precise methodology but more difficult to concretize would be allowing entities to declare shares of activities under different NACE codes. Then, when the data concerning this entity are collected, they must be allocated to the NACE codes to which the entity is associated. This methodology was suggested in the Stakeholder Input Session that took place in May 18 in the framework of this project.

[81] This Stakeholder Input Session included around 50 participants and took place in a workshop on 18 May 2022. Note that this Input session had a complementary function since it was used only when the criteria were not applicable.

1. Recommended reclassification of codes currently classified as fully cultural or not cultural

Table 4.1 includes recommendations for reclassifying 8 codes currently classified as fully cultural or not cultural. These classifications are based on the general criteria presented and justified above.

Table 4.1: Updated Scope of CCS Statistics - Recommended reclassification of codes currently classified as fully cultural or not cultural

NACE Rev 2 Code	Code Description	Current Classification	Recommended Classification
18	**Printing and reproduction of recorded media**	Fully cultural	Not Cultural nor Creative (see note 78)
18.1	**Printing and service activities related to Printing**	Fully cultural	Not Cultural nor Creative
18.11	**Printing of newspapers**	Fully cultural	Not Cultural nor Creative
18.12	**Other Printing**	Fully cultural	Not Cultural nor Creative
18.13	**Pre-press and pre-media services**	Fully cultural	Not Cultural nor Creative
18.14	**Binding and related services**	Fully cultural	Not Cultural nor Creative
58.19	**Other publishing activities**	Fully Cultural (*)	Cultural and Creative
73.12	**Media representation**	Not cultural	Cultural and Creative

(*) Although this activity is not considered fully cultural from a theoretical point of view, it is already included in the scope adopted in the EU-LFS (Labour Force Supply) for practical reasons (see note 76).
Source: Authors.

2. Recommended reclassification of codes currently classified as partly cultural

Table 4.2 includes recommendations to reclassify 14 codes that correspond to all the codes (with one exception, code 91) that are currently classified as partly cultural. This reclassification is based on criteria specifically addressing partly cultural activities that are presented and justified in section 4.1.1.2.

The recommendations in Table 4.2 presuppose abolishing the classification of partly cultural and creative activities when there are no detailed data that make it possible to estimate the weight of the cultural and creatives activities in the total of the activities included in the code. The reason for this recommendation is explained above.

Table 4.2: Updated Scope of CCS Statistics - Recommended reclassification of codes currently classified as partly cultural (*)

NACE Rev. 2 Code	Code Description	Recommended Reclassification
32	**Other manufacturing**	Not cultural and creative
47	**Retail trade, except of motor vehicles and motorcycles**	Not cultural and creative
58	**Publishing activities**	Cultural and creative
58.1	**Publishing of books, periodicals, and other publishing activities**	Cultural and creative
58.2	**Software publishing**	Cultural and creative
63.9	**Other information service activities**	Not cultural and creative
73	**Advertising and market research**	Cultural and creative
73.11(**)	**Advertising agencies**	Cultural and creative
74	**Other professional, scientific, and technical activities**	Cultural and creative
77	**Rental and leasing activities**	Not cultural and creative
77.2	**Renting and leasing of personal and household goods**	Not cultural and creative
85	**Education**	Not cultural and creative
85.5	**Other education**	Not cultural and creative
91	**Libraries, archives, museums, and other cultural activities (***)**	Cultural and creative

(*) The reclassification of these codes (except code 73.11) is applied only when there are no detailed data that make it possible to estimate the weight of the cultural and creatives activities in the total of the activities included in the code. In case of such weight can be estimated, these codes are treated as partly cultural (see note 78).
(**) This is the only code classified as partly cultural and whose classification has a low consensus and therefore the reclassification is always adopted.
(***) This code is theoretically partly cultural, but it is included in the scope adopted in the EU-LFS for practical reasons (see note 76 and Eurostat (2018, p.17).
Source: Eurostat (2018, pp. 13-14) and Authors.

3. Recommended reclassification of codes through qualitative analysis

The criteria (either the general criteria or the criteria to reclassify the partly cultural activities) did not allow for reclassifying 5 codes and a qualitative analysis was needed in this case. These 5 codes are in Table 4.3. The first 2 are currently classified as fully cultural, the 3rd as partly cultural, and the last 2 are currently classified as not cultural. The qualitative analysis was conducted by experts and stakeholders in the cultural and creative sectors in a Stakeholder Input session (see note 81). The first 3 codes were reclassified cultural and creative codes, meaning that only the 3rd code changed classification (from partly cultural to cultural and creative). The last 2 codes have also not changed their current classification.

Table 4.3: Updated Scope of CCS Statistics - Codes Reclassified through qualitative analysis

NACE Rev. 2 Code	Code Description	Current Classification	Recommended Classification
18.2	**Reproduction of recorded media**	Fully cultural	Cultural and creative
32.12	**Manufacture of jewellery and related articles**	Fully cultural	Cultural and creative
47.6	**Retail sale of cultural and recreation goods in specialised stores**	Partly cultural	Cultural and creative
91.04	**Botanical and zoological gardens and nature reserves activities**	Not cultural	Not cultural and creative
93.29	**Other amusement and recreation activities**	Not cultural	Not cultural and creative

Source: Eurostat (2018, pp. 13-14) and Authors.

4. Recommended codes to add to the current scope of the cultural and creative sector statistics

If we integrate the reclassification recommendations of Tables 4.1, 4.2, and 4.3 in the current scope adopted by Eurostat (which includes all the codes classified as fully cultural), we obtain the codes that are added and excluded to this framework and consequently the new scope that is recommended.

The 10 codes added to the current scope correspond to activities that are currently classified as not cultural or partly cultural and are now reclassified as cultural and creative. These codes are in Table 4.4. Note that all these codes integrate the NESTA list of Creative Industries which helps to mitigate the finding of the inventory of sources that the current CCS framework is focused more on the cultural activities than on the creative activities.

Table 4.4: Updated Scope of CCS Statistics - Codes added to the current scope

NACE Rev. 2 Code	Code Description	Initial Classification	Recommended Classification
47.6	**Retail sale of cultural and recreation goods in specialised stores**	Partly cultural	Cultural and creative
58	**Publishing activities**	Partly cultural	Cultural and creative
58.1 (*)	**Publishing of books, periodicals, and other publishing activities**	Partly cultural	Cultural and creative
58.19 (*)	**Other publishing activities**	Not cultural	Cultural and Creative
58.2	**Software publishing**	Partly cultural	Cultural and creative
73 (**)	**Advertising and market research**	Partly cultural	Cultural and creative
73.1	**Advertising**	Partly cultural	Cultural and Creative
73.11	**Advertising agencies**	Partly cultural	Cultural and Creative
73.12	**Media representation**	Not cultural	Cultural and Creative

NACE Rev. 2 Code	Code Description	Initial Classification	Recommended Classification
74	**Other professional, scientific, and technical activities**	Partly cultural	Cultural and creative

(*) Code classified as fully cultural, for practical reasons, in the EU LFS (Labour Force Survey).
(**) See note 83 for classification of code 73.2.
Source: Eurostat (2018, pp. 13-14) and Authors.

5. Recommended codes to exclude from the current scope of the cultural and creative sector statistics

The 6 codes excluded from the current scope correspond to activities that are currently classified as fully cultural and are now reclassified as not cultural and creative. These codes are in Table 4.5.

It should be emphasized that the exclusion of a NACE code in this table does not mean it is objectively not a cultural and creative sector. This only means that based on the adopted reclassification criteria (mainly the significant discrepancies between the member states as to qualifying it as such and the no availability of data on the cultural component of the code) for pragmatic reasons they should not be included in the list of CCS codes with regular monitoring.

Table 4.5: Updated Scope of CCS Statistics – Recommended codes to exclude from the current scope of CCS statistics

NACE Rev. 2 Code	Code Description	Current Classification	Recommended Classification
18 (*)	**Printing and reproduction of recorded media**	Fully cultural	Not cultural and creative
18.1	**Printing and service activities related to printing**	Fully cultural	Not cultural and creative
18.11	**Printing of newspapers**	Fully cultural	Not cultural and creative
18.12	**Other printing**	Fully cultural	Not cultural and creative
18.13	**Pre-press and pre-media services**	Fully cultural	Not cultural and creative
18.14	**Binding and related services**	Fully cultural	Not cultural and creative

(*) See note 78 for classification of code 18.2
Source: Eurostat (2018, pp. 13-14) and Authors.

6. Recommended list of codes to integrate the updated scope of the cultural and creative Sector statistics

If we integrate the codes that are excluded and included in the current framework, we obtain the list of codes for the updated recommended scope for the Cultural and Creative Sector statistics. Most of these codes (37 of the 47 codes) come from the current framework, which gives the desired stability to the framework.

Table 4.6: Proposal of an updated scope of the cultural and creative Sector statistics

NACE Rev 2 Code	Code Description	Current Classification	New Classification
18.2 (**)	**Reproduction of recorded media**	Fully cultural	Cultural and Creative

NACE Rev 2 Code	Code Description	Current Classification	New Classification
32.12 (**)	**Manufacture of jewellery and related articles**	Fully cultural	Cultural and Creative
32.2	**Manufacture of musical instruments**	Fully cultural	Cultural and Creative
47.6 (*) (**)	**Retail sale of cultural and recreation goods in specialized stores**	Partly cultural	Cultural and Creative
47.61	**Retail sale of books in specialised stores**	Fully cultural	Cultural and Creative
47.62	**Retail sale of newspapers and stationery in specialised stores**	Fully cultural	Cultural and Creative
47.63	**Retail sale of music and video recordings in specialised stores**	Fully cultural	Cultural and Creative
58 (*)	**Publishing activities**	Partly cultural	Cultural and creative
58.1 (*)	**Publishing of books, periodicals, and other publishing activities**	Partly cultural (***)	Cultural and creative
58.11	**Book publishing**	Fully cultural	Cultural and Creative
58.12	**Publishing of directories and mailing lists**	Fully cultural (***)	Cultural and Creative
58.13	**Publishing of newspapers**	Fully cultural	Cultural and Creative
58.14	**Publishing of journals and periodicals**	Fully cultural	Cultural and Creative
58.19 (*)	**Other publishing activities**	Not cultural (***)	Cultural and Creative
58.2 (*)	**Software publishing**	Partly cultural	Cultural and Creative
58.21	**Publishing of computer games**	Fully cultural	Cultural and Creative
59	**Motion picture, video and television programme production, sound recording, and music publishing activities**	Fully cultural	Cultural and Creative
59.1	**Motion picture, video, and television programme activities**	Fully cultural	Cultural and Creative
59.11	**Motion picture, video, and television programme production activities**	Fully cultural	Cultural and Creative
59.12	**Motion picture, video, and television programme post-production activities**	Fully cultural	Cultural and Creative
59.13	**Motion picture, video, and television programme distribution activities**	Fully cultural	Cultural and Creative
59.14	**Motion picture projection activities**	Fully cultural	Cultural and Creative
59.2	**Sound recording and music publishing activities**	Fully cultural	Cultural and Creative
60	**Programming and broadcasting activities**	Fully cultural	Cultural and Creative
60.1	**Radio broadcasting**	Fully cultural	Cultural and Creative
60.2	**Television programming and broadcasting activities**	Fully cultural	Cultural and Creative

NACE Rev 2 Code	Code Description	Current Classification	New Classification
63.91 (****)	**News agency activities**	Fully cultural	Cultural and Creative
71.11	**Architectural activities**	Fully cultural	Cultural and Creative
73 (*)	**Advertising and market research**	Partly cultural	Cultural and Creative
73.1 (*)	**Advertising**	Partly cultural	Cultural and Creative
73.11 (*) (****)	**Advertising agencies**	Partly cultural	Cultural and Creative
73.12 (*)	**Media representation**	Not cultural	Cultural and Creative
74 (*)	**Other professional, scientific, and technical activities**	Partly cultural	Cultural and creative
74.1	**Specialised design activities**	Fully cultural	Cultural and Creative
74.2	**Photographic activities**	Fully cultural	Cultural and Creative
74.3	**Translation and interpretation activities**	Fully cultural	Cultural and Creative
77.22 (****)	**Renting of video tapes and disks**	Fully cultural	Cultural and Creative
85.52 (****)	**Cultural education**	Fully cultural	Cultural and Creative
90	**Creative, arts, and entertainment activities**	Fully cultural	Cultural and Creative
90.01	**Performing arts**	Fully cultural	Cultural and Creative
90.02	**Support activities to performing arts**	Fully cultural	Cultural and Creative
90.03	**Artistic creation**	Fully cultural	Cultural and Creative
90.04	**Operation of arts facilities**	Fully cultural	Cultural and Creative
91	**Libraries, archives, museums, and other cultural activities**	Fully cultural (***)	Cultural and Creative
91.01	**Library and archives activities**	Fully cultural	Cultural and Creative
91.02	**Museums activities**	Fully cultural	Cultural and Creative
91.03	**Operation of historical sites and buildings and similar visitor attractions**	Fully cultural	Cultural and Creative

(*) Code added to the scope.
(**) Code added to the scope after qualitative analysis.
(***) Code classified as fully cultural for practical reasons, in the EU LFS (Labour Force Survey).
(****) Single division code classified as cultural and creative. All the other codes are not cultural and creative.
Source: Authors.

Concerning the recommendations of the lists of codes to include or to exclude from the current scope, two groups of codes deserve particular attention.

The first is group 73.1-Advertising, which includes two classes: 73.11-Advertising Agencies and class 73.12-Media Representation. These codes are currently classified respectively by Eurostat as partly cultural and not cultural and so they are not included in the current scope. It is recommended to reclassify these codes as cultural and creative and therefore to include them in the recommended scope. In both cases (73.11 and 73.12 and therefore 73.1), the current classification has a low consensus.[82] On the other hand, both NACE codes are included in the NESTA list of creative industries. According to the two general criteria mentioned above, both classes of Advertising (and therefore all the group 73.1) are recommended to be reclassified as cultural and creative activities and therefore be included in the scope.[83]

This reclassification should come as no surprise since advertising is one of the two domains (the other is Art Crafts) that were added to the LEG-Culture framework, reaching the ten domains of the current European statistical framework. On the other hand, "*'Advertising' - is included by the UNESCO and favoured by 13 other international frameworks (see 2009 FCS, 2007 draft version; on 14 reviewed international frameworks, Europe was the only one to not use it in 2007)*" (see ESSnet-culture, 2012, p. 44).

The second group of codes is the group 18.1-Printing and Reproduction of Recorded Media. Eurostat currently classifies the group and its classes as fully cultural, and it is recommended that all the group 18.1 be reclassified as not cultural and creative and therefore excluded from the current scope. The classification of 18.1 and of its classes as fully cultural has a low consensus among the EU Member States (the consensus score is much lower than 75 points). On the other hand, these same NACE codes are not included in the NESTA list of creative industries. Therefore, following the adopted general criteria it is recommended that the group 18.1 be reclassified as not cultural and creative and excluded from the scope. This recommendation has, evidently, important implications since group 18.1 has a significant economic and social importance in several EU Member countries.

This reclassification is proposed first because it clearly meets the two general criteria described above and to change the reclassification would imply changing the criteria. Moreover, this recommendation can also be justified by other reasons:

- ESSnet-Culture questioned the classification of printing activities as cultural activities, and in their final report it is written that these activities

[82] The code 73.11 is the only code currently classified partly cultural but whose classification has a low consensus (see above).

[83] It is important to clarify the classification of the code 73.2 that aggregated to code the 73.1 gives the code 73. The code 73.1 is reclassified as cultural and creative and the code 73.2 is classified as not cultural and creative and it is not reclassified since there is a high consensus in this classification. Therefore, the code 73 is classified partly cultural and this classification has as a high consensus among the Member States and therefore this code does not need to be reclassified. However, if there are no data about the code 73.2, we do not know the not cultural and creative component of code 73 and, under these conditions, we cannot estimate the code 73. According to Eurostat approach, the code 73 is not measured which implies that, in practical terms, it is treated as not cultural and creative which produces a systematic underestimation of the importance of the CCS in the global economy. We want to avoid this underestimation and therefore we reclassify these codes using clear criteria. In the present case, the code 73 is reclassified as cultural and creative code what implicitly implies that the code 73.2 is reclassified as cultural and creative. Of course, there is, in this case, an overestimation of the importance of CCS that compensates the underestimation that is verified when a partly cultural code is reclassified as a not cultural and creative code.

are not classified as fully cultural. This **same position is also observed by the 2009 UNESCO framework**, which explicitly mentions that "*printing is not normally included in cultural classifications or definitions of cultural industries and is not a cultural activity in its own right*" (FCS, p. 27).

- The printing activities were classified as fully cultural by the Eurostat Working Group on Culture Statistics only in 2016, and this may explain why nine or more of the Member States do not follow this classification and prefer to adopt the original proposal of ESSnet-Culture (partly cultural or not cultural).

In the case of group 18.2, the NESTA list does not confirm the reclassification of not cultural and creative activities. Therefore, this group of activities was subjected to qualitative analysis and the classification of cultural and creative was retained. Given the small weight of this group in the division 18 (around 2%), all the division is reclassified as not cultural and creative when there are no data about the group 18.2 (See note 78).

However, the list of codes of the recommended scope (see Table 4.6) is not a definitive recommended list, and this is due mainly to one reason: the new versions of the international statistical classifications (mainly of NACE) should be integrated in the new scope. This was even one of the reasons why the current framework needs to be revised and extended. However, the new versions of the classifications are not yet known since they have not yet been approved. At least NACE will soon be approved since the latest version (Rev 2.1) is expected to go into effect in 2024.

7. Recommended denomination for cultural and Creative sectors

Relating to the **different denominations used for cultural and creative sectors, it is recommended to maintain the denomination - Cultural and Creative Sectors (CCS**).

The main reasons for this recommendation are as follows:

- The two denominations Cultural and Creative Industries (CCI) and Cultural and Creative Sectors (CCS), are in the group of the most used denominations by the EU Member States, according to our inventory of sources and the results of the recent Eurostat survey to the members of the Eurostat Working Group on Culture Statistics.

- However, CCS is a more neutral and comprehensive denomination than Cultural and Creative Industries (CCI), which generated reservations about its possible neo-liberal orientations. The term culture industries has its background in Marxist theory, and has been associated since its beginning much more to the cultural market activities than to the non-market activities. The survey mentioned above also reinforces the perception of a market orientation view of the Cultural and Creative Industries denomination[84].

[84] Although in most cases both denominations cover market and non-market activities, there are three EU Member States where the denomination cultural and creative industries cover only market activities. On the contrary, no country was found where the denomination cultural and creative sectors covers only market activities.

- Despite being the last to be used (since 2015), CCS has been the most used in the EU context in recent years. There are several examples of this situation as, for instance, in the document of 2018 regulating the Creative Europe Programme, the term Cultural and Creative Industries is used only four times while the denomination Cultural and Creative Sectors is used 44 times (European Commission, 2018).

8. Recommended customization by the Member States of the EU definition of Cultural and Creative Sectors

Finally, to consider **the different situations of the Member States while at the same time guaranteeing the comparability of data across the Member States**, we recommend the adoption of an approach similar to the one adopted for the customisation of NACE related to the national classifications of economic activities, i.e., we recommend the disaggregation of the codes of the definition adopted at EU level.

In summary: It is recommended that all the Member States adopt the same denomination (Cultural and Creative Sectors) and the same definition (in terms of NACE codes) for Cultural and Creative Sectors. The definition proposed is that of Table 4.6 and should be adjusted when NACE Rev. 2.1 is approved (which should become **a European classification for cultural and creative activities)**. The Member States are free to disaggregate these codes in order to customise their definitions of Cultural and Creative Sectors. Note that the main reclassification criterion that is adopted helps this customization since it already accommodates in the recommended scope, several differences between the currently adopted scopes since this criterion implies the introduction of small changes, based on the consensus among EU Member States. If a Member State wishes to add other codes to the scope that are not included in the definition, then it should use a denomination other than the CCS one to avoid confusion among users of the information and not hamper the comparability of data between Member States.

The ideal situation would be that the document with the denomination (Cultural and Creative Sectors) and the definition of CCS (the codes included in Table 4.6), upon its approval by the Working Group on Culture Statistics, be consecrated in an EU Regulation. As a second best, such document should be the object of a gentlemen's agreement between the members of the Working Group.

Of course, it is highly probable that not all the Member States will approve this document. This has been the case in the past with other statistical classifications and definitions (including the successive versions of NACE) but this did not prevent its approval. It is important to emphasise once more that the main criterion adopted in the reclassification of the activities was the level of consensus among Member States on the classification currently adopted and that there are changes only when the consensus is low.

4.1.2 A greater use of administrative sources

As is well known amongst professionals, there are two primary sources for statistics relating to persons, households, and enterprise statistics:

- **Statistical surveys and census**: operations carried out with the declarants with the specific goal of obtaining the required statistical data.

- **Administrative sources**: administrative acts intended to comply with the declarants' administrative obligations are used for statistical purposes.

We are hereby strongly recommending the use of administrative sources. As explained below, we believe these sources to be especially useful as they are constructed with data produced by administrative acts that are made mandatory across Europe by EU law. As explained below, this is currently the case by a European Directive despite all its differentiated nuances in its implementation across the EU, but the situation will probably soon be more harmonised following the approval of a Regulation currently under discussion. The goal of this encouragement is to **contribute to improved statistics of cultural and creative sectors, taking into account all possible sources of comparable data**. Of course, the use of administrative sources (or any other source) under no circumstances should it violate the statistical secrecy that is one of the basic principles on which the statistical systems of the democratic countries are based. The respect for this principle of statistical secrecy may pose particular important challenges due to the high quotas of micro/individual enterprises in the cultural and creative sectors.

4.1.2.1 The European Statistical Legislation encourages the use of administrative sources

Although the European Statistical Legislation admits both kinds of sources, **it favours the administrative sources**. For instance, the Regulation (EU) 2019/1700 – Common framework for European statistics relating to persons and households", based on data at individual level collected from samples, mentions in one of its justifications[85]:

> *To improve data quality and efficiency, **the use of administrative records should be encouraged to the extent possible.** Thanks to technological advances, the possibility of using administrative sources for statistical purposes has already widened significantly. **The use of administrative sources should be further actively promoted in the area of social statistics,** while always ensuring the quality, in particular the accuracy, timeliness and comparability of those statistics. Other data sources adapted to persons or relevant subjects which cannot be accessed through administrative records should also be maintained, while safeguarding the right to the protection of personal data.*

The use of administrative sources is also encouraged by the European approach to statistics. In fact, the Regulation EC) No 223/2009 of the European Parliament and of the Council of 11 March 2009 on European statistics states in article 16:

Article 16

The European approach to statistics:

"1. In specific and duly justified cases and within the framework of the European statistical program, the European approach to statistics aims at:

(a) maximizing the availability of statistical aggregates at the European level and improving the timeliness of European statistics.

[85] Bold emphasis added.

(b) reducing the burden on the respondents, the NSIs and other national authorities based on a cost-effectiveness analysis."[86]

Using administrative sources is the best way to comply with the goal stated in (b).

To facilitate the use of administrative sources, the access of National Statistical Authorities and Eurostat to the administrative records is eased. The cited Regulation (EC) 223/2009 even includes an article (Article 24) dedicated to this topic.

However, despite all this European legislation on statistics, the use of administrative sources is still quite limited in most EU Member States[87]. We therefore strongly recommend that this situation should be changed in the case of the CCS statistics.

4.1.2.2 The Directive 2013/34/EU on annual financial statements and the current use of the IES (Simplified Business Information) for statistical purposes

By way of example, the focus of this Project is on the administrative acts associated with the implementation of Directive 2013/34/EU of the European Parliament and the Council on the annual financial statements. The Directive 2013/34/EU on annual financial statements created the obligation for all enterprises in all Member States to make their accounts public. This information can have multiple uses and users, which the Directive encourages. In fact, in point 39, it is stated that:

> *The Member States are strongly encouraged to develop electronic publication systems that allow undertakings to file accounting data, including statutory financial statements, only once and in a form that allows multiple users to access and use the data easily. With regard to the reporting of financial statements, the Commission is encouraged to explore means for a harmonised electronic format.*

One of the primary uses of the information obtained through the implementation of this Directive 2013/34/EU is for statistical purposes. As mentioned above, the *Report on Inventory of Sources* identified several good practices available at the national level that could be extended to the EU level. Among these good practices we find one that relates to the use of the administrative acts associated with this Directive. This practice is available in some Member States, including Portugal and is named Simplified Business Information (IES)[88] (see Box 4.1).

[86] NSI: National Statistical Institute.
[87] According to the *Report on Inventory of sources*, the administrative sources represent only about one-fifth of the statistical sources (see above).
[88] IES is the acronym of "*Informação Empresarial Simplificada*" (Simplified Business Information). IES already existed before the Directive 2013/34/EU but this directive allowed to highly improve the data collected through IES.

Box 4.1: The Simplified Business Information (IES) in Portugal

The Use of Simplified Business Information (IES) for Statistical Purposes in Portugal

As a result, the two leading institutions of the Portuguese National Statistical System, the *Instituto Nacional de Estatística* (INE, the National Statistical Institute) and the *Banco de Portugal* (the central bank), produced questionnaires included as annexes in the forms they used to comply with Directive 2013/34/EU.

This Portuguese practice results in the production of very valuable information originating in the administrative records, named Simplified Business Information (IES). When the undertakings comply with the mandatory national rules that implement this Directive in each Member State, they currently satisfy, in a single act, the information obligations toward four different public entities (see below), which simplifies the information disclosure procedures. We believe that this practice can be classified as a "good practice" deserving to be presented and proposed to other EU Member States.

The Simplified Business Information, or IES, is an annual statement that all companies and entrepreneurs with organised accounting are required to deliver to fulfil their tax, accounting, and statistical obligations. Previously, annual reports and accounts had to be delivered on paper to four different entities: *Banco de Portugal,* INE, Tax Authority, and Commercial Registry Offices.

With the development of the IES declaration, the undertakings ensure, in a single act:

- Communication of the annual accounts to the Commercial Registry Offices.
- Delivery of the annual declaration of accounting and tax information to the Tax Authority.
- Delivery of annual accounting information for statistical purposes to INE.
- Delivery of annual accounting data for statistical purposes to Banco de Portugal.

The declaration is delivered annually by completing a specific form and delivering it electronically to the Ministry of Finance, all through a single access point. It can be delivered by a chartered accountant or by the legal representatives of the entities that are required to deliver the IES declaration. The entities subject to the submission of the annual declaration of IES are:

- Commercial companies and civil societies in commercial form.
- European public limited companies.
- Public companies.
- Companies headquartered abroad with permanent representation in Portugal (only concerning representation accounts).
- Individual limited liability establishments.

Some of the advantages for Portugal of using the Simplified Business Information were the improvement of the quality and consistency of the data produced in the scope of business and international trade statistics, and a more comprehensive coverage degree of the statistics produced. In addition, the IES' census-oriented nature constitutes a profound change in base information for Portuguese National Accounts. Table 4.7 provides information about some important improvements brought about by the IES.

Table 4.7: Impact of the IES in Portuguese statistics

		Bank of Portugal	National Statistical Institute
Before IES	Surveyed Companies	5%	15%
	Delivery	Mostly electronic	Paper and electronic
	Availability period	10 to 12 months	11 to 13 months
	Level of detail	Around 600 variables	Around 800 variables
After IES	Companies (coverage rate)	Around 100%	
	Delivery	Fully electronic	
	Availability period	Around 6 months	
	Level of detail	Around 1,600 variables	

Source: "*Conselho Superior de Estatística*" (Higher Statistical Council), 2011.

The use of the IES for statistical purposes in the CCS has two significant and additional advantages beyond those usually associated with the administrative sources[89]:

- First, the administrative acts follow the requirements of Directive 2013/34/EU, which are basically common and mandatory throughout the EU. It is true that Member States are free to choose their own specific ways to implement the Directive, i.e., they are free to choose the way in which the accounts are made publicly available, including in paper format, and this is a disadvantage for statistical purposes. However, this situation will change since a new EU draft Regulation is currently under discussion, which would substantially reduce the ways in which the accounts are made publicly available. It will impose all companies/entities across the EU to publish certain kinds of information (financial statements, data on sustainable finance, etc.,). This initiative is built on the "European financial transparency gateway" project. In the short term (end of 2024), a single EU access point to financial and non-financial company information will be set up. Web portals or other means will give investors quick and easy access to this information without creating an undue burden on companies. The extension of company information to be made available will be based on existing European legislation, including the Directive 2013/34/EU.

- Second, the census character of the data in the case of the administrative sources mitigates the coverage problem of CCS statistics since, on the one hand there are no EU harmonised statistical surveys specific to CCS, and, on the other hand, CCS activities are well represented only at a detailed NACE level that is little adopted in the EU harmonized statistical surveys carried out by Member States. In fact, according to a recent survey of Eurostat to the members of Eurostat Working Group on Culture Statistics, only six EU Member States use a level of detail of NACE codes of five or more digits in EU harmonized surveys[90].

In any case, the use of administrative sources, even if these sources become more harmonised because of the facts previously described, does not exclude the use of statistical surveys for statistical units not covered by the administrative acts. For instance, data from administrative sources usually do not have structural information on the person such as gender, age, or nationality, and statistical surveys are thus needed to obtain these data. The periodicity of the data availability of the administrative sources also might not be the right one. For instance, the data on foreign trade is available monthly while the IES is available with only annually. The opposite is also true, i.e., the administrative sources can also be used to fill the gaps left (for instance, at the regional level) by the statistical surveys.

The *Analysis Report* studies three types of statistics: cultural and creative enterprise statistics, employment statistics, and external trade of goods and services statistics. First, the *Analysis Report* summarises the main limitations that have been identified in the *Report on Inventory of Sources* for each type of these statistics. Thereafter the *Analysis Report* analyses how the use of IES and other administrative sources could contribute to overcome such limitations. Finally, it presents the recommendations to use IES and other administrative sources to improve these three types of statistics that we

[89] This is of course extended to any other reporting mechanism compliant with the Directive.
[90] Ten countries use four digits, one uses three digits, and another country uses two digits. There is a group of five countries that uses "various" digits, depending on the sector.

summarise below. These same recommendations are also summarised in Chapter 8 of this Final Report.

4.1.2.3 Recommendations for a greater use of administrative sources to produce CCS statistics

Concerning the encouragement to use administrative sources to produce CCS statistics, there are two main recommendations:

1. **Use of administrative sources as the primary source to produce statistics on cultural and creative enterprises**.

According to this recommendation, the Simplified Business Information (IES) complemented with tax declarations should replace SBS as the main source for producing economic statistics on CCS. In fact, according to the already cited recent survey of Eurostat to the members of the Working Group on Culture Statistics, 18 countries (in 25 answers) have SBS as the main data source of economic statistics[91].

2. **Use of administrative sources as the secondary and complementary source to produce two other types of statistics: cultural and creative employment and international trade in cultural and creative goods and services**.

Despite the highly positive aspects, administrative sources cannot be used as the primary source for cultural and creative employment. The reason for this has to do with the fact that the administrative sources (IES) do not cover one of the three components of cultural and creative employment. According to the ESSnet-Culture definition it cannot cover the situation in which an employed person holds a cultural occupation outside the cultural sector, for example, a designer who works in the motor vehicles industry. Due to this gap, IES's cultural and creative employment is systematically lower than the employment given by the "Labour Force Survey". Concerning external trade in goods and services, IES cannot be the primary source also because these data have only an annual periodicity while the usual external trade data have a monthly periodicity.

These two recommendations are accompanied by the following considerations:

- Provided that the quality of the statistics is not degraded, the use of administrative sources is recommended for CCS statistical purposes. In the case of enterprise statistics, the IES data are of even better quality for these statistics than the current sources. This quality improvement is verified in several fields, including the coverage rate, detail level, and availability period.

- Several of the gaps that cannot be overcome by the current forms associated with IES can be overcome by improving and adjusting such forms (mainly their annexes).

[91] The other answers (to the question: Which is the main data source(s) of your economic statistics are:(with multiple choice) are: Business registers, (13 countries), Tax registers (8 countries) and Other (10 countries). Note that although the SBS data may come from different sources (statistical surveys and /or administrative data or registers) the main source is still the statistical surveys that usually involve exhaustive surveys of large enterprises and sampling of small businesses. These different sources of sources make the comparability of data at EU level difficult.

- The statistical sources and the administrative sources can be used, and it is recommended that they are, together and in a complementary way. However, the administrative sources must be encouraged to the greatest possible extent to follow, in this way, the European Statistical Legislation that encourages such practice.

- The administrative sources can also play an important role at the level of the short-term indicators, for which there are currently very important limitations. In fact, in a recent Eurostat survey to the Eurostat Working Group on Culture Statistics members, only 2 EU Member States (in 23 responding) publish such indicators. The main reasons for not publishing are lack of or poor quality data, limited coverage of sectors, and lack of sources. The administrative sources can play an important role in overcoming these limitations, but this deserves a deeper reflection. Therefore, it is recommended that such reflection should take place under the scrutiny of the Eurostat Working Group on Culture Statistics.

4.1.3 An EU harmonised survey of cultural participation

As anticipated, and together with the two proposals previously explained, we recommend the development of solid and comparable data on cultural participation across the EU.

As ESSnet-Culture (2012, p. 227) points out, the cultural practices of the population are without a doubt the most important dimension for the sustainability of the cultural sector[92]. While the quality of artistic creation is clearly not dependant on its audience, the audience for performing arts, listeners of music, composers and performers, visitors to museums, and readers of books, are all very important components of their *raison d'être*.

In 2005 the LEG-Culture recommended starting a common "*European survey on participation in cultural activities to be repeated periodically, for instance, every five years. All Member States were invited to agree on the principle of such a survey that should start preferably before or in 2005*" (p. 181-182). The LEG- Culture recommendation was also adopted by its successor – the Working Group on Culture Statistics.

Although neither Eurostat nor the Member States followed up on this recommendation of a common European survey on cultural participation, cultural practices were put on the agenda of European statistics, and two main initiatives took place. A module with questions on social and cultural participation was included, in selected years, in some European statistical surveys and two Eurobarometer on cultural participation were carried out.

However, despite several improvements, it has not been possible to produce comparable data on cultural participation for all EU Member States. This is why in 2012 the ESSnet-Culture, following the LEG-Culture recommendation of 2005, also recommended developing a module on cultural participation with a questionnaire that "*could be included within a survey also covering sports, social and civic participation. If repeated periodically, such a survey will be the best way to measure social progress in the EU*" (p. 273). This proposal was also not strictly followed by either Eurostat or the Member States and the current situation presents several limitations since neither the national surveys

[92] The terms "cultural practices", "cultural participation", and "participation in cultural activities" will be used as synonyms in this report.

on cultural participation nor the European and Eurobarometer statistical surveys give an adequate answer

4.1.3.1 *Analysis of National Surveys on Cultural Participation*

The *Analysis Report* proceeds to an analysis of the surveys on cultural participation conducted in ten Member States. The analysis includes the domains and dimensions covered, the survey characteristics, information on samples, and a comparison of the ten national questionnaires.

Overall, the national cultural participation surveys are well structured and designed. Most of these surveys present a broad overview of different dimensions of cultural participation and provide useful information for policymaking at the national level.

Nevertheless, these surveys have several important limitations, mainly because they are not harmonised at the EU level, and the data comparison among the EU Member States is impracticable due to the presence of many obstacles. Clearly, there are various questions concerning the involvement of individuals with culture, but their phrasing is different from Member State to Member State. Also, even when some countries follow the recommendations produced by ESSnet-Culture, this is not sufficient to guarantee comparable data. Important dimensions like cultural non-participation are scarcely asked. In addition, although questions about the use of the internet for culture purposes show an increase in frequency compared to 2012, the lack of harmonisation produces different information.

Therefore, even when the countries have questions concerning the same dimension or domain, the data are not comparable, due to the dissimilar level of details about the subject, or to the different modes of data collection making data comparison impracticable. Furthermore, the periodicity varies considerably, going from annual to every ten years. Some EU Member States do not even declare the survey periodicity. Due to important and rapid changes in the cultural consuming behaviour generated by the technological impact, comparing observed habits through surveys with different periodicity is not adequate and causes a significant bias.

On the other hand, the survey target population and the characteristics of the sample must be the same to guarantee the comparability of data, which is not verified. In addition, the response rate naturally varies with the data collection method that is adopted.

The lack of harmonisation of the national surveys makes the comparability of data at the EU level very challenging or even impossible. This limitation, in turn, makes it very difficult to develop adequate strategies related to cultural participation within the European Union and to identify and strengthen certain domains in specific Member States and EU regions.

4.1.3.2 Measuring cultural participation in European and Eurobarometer surveys

Even if the LEG-Culture and ESSnet-Culture recommendation of a common European survey on cultural participation have not been followed until now by either Eurostat or the Member States, the topic of the cultural practices was put on the agenda of European statistics, and two main initiatives were put in place at EU level:

i. A module with questions on social and cultural participation has been included in selected years in European surveys, mainly in four of them:

- The "EU Statistics on Income and Living Conditions" (EU-SILC).
- The "Adult Education Survey" (AES).
- The "Survey on information and communication technologies usage in households and by individuals" (ICT-Survey); and
- The "Harmonised European Time use Survey" (HETUS).

ii. Two Eurobarometers on cultural participation were carried out:

- One in the 15 "old" Member States – Participation in Cultural Activities (2001); and
- Another in the new Member States and Candidates – New Europeans and Culture (2003).

There are currently only three European surveys that include a module with questions on culture since AES will no longer include such a module. The first two surveys are mandatory while HETUS is based on a gentlemen's agreement.

The two Eurobarometer surveys referred to above were carried out in response to the proposal of LEG-Culture on a common European survey on cultural participation, and both used a questionnaire that was also initially developed by LEG -Culture. It was the first time that all the Member States of the EU investigated the cultural practices of their population. Some years after the launching of these Eurobarometer surveys, the methodologies and the results of national surveys on culture were compared with those of the Eurobarometer surveys, to reveal significant differences (ESSnet-Culture, 2012, p. 243).

The European surveys and the Eurobarometer are also analysed in the *Analysis Report*, in which it is stressed that their measuring of cultural participation in European presents several shortcomings.

The European surveys on cultural participation present, namely, insufficient coverage and comparability of data across the Member States, which causes implausible results. Data comparability is unanimously considered a central requirement of data quality. To guarantee this comparability across the Member States it is imperative to ensure that the same methodologies are adopted, namely regarding the framing and phrasing of the questions and the data collection methods[93].

These conditions of data comparability are not present in the European surveys that include a module on cultural participation, namely in EU-SILC and HETUS. Moreover, the coverage of the cultural participation by the European surveys is only partial, given the small number of questions on culture that are allowed. Last, the periodicity is as a rule quite long (even attaining ten years in the case of HETUS), and it is often dependent on the policy priorities. This periodicity is far from being adequate to capture the correct patterns, given the quick changes in these patterns due to technological innovations.

An example of the lack of data quality in the case of the European surveys is given in Schmeets and Huynen (2010). These authors demonstrated that some results from the *ad hoc* module on social and cultural participation in the 2006 EU-SILC are implausible. One example is participation in religious organisations, which varies from 1% in France, 10% in the UK, 45% in the Netherlands, and 87% in Cyprus. These implausible results raise the problem of the comparability of data across the Member States. Two main

[93] Even when these problems are solved and we have an input harmonization, this does not mean that all problems are solved. For example, a comparison of the turnout rates may reveal that the discrepancies between the Member States are still large.

reasons are given for this lack of comparability, and they have already been stressed. On the one hand, the different phrasing and framing of the questions and, on the other hand, the different data collection modes. Another example of these data limitations is seen in the fact that several Member States, while they do send the data of the "EU Statistics on Income and Living Conditions" (EU -SILC) to Eurostat, do not use these same data internally, at national level, in order to measure cultural participation. Instead, for this purpose they prefer to use data from national (and non-EU harmonised) surveys on culture participation[94].

The Eurobarometer surveys provide only a very general perspective of cultural participation in Europe regarding only a defined number of years, and are far from providing all the needed information. Also, the sample for each Member State is small, which does not allow for analysing specific groups in terms of gender, age and educational attainment, which are usually important variables to explain patterns of cultural participation.

Moreover, the actual survey's management is not the responsibility of the National Statistical Systems (it is carried out by TNS Opinion & Social). Consequently, it does not benefit from the know-how of the NSS and from the European and national statistical legislation. Because of these characteristics, the Eurobarometer surveys suffer important methodological limitations, some of which have been referred to above.

In the meantime, the Eurobarometer became the polling instrument used by the European Commission, the European Parliament, and other EU institutions and agencies to regularly monitor the state of public opinion in Europe on issues related to the European Union, as well as attitudes on subjects of political or social nature. The Eurobarometer now includes special numbers dedicated to specific topics. There have been only three editions specifically dedicated to culture in the last 15 years. One of them is Special Eurobarometer 278, entitled European Cultural Values with the fieldwork in February-March 2007 and report published on September 2007. The second one is Special Eurobarometer 399, entitled Cultural Access and Participation, with fieldwork in April-May 2013 and publication in November 2013. Finally, the last one is the Special Eurobarometer 466 on Cultural Heritage. This survey assesses the attitudes and opinions of people in the EU on cultural heritage and it is the first EU-wide survey to be conducted on this topic.

In summary: the fact that the ESSnet-culture recommendation of 2012 to develop a module on cultural participation with a questionnaire that "*could be included within a survey also covering sports, social and civic participation*" was not followed, has contributed to the fact that the **measurement of cultural participation at the EU level has not significantly improved since 2012.**

We thus present recommendations to improve the current situation and measure cultural participation with comparable data at EU level.

4.1.3.3 Recommendation for producing harmonised data at EU level on culture participation

According to what was mentioned above, we strongly support a recommendation already made by LEG-Cultures and by ESSnet-Culture, i.e., **the adoption of a module of**

[94] More recent studies are lacking but their conclusions should not be very different.

questions at the EU level either as a stand-alone survey or together with another module that covers sports or social and civic participation.

The main objective of this recommendation is to produce harmonised and comparable data at EU level on cultural participation, which currently does not happen. It can be argued that some EU harmonized surveys include already a module of questions on social and cultural participation. However, as it is detailed explained in the Analysis Report (see Section 4.3) and summarized in this report (see above), the current situation is far from being the ideal situation and for several reasons from which we emphasize two. First, these surveys present a periodicity too long and an insufficient coverage and comparability of data across Member States which causes implausible results. For instance, in the case of EU-SILC, the modules on social and cultural participation are only included in SILC in 2006,2015 and 2022. Second, these modules have serious limitations. According to Eurostat (2018), the data collection is based on self-reporting and the number and the formulation of questions in culture participation are not the adequate ones. These limitations contribute to the fact that these surveys give results that are implausible and have little use at national level.

The module should be preferably used as a stand-alone survey**, making it the first EU harmonised survey in the cultural and creative sectors**. Such a survey should allow the production of comparable data at the EU level and not increase the burden on the respondents. In fact, it will replace the current non-harmonised national surveys on cultural participation and the questions on cultural participation that are currently used in the harmonised European and Eurobarometer surveys. Moreover, such a survey could include other questions (to be decided by the EU Member States) beyond the above-mentioned module of questions. Adding such questions would facilitate the replacement of the national surveys by a harmonised survey what would increase the added value of the survey without increasing the costs.

Following ESSnet-Culture's previous recommendation, **the module of questions could also, as second best, be integrated into a survey that covers another topic such as sports or social and civic participation.**

The module of questions that is recommended (see *Analysis Report*) of course finds its inspiration in the one recommended by ESSnet-Culture, in 2012. But it also covers other domains and dimensions, mainly those associated with digital transformation and with subjective questions about perceptions, satisfaction, well-being, etc. The main changes introduced are based on the national cultural participation surveys and could overcome most of the limitations pointed out by Eurostat (2018).

The decision to follow these recommendations (mentioned in sections 4.1.1.3, 4.1.2.3 and 4.1.3.3) is left to the Eurostat Working Group on Culture Statistics. This group has already faced similar decisions in the past (concerning the recommendations of ESSnet-Culture).

4.2 Updating the Cultural Statistics Framework to onboard the digital economy

This section focuses on summarising the main contributions from Volume 2 ("Measuring digital cultural services in the EU: current state-of-play") and Volume 3 ("How to

measure digital cultural services in the EU: a proposal for a new methodology") of the *Analysis Report*[95].

In particular, it focuses on the following topics: defining digital cultural services; mapping the CCS against the economic activities of the NACE classification; providing a gap analysis of existing surveys of the Cultural Statistics Framework, focusing on the measurement of aspects related to digital economy; and defining dimensions and indicators to capture digital cultural services and onboard the digital economy in the Framework.

More detailed information is provided in the corresponding volumes and sections of the *Analysis Report*.

4.2.1 Definition of digital cultural services

The attempt to define digital cultural services must depart from a sound understanding of the two distinct concepts of cultural and creative sectors and digital services.

The definition of CCS used in this study is the one set within the Creative Europe Programme[96], in which cultural and creative sectors are defined as "*all sectors whose activities are based on cultural values or artistic and other individual or collective creative expressions. The activities may include the development, the creation, the production, the dissemination and the preservation of goods and services which embody cultural, artistic or other creative expressions, as well as related functions such as education or management.*"

According to this definition the CCS include "*architecture, archives, libraries and museums, artistic crafts, audio-visual (including film, television, video games and multimedia), tangible and intangible cultural heritage, design (including fashion design), festivals, music, literature, performing arts, books and publishing, radio, and visual arts*".

On the other hand, the definition adopted of digital services follows the one proposed within EU legislation[97], whereby digital service is defined as:

- a service that allows the consumer to create, process, store, or access data in digital form; or
- a service that allows the sharing of or any other interaction with data in digital form uploaded or created by the consumer or other users of that service.

In this context, the definition includes services that can be delivered through an information structure, such as the internet, and include the supply of *digital content* and transactional services across different platforms, devices, and delivery mechanisms (e.g., websites, mobile applications, and social media). This includes, for instance, web shops, streaming services, online games, and more.

[95] Document *Measuring CCS_Analysis Report_Final_v2.0.*
[96] EUR - Lex (n.d.): Regulation (EU) 2021/818 of the European Parliament and of the Council of 20 May 2021 establishing the Creative Europe Programme (2021 to 2027) and repealing Regulation (EU) No 1295/2013.
[97] EUR- Lex (n.d.): Strengthening EU consumer rights.

Digital content refers to data that are produced and/or supplied in digital form. Digital content can be supplied without the need for a tangible medium (supply of online digital content[98]), and is distinct from *digitally ordered goods*, which are tangible items that are ordered online but delivered in physical format. Nevertheless, goods that are digitally ordered are also within the scope of the digital economy since their trade accounts for the value of e-commerce.[99]

Within this scenario, it could be argued that **digital cultural services** should include **any kind of digital service (as defined within EU law) that can be applied in the context of the CCS**, as outlined in the definition of the Creative Europe Programme.

The definition of digital cultural services was the **object of discussions during the Hackathon** held on 29 November 2021. At this event **consultations with key experts of the CCS** elicited important insights, and **materialised the following definition of digital cultural services**:

Digital cultural services are digital services that allow users to access cultural content or forms of cultural expressions, and that enable the provision of such cultural content from a producer to a user/consumer. This also includes intermediary cultural content consumption, which entails the reuse of cultural content to produce new and different content.

4.2.2 Mapping of NACE families and CCS sectors

To provide recommendations on the update of the current EU Cultural Statistics framework, in order to capture the economic and social relevance of digital cultural services, it is important to **depart from a sectorial scope definition**. This entails **mapping the CCS against the economic activities of the NACE classification** since several of the current EU statistical tools (in particular the SBS, which is devoted to businesses across the EU) are based on such classification.

According to the **Creative Europe Programme** definition, the CCS include the following sub-sectors: *"architecture, archives, libraries and museums, artistic crafts, audiovisual (including film, television, video games and multimedia), tangible and intangible cultural heritage, design (including fashion design), festivals, music, literature, performing arts, books and publishing, radio, and visual arts*".

The NACE Rev. 2 Framework also provides a detailed statistical classification of economic activities, among which many can be identified as of cultural nature and are linked to the different CCS sub-sectors.

A detailed mapping of the CCS against NACE economic activities is provided in the Annex[100] to the *Analysis Report*.

[98] EUR- Lex (n.d.): Directive 2011/83/EU of the European Parliament and of the Council of 25 October 2011 on consumer rights, amending Council Directive 93/13/EEC and Directive 1999/44/EC of the European Parliament and of the Council and repealing Council Directive 85/577/EEC and Directive 97/7/EC of the European Parliament and of the Council Text.

[99] The definition of goods in the context of the above-mentioned EU legislation includes both any physical movable items and any physical movable items that incorporate or are inter-connected with digital content or a digital service in such a way that the absence of that digital content or digital service would prevent the goods from performing their functions ("goods with digital elements").

[100] File *MeasuringCCS_Annexe – Digital Cultural Service_v2.0, Sheet: 01 CCS-NACE Mapping*

The mapping exercise highlighted how there are **sectors that relate to multiple economic activities**, and **activities that relate to more than one sector**. For instance, all activities of Divisions 59 "Motion picture, video and television programme production, sound recording" and 60 "Programming and broadcasting activities" are included and mapped alternatively to the audiovisual, music, and radio sectors.

Similarly, all activities of division 90 "Creative, arts, and entertainment activities" and 91 "Libraries, archives, museums, and other cultural activities" (except for class 91.04 "Botanical and zoological gardens and nature reserves activities") are included in the mapping and linked with different CCS sub-sectors.

The main considerations on the mapping exercise include:

- The mapping between certain sectors and economic activities (and vice versa) is **not straightforward.** For instance, the sector "*Festivals*" has been mapped to the economic activities 90.01 "Performing arts", 90.02 "Support activities to performing arts", and 90.04 "Operation of arts facilities", as the planning and execution of a festival entails a multitude of activities, some of which are related to artistic performances, and others to support-side activities.

- The last published version of the NACE classification (Rev. 2) dates back to 2008, and the economic activities and respective descriptions therein are not always entirely up to date, or do not fully grasp the impact of most recent trends and digital technologies. It is important to mention that **a revision of the NACE classification is currently taking place**, which should help to better capture the impact of digitalisation in the different economic sectors.

- Activities related to jewellery (i.e., class 32.12 "Manufacture of jewellery and related articles" and 47.7 "Retail sale of watches and jewellery in specialised stores") do not have a direct connection to a specific CCS sub-sector, but could be considered as outputs of the "Artistic crafts" and "Design" sectors. These classes have been included in the mapping, as several recent publications[101] include them within the sectorial analysis of the CCS.

- The sector *Advertising* has been included in the mapping (even if it is not among the sub-sectors listed in the Creative Europe CCS definition), as it is one of the key domains in Essnet Culture's, LEG's, and Unesco's frameworks, several recent publications[102] include it within the sectorial analysis of the CCS, and it has a profound influence on the ecosystem of the cultural and creative sectors and industries. Moreover, in section 4.1.1.3 we have proposed to reclassify three NACE codes connected to advertising (73; 73.1; 73.11) from "partly cultural" to fully "cultural and creative", according to the criteria described in section 4.1.1.

[101] For instance, Market Analysis of the CCS in Europe (European Investment Fund and KEA European Affairs, 2021), Employment in the cultural and creative sectors (European Parliamentary Research Service, 2019), Gender gaps in the Cultural and Creative Sectors (European Expert Network on Culture and Audiovisual, 2019), Economic and social impact of CCS (OECD, 2021)
[102] See previous Note.

4.2.3 Gap analysis against the surveys of the Cultural Statistics Framework

This section provides insights on a gap analysis between the existing surveys of the Cultural Statistics Framework and the measurement of aspects related to the digital economy. This assessment illustrates whether there are already relevant digital economy indicators captured by official surveys and not used in the cultural statistics framework. For this purpose, existing statistical tools used to collect inputs in the EU Cultural Statistics Framework (e.g., EU-LFS, SBS, COMEXT, AES, EU-SILC, HETUS, ICT-Survey, HBS, and GFS - Government Finance Statistics) have been reviewed.

In particular, the following surveys and data sources have been analysed:

- Statistics on Cultural Employment - Labour Force Survey (EU-LFS)
- Statistics on Cultural Enterprises - Structural Business Statistics (SBS)
- Statistics on international trade in cultural goods – COMEXT
- Statistics on international trade in cultural services - ITS
- Statistics on Cultural participation – EU Statistics on Income and Living Conditions (EU-SILC survey) / Harmonised European Time Use Surveys (HETUS) / Survey on Information and Communication Technologies usage in households and by individuals (ICT-Survey)
- Statistics on Private households budget on culture – Household Budget Surveys (HBS) / Harmonised Indices of Consumer Prices (HIPC)
- Statistics on government expenditure on cultural, publication and broadcasting services – Government Finance Statistics (GFS)

The paragraphs below summarise the findings for each of the above-mentioned sources.

Further information on the existing surveys can be found in the *Analysis Report*, Volume 2, Chapter 4[103].

Cultural Employment - Labour Force Survey (EU-LFS)

Statistics on cultural employment are derived from the results of the European Union "Labour Force Survey" (EU-LFS), which provides information on employment and labour market trends in the EU, EFTA countries, and candidate countries.

The **EU-LFS** survey relies on a **random sample of people living in private households** the sampling units of which are: dwellings, households, or individuals. Data are received by Eurostat from the 27 EU Member States – as well as from Iceland, Norway, Switzerland, North Macedonia, Türkiye, and Montenegro – and can be broken down to the level of NUTS 2 Regions.

The **EU-LFS** survey is based on two main reference classifications: **NACE**, which classifies the employer's main activity, and **International Standard Classification of Occupations (ISCO)**, which classifies occupations. The survey **measures employment in cultural economic activities and/or occupations.** Given this background, and on the basis of the cross-tabulation of NACE and ISCO nomenclatures, cultural employment statistics are calculated.

Within the EU-LFS **there is currently no specific evidence of metrics explicitly related or dedicated to digital services.** The variables available in the Eurostat LFS

[103] File *MeasuringCCS_Analysis Report_Final_v2.0.*

Database[104] do not specifically capture any indicator related to digitalisation or the digital economy.

Nevertheless, this does not exclude that in a way part of the digital economy is already captured by the EU-LFS (e.g., employees of companies that operate online streaming platforms, such as Spotify, may very well be amongst those whose information is collected), but the current level of detail provided by the survey does not allow to break down these elements further.

Cultural Enterprises - Structural Business Statistics (SBS)

The **EU document "Structural Business Statistics" (SBS)** describes the structure and performance of businesses within the EU, covering the "business economy" which includes industry; construction; distributive trades; and services. Statistics within the SBS can be broken down to a **very detailed sectorial level** (i.e., several hundred economic activities). The main variables within **EU SBS** are **expressed as monetary values or as counts**, for instance the numbers of enterprises or persons employed.[105]

The **data sources** for the SBS vary from country to country (as they depend on the national data collection strategy), but typically include **statistical surveys, administrative data, or registers**. Altogether, the **SBS** provides an annual collection of indicators by economic activity (based on the NACE Rev. 2 classification), with key metrics on turnover, value added, persons employed, apparent labour productivity, wage adjusted labour productivity, average personnel costs, and gross operating rate.

As a consequence, no digital aspect is explicitly specified within the key metrics provided by the survey, but it is nonetheless reasonable to assume that the cross product of metrics across specific NACE families may provide insight on possible digital services within the cultural sector.

International trade in cultural goods - COMEXT

Statistics on international trade in cultural goods are extracted from the **EU COMEXT**, which is Eurostat's database on **international trade in physical goods**. Statistics on goods trade are based on the concepts of extra-EU trade (goods entering or leaving the EU from or to an extra-EU country) and intra-EU (trade among EU countries). The main sources of the **EU COMEXT** include customs declarations, registries of trade transactions between countries, and data collected directly from traders. This information is recorded and transmitted from national authorities to Eurostat, which compiles the detailed statistical data and stores it in **COMEXT.**

In terms of classification, data on international trade are collected according to the **Combined Nomenclature** (CN)[106]. Within the CN, **cultural goods**, are identified as "*goods that involve creation or artistic expression in the production process and the purpose of which is to transmit aesthetic, symbolic, or artistic values*". Some examples of cultural goods that are included in the **COMEXT** database include books and newspapers, works of art (such as paintings, sculpture, and designs), craft articles and jewellery, musical instruments, films, video games (including consoles), and more.

[104] European Commission, EUROSTAT (2020): EU Labour Force Survey Database User Guide.
[105] European Commission, EUROSTAT (n.d.): EU Structural Business Statistics (EU-SBS)
[106] A new version of the Combined Nomenclature has been published by the European Commission, and is applicable from 1 January 2022 on.

International trade in cultural services - ITS

Data on **international trade in cultural services** are derived from a specific set of statistics on "International trade in services" (ITS), which are based on data from the Balance of Payments (BoP). The BoP systematically summarises all economic transactions between the residents and non-residents of a country or an economic area over a given period. The data feeding the ITS come from a wide variety of sources, such as **banks, companies, or private households**. The data are then compiled **annually**[107].

Altogether, as the ITS includes statistics on economic transactions (with the trade value being expressed in million of Euros), **it does not present indicators that are *specific* to the digital economy**.

Nevertheless, some of the economic transactions measured within the ITS indubitably deal with **categories that include digital services to a certain extent**. However, the current classification system **does not allow breaking down the data at a more granular level**, and therefore to distinguish between the digital and non-digital part of each category.

Cultural participation – EU-SILC/ HETUS/ ICT-Survey

Within the dimension of **cultural participation**, we find three **different surveys**; "EU Statistics on Income and Living Condition" (**EU-SILC**); "Harmonised European Time Use Survey" (**HETUS**); and "Survey on the use of Information and Communication Technologies in households and by individuals" (**ICT-Survey**).

The "EU Statistics on Income and Living Conditions" (EU-SILC) **was built in 2003 to solve the need of a broader measure of life quality across the Union.** It aims to collect timely and comparable cross-sectional and longitudinal data on **income, poverty, social exclusion, and living conditions[108]. The data could either be extracted from registers or collected from interviews as described in the methodological guidelines[109].**

A few of the indicators used may also embed digital characteristics in cultural activities (e.g., visiting cultural sites through virtual visits). The **EU-SILC** survey thus takes into consideration the digital economy within the cultural and creative sectors.

Since the year 2000 the **"Harmonised European Time Use Survey" (HETUS)[110]** survey has measured the **amount of time people spend on a wide range of activities**, such as paid work, household and family care, personal care, voluntary work, social life, travel, and leisure activities. It was designed for deriving various indicators relating to time spent, including **meantime**, **real participation time** (mean time spent in activities by individuals who took part), or **participation rate** (proportion of individuals who spent some time doing the activities). Regarding the digital economy spectrum, some of the activities included in the HETUS activity coding list (ACL) **might**

[107] Less detailed ITS data are compiled in the BoP dataset with quarterly frequency, but the level of detail is not enough to allow the user to distinguish cultural services.
[108] EU Statistics on Income and Living Conditions (EU-SILC)
[109] METHODOLOGICAL GUIDELINES AND DESCRIPTION OF EU-SILC TARGET VARIABLES
[110] The HETUS has already been analysed in section 4.1, and we have exposed some of its main limitations in sub-section 4.1.3.2. In the analysis presented in this section we have considered the HETUS from a different perspective, focusing on aspects related to digital technologies.

encompass digital components to a certain extent, for instance: computer games, information by computing, and communication by computing.

Lastly, a **set of statistics on the use of the internet for cultural purposes** (including cultural activities and the purchase of cultural goods) is available from the "**Community survey on information and communication technologies" (ICT-Survey)** usage in households and by individuals, which collects data on an **annual** basis. The framework supporting the ICT-Survey is quite flexible, and the information requested in the surveys can be adjusted to meet the evolving needs of users and decision-makers, and to reflect the rapidly changing technological context.

Altogether, the questionnaire is composed of several modules covering the fields specified in the framework, such as access to ICT, use of the internet, use of e-commerce, and use of e-government, e-skills, and competencies, and more (however, not all subjects are covered every year).

Private households expenditure on culture HBS/ HICP

The "**household budget surveys"** surveys are a series of national surveys focusing principally on consumption expenditure. Despite continuous efforts to move toward harmonized concepts and definitions, the structure of the survey and its design, timing, and frequency still differ between countries.

From the reference population (private households) the **surveys identify the use** (e.g., through tickets counts) **of many intrinsically cultural goods and services** (such as books, newspapers, and services provided by cinemas, theatres, concert halls, or museums).

In addition, durable goods such as musical instruments, photo and video cameras, drawing materials, and entertainment equipment (e.g., IT equipment, TV sets, radios, and CD/DVD players) are also identified within the scope of culture-related household expenditure. These items are classified as "indirect cultural expenditure"- i.e., they are used for artistic expression, or allow the reception of cultural content.

In terms of classification, the HBS relies on the **Classification of individual consumption by purpose (COICOP)**, which is made up of four-digit codes divided into services (S), non-durables (ND), semi-durables (SD), and durables (D). The **EU HBS** utilises a special version of the classification, the COICOP-HBS, which also includes an additional fifth digit for more detailed breakdowns. In addition, as of the 2015 wave of questionnaires (the last one available) it was recommended to use the European classification of individual consumption according to purpose (eCOICOP), which is built on the structure of COICOP-HBS for the fifth-digit but provides more disaggregation for some codes. However, not all countries adopted the eCOICOP, as some still used the COICOP-HBS in their national surveys.

The "**harmonized index of consumer prices" (HICP)** is an economic indicator that measures change over time in the prices of consumer goods and services acquired by households. The HICP monitors the changing cost of a fixed basket of goods and services. The HICP is based on the same classifications and data sources as the HBS, so the index can be calculated for the same categories and codes as the HBS.

General government expenditure on cultural, broadcasting and publishing services – GFS

The "**Government Finance Statistics"** provide insights on public expenditure, including the share of government expenditure on culture. They rely on the **Classification of the functions of government (COFOG)**, which groups government expenditure in 10 main divisions (COFOG level I) that are further broken down into groups (COFOG level II). The functions of government relating to culture are "08.2 – Cultural services" and "08.3 – Broadcasting and publishing services".

No digital aspect is explicitly specified within the categories of government expenditure on culture, but it is reasonable to assume that certain services include a digital component (e.g., Production, operation, or support of cultural events could also encompass events that are organised in a partial or full digital format), but it is not possible to distinguish this aspect given the current level of detail of the classification.

4.2.4 Definition of dimensions and indicators

The digital economy and its defining concepts, dimensions, and indicators are an integral part of statistical surveys from different actors. They reflect notions on the use of digital technologies by actors (e.g., business, administrations, and/or individuals) and/or on the interaction between digital technologies and economic indicators (thus creating a breakdown on the economic metrics reflecting the interactions with digital technologies).

In order **to capture the impact of digital cultural services across the EU**, **six key dimensions have been defined.** For this purpose, strong support has been provided by the methodological approaches of the DESI[111] from the European Commission (DG CONNECT) and the Digital Transformation Scoreboard[112].

The Digital Economy Society Index is one of the initiatives within the Digital Agenda that provides a composite index to capture metrics on the digital performance of Member States. The Digital Transformation Scoreboard of DG GROW on the other hand, aimed at providing evidence on the extent of digital transformation in Europe. The scoreboard relied on statistical indicators to reflect how the digital transformation in European industry and service businesses generated growth and employment.

In the approach described in this section, **the same structure as the DESI has been adopted** (i.e., dimensions and indicators), and the dimension "Human capital" has been included to account for the presence of digital skills among the workforce of the CCS, and provide a benchmark on the level of digital advancement of the sectors.

In addition, the Scoreboard provided further examples of relevant dimensions to be considered when assessing the level of digitalisation of a sector, such as the digital transformation enablers dimensions of "Digital infrastructure" and "Investment and resources".

Finally, to capture economic features, it is important to consider dimensions of production, distribution, and consumption. As the aim is to measure digital cultural

[111] Digital Economy and Society Index (DESI) 2021 - DESI methodological note.
[112] European Commission, (2018). Digital transformation scoreboard 2018. Publications Office of the EU.

services, such dimensions should include the production, distribution, and consumption of cultural content that is made possible by digital services or digital means. These specific dimensions were also discussed and validated during the **Hackathon** organised within this Project.

Altogether, the **six digital dimensions** that have been defined are:

- Digital infrastructure;
- Investment;
- Human capital;
- Digital cultural production;
- Digital cultural distribution; and
- Digital cultural consumption.

These dimensions set the basis for structuring the analysis of how changes undergone by the cultural and creative sectors in recent years can be measured by enhancing the Cultural Statistics Framework with metrics and indicators on the digital economy that can be directly linked to the cultural and creative sectors.

Among the six dimensions, the first three can be considered "Enablers", as they represent **factors ensuring that CCS organisations can carry out their activities in a favourable environment**, and in particular have access to adequate infrastructure and capital, as well as proper resources when it comes to operating in digital environments.

The last three dimensions are "Value chain" dimensions, as they represent the value chain cycle from production to consumption, and include the main set of indicators and metrics to capture the economic value of the cultural and creative sectors. More specifically, the "Value chain" dimensions deal with the **deep transformation that the CCS value chain has undergone** due to the advent and uptake of digital technologies across industries, which has shifted the traditional value chain into what is now known as a **platform economy**. The previously linear value chain has evolved into a **complex and non-linear value chain**, in which activities from production to distribution and consumption are now carried out by any kind of actor and at any given time by leveraging on digital technologies to rapidly create or distribute content and reach a mass audience.

Following the definition of dimensions, the next step entailed the **definition of indicators** – some of which were already existing, and were gathered from different sources, while others were newly defined.

To **identify existing indicators that could be re-used**, a qualitative research approach was applied that entailed the investigation of previous work on the digital economy and of a variety of sources, including compulsory surveys from statistical offices and/or other international organisations. The main sources consulted include:

- **Eurostat**, with sources ranging from the "household budget surveys" (HBS), the ICT usage in enterprises, households and individual surveys, the participation in education and training, the research and development (R&D) survey, and the structural business statistics (SBS);
- **Global Competitiveness Index**, produced and maintained by the World Economic Forum (WEF), which tracks the performance of almost 140 countries on 12 pillars of competitiveness, and which assesses the factors determining productivity improvements;

- **Global Talent Competitiveness Index**, which provides an annual benchmark on talent competitiveness, ranking 134 countries on how they grow, attract, and retain talent;
- **Organisation for Economic Cooperation and Development** (OECD) data on the digital economy provided through the Going Digital Toolkit which is available as a tool to help countries assess their state of digital development and provides data exploration and visualisation capabilities;
- The **Digital Economy and Society Index** (DESI) produced and maintained by DG CONNECT to summarise indicators on Europe's digital performance and track the progress of EU countries in the digital area;
- **International Telecommunication Union** (ITU), which produces and maintains data on international connectivity in communications networks;
- **United Nations Conference on Trade and Development** (UNCTAD) statistics, provided and maintained by the United Nations to ensure that reliable statistical information and indicators are available for the analysis of international trade, investment, and development aimed at fostering social and economic development.

Also, we believe that **newly proposed indicators can complement the improvements** of the Cultural Statistics Framework by providing metrics on digital economy concepts that cannot be covered by leveraging existing indicators.

Consequently, **new indicators** were defined on the basis of: (i) insights from the literature, industry sources, and relevant "non-official" datasets; (ii) inspiration from existing indicators to fill gaps or explore additional themes; (iii) consultations and insights from experts of the cultural and creative sectors during the **Hackathon** and **Stakeholder Input Session**.[113]

In short, the existing and new indicators represent **a starting point for updating the Cultural Statistics Framework to address identified gaps** in measuring digital cultural services. They constitute a **first contribution to the advancement of the statistical representation of the CCS** and will serve as **groundwork for future initiatives** to build upon and further enhance the Framework.

The definition of dimensions and indicators also represents the basis for the **development of a new methodology to measure digital cultural services**, which is further complemented with the exploration of innovative and complementary methods of data collection, illustrated in Chapter 5.

In light of the above, we recommend **making the necessary updates to the surveys of the current EU Cultural Statistics to onboard the digital economy.**

In particular, we recommend to:

- Validate the use of existing indicators (currently not being used in the Cultural Statistics Framework) with relevant stakeholders. These existing indicators could integrate the framework to account for digital economy aspects of the CCS;
- Formulate updates to the survey questionnaires to start collecting the newly proposed indicators;

[113] A detailed list of all the insights gathered during the session with regard to digital cultural services is provided in the Annex to the *Analysis Report*: document *Measuring CCS_Annexe - Digital Cultural Services, Sheet 5: Stakeholder Input Session.*

- Update the surveys and statistical tools of the framework to collect data more often and at a more granular level, as the information is often aggregated at NACE sections or divisions level; further breakdown into groups and classes would help to better distinguish different CCS sub-sectors.

The following paragraphs dive into more detailed definitions of each digital cultural dimension. For each dimension, the relevant indicators – either existing or newly defined – are also presented.[114]

Digital Infrastructure

This dimension measures the availability and use of digital infrastructure (e.g., broadband coverage and use of specific digital technologies and/or IT solutions) by enterprises operating in the cultural and creative sectors. In other words, it aims at capturing the degree of digitalisation reached by different CCS organisations.
Adequate digital infrastructure is a key enabling factor for businesses and organisations to be successful in the digital economy, regardless of the sector they operate in. For instance, having a proper infrastructure is a necessary operational condition for companies that deal extensively with the trade of cultural goods and services (including an online presence, payment and processing systems, and overarching IT infrastructure).

In terms of specific indicators, two deal with the topic of **connectivity** (i.e., internet bandwidth and the number of enterprises using DLS - Digital Subscriber Line - or other fixed broadband connection), as this can be considered the cornerstone for internet access.

Another set of indicators is related to the **use that businesses make of different digital tools**, such as enterprises using Enterprise Resource Planning (ERP) and Customer Relationship Management tools to increase the efficiency of their operations, or using solutions that enable automatic data exchange and processing with business partners and/or public authorities. Along the same line, a few indicators also deal with **businesses' presence on the web** (for example, having a website, or using different social media channels), and **use of the internet**, either for customer interactions or delivery of products/services.

Within this dimension, new indicators exploring the use that organisations make of innovative technologies such as data analysis tools and solutions have also been defined.

Table 4.8: Digital infrastructure indicators

Status	Indicator	Source	Last year available	(Eurostat) Data Set	(Eurostat) Code2
Existing	Enterprises using DLS or other fixed broadband connection	Eurostat	2021	isoc_ci_it_en2	E_FIXBB
Existing	Internet bandwidth	Global Competitiveness Index (WEF)	2017	N/A	N/A

[114] The full list of indicators including their sources and other relevant information is provided in the Annex to the *Analsys Report*: document *Measuring CCS_Annexe - Digital Cultural Services, Sheet 4: Indicators Update.*

Status	Indicator	Source	Last year available	(Eurostat) Data Set	(Eurostat) Code2
Existing	Percentage of enterprises who have ERP software package to share information between different functional areas	Eurostat	2021	isoc_eb_iip	E_ERP1
Existing	Percentage of enterprises using Customer Relationship Management to analyse information about clients for marketing purposes	Eurostat	2021	isoc_eb_iip	E_CRMAN
Existing	Electronic transmission of data suitable for automatic processing between enterprise and business partners	Eurostat	2010*	isoc_bde15disc	E_SIEXT
Existing	Enterprises using automated data exchange for sending or receiving data to / from public authorities	Eurostat	2012*	isoc_bde15disc	E_ADEGOV
Existing	Enterprises using automated data exchange for receiving orders from customers	Eurostat	2010*	isoc_bde15disc	E_ADESUCU
Existing	Use two or more social media	Eurostat	2021	isoc_cismt	E_SM_GE2
Existing	Share of businesses with a web presence	OECD	2021	OECD Going Digital Toolkit	26
Existing	Proportion of businesses using the Internet for providing customer services	UNCTAD STAT	Depends on the country (2016 at the latest)		B12_icust
Existing	Proportion of businesses using the Internet for delivering products online	UNCTAD STAT	Depends on the country (2016 at the latest)		B12_idel
New	Existing Indicator: - Enterprises using RFID technologies as part of production and service delivery process Reformulation: - Enterprises using automated information and data collecting (AIDC) technologies as part of production and service delivery process	Derived from Eurostat	2021	isoc_eb_iip	E_RFPSDP (Derived)
New	Derived from: - Enterprises using RFID technologies as part of production and service delivery process New indicator: - Enterprises using data	Derived from Eurostat	N/A	N/A	E_RFPSDP (Derived)

Status	Indicator	Source	Last year available	(Eurostat) Data Set	(Eurostat) Code2
	analysis tools or technologies as part of production and service delivery process				

Investment

To increase their level of digitalisation CCS organisations can invest in both tangible and intangible assets to improve the efficiency of their activities and operations. This can range from investment in physical infrastructures – such as computers, servers, data centres, and facilities – to expensive software and solutions, as well as innovative research projects.

To address the accessibility to those assets, this dimension focuses on assessing whether and to what extent companies operating in the CCS invest in activities related to digitalisation. In this regard, the Investment dimension mainly deals with companies' spending on R&D and ICT assets.

Indicators that address firms' purchases of cloud computing services, as well as a set of indicators that deal with spending and investment in advertising, have been identified.
In particular, **advertising** expenditure was also included as a component of investment, as it can be considered an investment for growth to reach a larger market share (which can either materialise or not depending on the behaviour of the consumer who is exposed to the advertisement).

A new indicator (based on an existing OECD indicator) has also been defined, to measure the extent to which businesses invest in IT, telecommunications equipment, computer software, and databases, to capture the total ICT investment of CCS organisations.

Table 4.9: Investment indicators

Status	Indicator	Source	Last year available	(Eurostat) Data Set	(Eurostat) Code2
Existing	Firms that buy cloud computing services delivered from shared servers and from servers of service providers exclusively reserved for the enterprise	Eurostat	2018*	isoc_cicce_use	E_CC_DS
Existing	Pay to advertise on the internet	Eurostat	2021	isoc_cismt	E_ADS
Existing	Pay to advertise on the internet, based on the webpages' content or keywords searched by users	Eurostat	2021	isoc_cismt	E_ADS_KW
Existing	Have a website and pay to advertise on the internet	Eurostat	2021	isoc_cismt	E_ADS_WEB
Existing	Pay to advertise on the Internet and use any social media	Eurostat	2021	isoc_cismt	E_ADS_SM1_ANY
New	Derived from: - ICT investment by asset (IT and telecommunications	OECD (G20 Toolkit), Eurostat	2015		

Status	Indicator	Source	Last year available	(Eurostat) Data Set	(Eurostat) Code2
	equipment, Computer software and databases, Total ICT Investment) To be modified to: - Enterprise investment in IT and telecommunications equipment, Computer software and databases (Total ICT Investment)	(DESI), National Sources			
New	Derived from: - Business enterprise R&D expenditure in all NACE activities from high-tech sectors Reformulation: - Business enterprise R&D expenditure in all NACE activities from CCS sectors	Derived from Eurostat	2020	rd_e_berdfundr2	rd_e_berdfundr2 (Derived)

Human Capital

Companies and organisations require appropriate human capital – in terms of employees with the right skillset and level of digital literacy – to make the most of digital technologies and assets.

The "human capital" dimension focuses on assessing the presence of workers with adequate digital competencies within the cultural and creative sectors, as well as the extent to which companies provide ICT training and tools to their employees. These two elements are essential components to build a pool of talent that can support an organisation's growth in the context of the digital economy.

A set of specific indicators is specifically dedicated to training, looking, for instance, at the proportion of businesses that used the internet for staff training, as well as the enterprises that provided training to further develop the ICT skills of their employees (whether they are ICT specialists or not).

The second set of indicators deals with the tools that organisations provide to their employees (such as mobile telephones and portable devices) or that employees make regular use of during their work.

A last set of indicators explores in greater detail the notion of skills, looking at how easy it is for companies to find skilled employees, and at the presence of ICT skills and ICT occupations within the CCS.

Table 4.10: Human capital indicators

Status	Indicator	Source	Last year available	(Eurostat) Data Set	(Eurostat) Code2
Existing	Ease of finding skilled employees	Global Talent Competitiveness Index, 2017	2019	N/A	N/A
Existing	Enterprises that	Eurostat	2020	isoc_ske_itrcrn2	E_ITSPVAC2,

Status	Indicator	Source	Last year available	(Eurostat) Data Set	(Eurostat) Code2
	employ ICT specialists and had hard-to-fill vacancies for ICT specialists				E_ITSPRCR2
Existing	Persons employed, which were provided a portable device that allows a mobile connection to the internet for business use	Eurostat	2013*	isoc_bde15b_p	P_EMPMD
Existing	Percentage of enterprises that provided training to ICT/IT specialists to develop/upgrade their ICT skills	Eurostat	2020	isoc_ske_ittn2	E_ITSPT2
Existing	Enterprises giving portable devices for a mobile connection to the internet to their employees	Eurostat	2021	isoc_bde15b_e	E_PMD
Existing	Enterprises that provided training to develop/upgrade ICT skills of their personnel	Eurostat	2022	isoc_ske_ittn2	E_ITT2
Existing	Percentage of individuals who use digital equipment at work that telework from home once a week or more	OECD	2018	OECD Going Digital Toolkit	55
Existing	Proportion of persons employed routinely using computers	UNCTAD STAT	Depends on the country (2016 at the latest)		B2
Existing	Proportion of businesses using the Internet for staff training	UNCTAD STAT	Depends on the country (2016 at the latest)		B12_iedu
Existing	Individuals with ICT skills, by type of skills	OECD (G20 Toolkit), ITU	2017		
New	ICT occupations as a percentage of total employment in the CCS	Derived from Eurostat and OECD			

Digital cultural production

Digital production can be described as the process by which digitally created ideas and assets integrate the value chain of a given economic sector.

As digitalisation affects all businesses to a certain extent, the digital production within the frame of the cultural and creative sectors may thus reflect **the creation of cultural content through fully integrated and automated digital means.** It encompasses the processes and activities leading businesses in the cultural and creative sectors to make available assorted media types, including audio, video, graphic, and written content to a mass audience.

Digital production is dependent on continuous changes in technology and is therefore subject to the enablers described in the previous sub-section. Within the frame of the cultural and creative sectors, digital cultural production extends beyond a traditional business production perspective of cultural output to encompass the use of digital means to create digital content regardless of whether it is produced by businesses or individuals, and among individuals, whether it is produced by professional or amateur content-creators.

These proposed indicators for the update of the framework provide a way of measuring and monitoring cultural production by using existing quantitative information on:

- The use of digital technologies by individuals to carry out activities related to the production of cultural content,
- The use of digital advertisement services by businesses as an illustration of an intermediary input in the production of professional content.

These indicators may be complemented by a new set of indicators targeting both individuals and businesses:

- For individuals, on the sharing of self-created content of different typology (i.e., amateur, or professional) to provide measures on the cultural production by individuals with a distinction in the type of produced content.
- For businesses, on the allocated budget for cultural production to be delivered through VoD in the Member States and the share of budget allocated to content creation activities.

These existing and proposed new indicators may complete and improve the way the Cultural Statistics Framework is currently measuring and monitoring cultural production in the EU.

Table 4.11: Digital cultural production indicators

Status	Indicator	Source	Last year available	(Eurostat) Data Set	(Eurostat) Code2
Existing	Enterprises using information about visitors' behaviour on their websites, e.g., for advertising or improving customer satisfaction	Eurostat	2021	isoc_cismt	E_VBU
Existing	Used software run over the internet for editing pictures or videos	Eurostat	2014*	isoc_cicci_use	I_CC_EPV

Status	Indicator	Source	Last year available	(Eurostat) Data Set	(Eurostat) Code2
Existing	Internet use: creating websites or blogs	Eurostat	2016*	isoc_ci_ac_i	I_IUCWEB
Existing	Internet use: sharing or publishing self-created videos, photos, music, texts, etc on a website or via an app	Eurostat	2020*	isoc_ci_ac_i	I_IUUPL1
Existing	Internet use: uploading self-created content to any website to be shared	Eurostat	2019*	isoc_ci_ac_i	I_IUUPL
New	Internet use: sharing or publishing self-created videos	Derived from Eurostat. More granular version of I_IUUPL1	N/A	N/A	I_IUUPL1 (Derived)
New	Internet use: sharing or publishing self-created music	Derived from Eurostat. More granular version of I_IUUPL1	N/A	N/A	I_IUUPL1 (Derived)
New	Internet use: sharing or publishing self-created photos	Derived from Eurostat. More granular version of I_IUUPL1	N/A	N/A	I_IUUPL1 (Derived)
New	Share of "professional" content providers among individuals	N/A	N/A	N/A	N/A
New	Share of budget allocated to VOD production (In EU Member States)	N/A	N/A	N/A	N/A
New	Share of budget allocated to local VOD production (in Member States)	N/A	N/A	N/A	N/A
New	Production budget for product creation/development (i.e. games, audiovisual content)	Stakeholder Input Session	N/A	N/A	N/A
New	Share of enterprises producing and distributing Non-Fungible Tokens	Stakeholder Input Session	N/A	N/A	N/A

Digital cultural distribution

Digital cultural distribution reflects the **distribution of cultural content through digital channels and services**. This includes, for instance, digital trade (i.e.,

eCommerce), but also distribution through online stores (App stores, digital music stores) and platforms (e.g., streaming of content). It also encompasses the revenues that online platforms have from the provision of "free" digital services (e.g., video or music streaming) financed via advertising. Digital cultural distribution reflects the **upload of cultural output to digital infrastructure providing online services** of digital media – such as websites, banner ads, rich media applications, HTML emails, and mobile and/or social media applications – to deliver it to a potential audience of customers through fully digital means. This includes mass audiences (as is the case of platforms with a wide reach and user base), but also narrow audiences (as is the case of more niche subscription – SvoD – platforms).

Similarly to changes in production, **distribution processes across different industries have changed considerably in recent decades due to technological advances**. In the music sector, for instance, the revenues from physical sales have fallen more than 80% in the last 20 years[115] while the revenues from streaming and downloads have soared.

The table below provides potential indicators that can be used to measure and monitor digital cultural distribution. For instance, certain metrics on specific sources of revenues (e.g., revenues from digital sales) may help capture distribution-related insight within the Cultural Statistics Framework, whilst further breakdowns in the typology of revenues (e.g., revenues from professional content) may help distinguish between the distribution of professional and amateur content.

Finally, a new indicator is proposed for updating the Cultural Statistics Framework; this indicator may ask individuals about the extent to which they generate revenues as professional content providers.

Table 4.12: Digital cultural distribution indicators

Status	Indicator	Source	Last year available	(Eurostat) Data Set	(Eurostat) Code2
Existing	Enterprises' turnover from e-commerce sales to own country	Eurostat	2021	isoc_ec_evaln2	E_AESVHM
Existing	Enterprises' turnover from e-commerce sales to other EU countries	Eurostat	2021	isoc_ec_evaln2	E_AESVEU
Existing	Enterprises' turnover from e-commerce sales to the rest of the world	Eurostat	2021	isoc_ec_evaln2	E_AESVWW
Existing	Enterprises' turnover from web sales via own	Eurostat	2021	isoc_ec_evaln2	E_AWSVAL_COWN

[115] IFPI GLOBAL MUSIC REPORT 2021.

Status	Indicator	Source	Last year available	(Eurostat) Data Set	(Eurostat) Code2
	websites or apps				
Existing	Enterprises' turnover from web sales	Eurostat	2021	isoc_ec_evaln2	E_AWSVAL
Existing	Enterprises' turnover from EDI-type sales	Eurostat	2021	isoc_ec_evaln2	E_AXSVAL
Existing	Enterprises' turnover from web sales - B2C	Eurostat	2021	isoc_ec_evaln2	E_AWSVAL_B2C
Existing	Enterprises' turnover from web sales - B2B and B2G	Eurostat	2021	isoc_ec_evaln2	E_AWSVAL_B2BG
Existing	Share of enterprises' total turnover from e-commerce	Eurostat	2021	isoc_ec_evaln2	E_ETURN
Existing	Enterprises having done electronic sales or purchases to other EU countries	Eurostat	2021	isoc_ec_eseln2	E_AESBEU
Existing	International trade in digitally deliverable services (Exports)	UNCTAD STAT	2020	N/A	N/A
Existing	International trade in digitally deliverable services (Imports)	UNCTAD STAT	2020	N/A	N/A
New	Revenues generated from content published online by "professional" content providers	N/A	N/A	N/A	N/A
New	Enterprises' turnover from sales of digital content	Stakeholder Input Session	N/A	N/A	N/A
New	Enterprises' turnover	Stakeholder Input	N/A	N/A	N/A

Status	Indicator	Source	Last year available	(Eurostat) Data Set	(Eurostat) Code2
	from subscriptions revenues for access to digital content	Session			

Digital cultural consumption

To define consumption in the digital economy, it is i**mportant to extend the concept of consumption beyond its traditional views** on the acquisition and use of physical products. Today, digital consumption enables the consumer to access and use services across geographies and across time. Digital technologies have transformed forms of consumption, associated in essence with the online accessibility of content.

Within the frame of the cultural and creative sectors, digital cultural consumption reflects two key concepts:

- The "traditional" consumption, which concerns the purchase of physical items. This type of consumption has been enhanced by digital technologies and today includes online purchases of goods. In the context of the CCS, this side is reflected in the online purchases of cultural-related items (e.g., vinyl discs, CDs, and tickets to cultural or artistic events).
- The consumption of cultural content through digital channels and services. This includes, for instance, consumption of e-books, digital videos, and music on both mobile and non-mobile devices, mainly through download or streaming of content.

Table 4.13 presents a list of **potential indicators that could help improve the Cultural Statistics Framework by measuring and monitoring consumer behaviour.** These indicators are sourced in their majority from current surveys on the use of information and communication technologies by individuals and businesses. These indicators illustrate how individuals make use of ICT and focus on content that can qualify as content production in the cultural and creative sectors, e.g., the use of the internet and digital capabilities to carry out activities related to the consumption of eBooks, music, video, web-radio, networked games, and others.

The proposed indicators also address the acquisition of cultural content in both traditional (physical) support (e.g., event tickets, CDs, vinyl discs, printed books, etc.) and digital content (e.g., music, videos, and e-newspapers) through digital means in the form of one-time purchases or the form of periodic subscription services.

These proposed indicators for improving the framework are important to leverage since they are ready and available for assessment and/or use and provide relevant ways of measuring and monitoring consumption within the Cultural Statistics Framework.

Finally, six new indicators for which there are no currently collected metrics are proposed for improving the framework. These indicators are related to:

- The uptake of certain activities on the consumption of cultural and creative output;
- The typology of cultural content consumed through digital means;

- The amounts spent by consumers on periodic subscriptions on digital platforms, and related to a breakdown in their typology.

Table 4.13: Digital cultural consumption indicators

Status	Indicator	Source	Last year available	(Eurostat) Data Set	(Eurostat) Code2
Existing	Share of Internet users who have purchased online	OECD	2020	OECD Going Digital Toolkit	22
Existing	Used services over the internet for playing music or video files uploaded or saved in internet storage space	Eurostat	2014*	isoc_cicci_use	I_CC_PMV
Existing	Internet use: playing or downloading games	Eurostat	2020*	isoc_ci_ac_i	I_IUPDG
Existing	Internet use: listening to music (e.g., web radio, music streaming)	Eurostat	2019*	isoc_ci_ac_i	I_IUMUSS
Existing	Internet use: listening to music (e.g., web radio, music streaming) or downloading music	Eurostat	2020*	isoc_ci_ac_i	I_IUMUSS1
Existing	Internet use: watching internet streamed TV or videos	Eurostat	2020*	isoc_ci_ac_i	I_IUSTVV
Existing	Internet use: watching internet streamed TV (live or catch-up) from TV broadcasters	Eurostat	2020*	isoc_ci_ac_i	I_IUSTV
Existing	Internet use: watching video on demand from commercial services	Eurostat	2020*	isoc_ci_ac_i	I_IUVOD
Existing	Internet use: watching video content from sharing services	Eurostat	2020*	isoc_ci_ac_i	I_IUVSS
Existing	Internet use: watching video content from commercial or sharing services	Eurostat	2020*	isoc_ci_ac_i	I_IUV
Existing	Internet use: playing/downloading games, listening to music or watching videos (excluding VOD)	Eurostat	2020*	isoc_ci_ac_i	I_IUGMV
Existing	Internet use: playing/downloading games, listening to music or watching internet streamed TV or videos	Eurostat	2020*	isoc_ci_ac_i	I_IUENT
Existing	Internet use: reading/downloading online newspapers/news	Eurostat	2012*	isoc_ci_ac_i	I_IUNW
Existing	Internet use: reading online news sites/newspapers/news magazines	Eurostat	2021	isoc_ci_ac_i	I_IUNW1
Existing	Internet use: playing/downloading games, images, films or music	Eurostat	2014*	isoc_ci_ac_i	I_IUGM
Existing	Internet use: listening to web radios and/or watching web TV	Eurostat	2012*	isoc_ci_ac_i	I_IUWEB
Existing	Internet use: playing networked games with other persons	Eurostat	2014*	isoc_ci_ac_i	I_IUGMNET
Existing	Internet use: listening to web radio	Eurostat	2014*	isoc_ci_ac_i	I_IUWEB2
Existing	Online purchases: films/music	Eurostat	2019	isoc_ec_ibuy	I_BFILM
Existing	Online purchases: books/magazines/newspapers	Eurostat	2019	isoc_ec_ibuy	I_BBOOKNL

Status	Indicator	Source	Last year available	(Eurostat) Data Set	(Eurostat) Code2
Existing	Online purchases: tickets for events	Eurostat	2019	isoc_ec_ibuy	I_BTICK
Existing	Online purchases: films/music, delivered or upgraded online	Eurostat	2019	isoc_ec_ibuy	I_BFILMO
Existing	Online purchases, downloaded or accessed from websites or apps: e-books	Eurostat	2019	isoc_ec_ibuy	I_BEBOOKO
Existing	Online purchases, downloaded or accessed from websites or apps: e-magazines, e-newspapers	Eurostat	2019	isoc_ec_ibuy	I_BMGNWO
Existing	Online purchases, downloaded or accessed from websites or apps: e-books, e-magazines/e-newspapers	Eurostat	2019	isoc_ec_ibuy	I_BBOOK1O
Existing	Online purchases, downloaded or accessed from websites or apps: films/music, e-books, e-magazines/e-newspapers	Eurostat	2019	isoc_ec_ibuy	I_BGOOD3O
Existing	Online purchases, downloaded or accessed from websites or apps: films/music, e-books, e-magazines/e-newspapers or computer software (incl. computer...	Eurostat	2019	isoc_ec_ibuy	I_BGOOD1O
Existing	Online purchases: video games software and upgrades	Eurostat	2013*	isoc_ec_ibuy	I_BGSOFT
Existing	Online purchases from sellers abroad: products downloaded or accessed from websites or apps (e.g., films, music, e-books, e-newspapers, games, paid applications) ...	Eurostat	2017*	isoc_ec_ibuy	I_BFFOR_DWL
Existing	Online purchases from sellers abroad: other services (e.g., tickets for events received by mail, telecom subscriptions)	Eurostat	2017*	isoc_ec_ibuy	I_BFFOR_OSV
Existing	Online purchases (3 months): music as CDs, vinyls etc.	Eurostat	2021	isoc_ec_ibgs	I_BMUSG
Existing	Online purchases (3 months): films or series as DVDs, Blu-ray etc.	Eurostat	2021	isoc_ec_ibgs	I_BFLMG
Existing	Online purchases (3 months): printed books, magazines or newspapers	Eurostat	2021	isoc_ec_ibgs	I_BBOOKNLG
Existing	Online purchases (3 months): tickets to cultural or other events	Eurostat	2021	isoc_ec_ibgs	I_BCTICK
Existing	Internet storage space use: to save or share e-books or e-magazines	Eurostat	2014*	isoc_cicci_use	I_CC_EBO
Existing	Internet storage space use: to save or share music	Eurostat	2014*	isoc_cicci_use	I_CC_MUS
Existing	Internet storage space use: to save or share videos including films, TV programmes	Eurostat	2014*	isoc_cicci_use	I_CC_VID
Existing	Internet storage space use: to save or share music and videos	Eurostat	2014*	isoc_cicci_use	I_CC_MV
New	Derived from: - Diffusion of selected online	OECD (G20 Toolkit),	2017		

Status	Indicator	Source	Last year available	(Eurostat) Data Set	(Eurostat) Code2
	activities among Internet users To be expanded to include CCS activity categories: - Diffusion of selected online activities among Internet users (Social Network, Online Purchases, Online sales, Cloud storage, Content Creation)	Eurostat (DESI), ITU			
New	Type of most "consumed" cultural content/material when browsing online [close-ended question; possible options being "Videos"; "Songs"; "Books"; "Others", etc...]	N/A	N/A	N/A	N/A
New	Monthly amount spent on subscription services for digital platforms	N/A	N/A	N/A	N/A
New	Monthly amount spent on subscription services for VOD platforms	N/A	N/A	N/A	N/A
New	Monthly amount spent on subscription services for digital music platforms	N/A	N/A	N/A	N/A
New	Monthly amount spent on subscription services for digital newspapers/magazines	N/A	N/A	N/A	N/A
New	Most frequently used device used for consuming digital cultural content (e.g. desktop PC, laptop, mobile phone, tablet)	Stakeholder Input Session	N/A	N/A	N/A
New	Average time spent consuming digital cultural content over a certain period of time, by type of content (i.e. music, videos, images, books)	Stakeholder Input Session	N/A	N/A	N/A
New	Frequency of use of digital content platforms, by type of content (i.e. music, videos, images, books)	Stakeholder Input Session	N/A	N/A	N/A
New	Number of digital content platforms or services used	Stakeholder Input Session	N/A	N/A	N/A
New	Average number of hours spent per [day/month] accessing digital content (e.g. videos, music, museum collections) made available for free on the internet;	Stakeholder Input Session	N/A	N/A	N/A
New	Average number of hours spent per [day/month] accessing digital content (e.g. videos, music, museum collections) through paid (subscription) services.	Stakeholder Input Session	N/A	N/A	N/A

4.3 A transition process proposal for the new statistical framework on the cultural and creative sectors

It seems clear that to make a shift in the production of cultural statistics from the point at which they are currently being produced to a point at which they fully respond to the needs of the users (be they cultural agents, policy makers, or simple citizens) requires a certain strategy of change.

As we have seen in the previous points, the implications of such changes have technical consequences – such as the need to redo previous series, or how to match with new NACE codes – as well as political ones – since depending on which sectors are included or excluded, they may or may not be eligible for certain public policy actions – and even communicative ones – since the narrative that is constructed may affect the perception of the roles of cultural and creative agents in Europe.

At the same time, as we have seen in the multiple interactions with the concerned stakeholder and with the different national statistical institutes, the sensitivities are very diverse and the degrees of maturity and experience in the development of cultural statistics is also heterogeneous.

Finally, it must be borne in mind that the proposals we put forward here must be adopted by consensus and obviously there are no regulatory mechanisms that oblige Member States to adopt them. It is clear that the objective of this proposal is to contribute to a clear and decisive convergence in the scope and practice of the various national statistical institutions. It is under these circumstances that a transactional approach is proposed in order to allow, in an orderly and clear manner, each of the cultural statistics national services to advance to the proposed scope at a speed that feels comfortable, and to be in a position to meet its own needs. The aim is to propose a period of convergence for the proposed framework. In the meantime, while allowing for different speeds, it will always be possible to enable clear and transparent comparisons between Member States, as well as precise trajectories that include changes and improvements in the way they are implemented.

It is therefore a modular, flexible proposal that concerns and refers to the way of grouping the activities, allowing readings that satisfy the whole spectrum of sensibilities that we have perceived throughout the development of this work, and attending one specific ESSnet-Culture recommendation: "when speaking about creative and cultural industries clearly mention the sectors that are covered". ESSnet -Culture (2012, p. 59).

As a creative substratum of the economic system, CCS are intertwined with IP or R&D. Some approaches that seek to identify the creative dimension of the economy (Creative Economy or "Orange Economy" as used by some Latin American countries) include economic activities that go beyond the framework we propose here. In this sense we include the CCS within a larger system (see Figure 4.1) and split them into three subgroups. The criteria for discrimination between one group or the other will always be debatable and controversial, but this grouping fits quite closely in the structure of the NACE codes, including their current revision, and it can be adapted to the different effective uses currently made by the statistical services of the different Member States. And finally, the grouping fits with the information available from different sources (EU-LFS; SBS; National Accounts) in the EUROSTAT services.

From another perspective, this is also a classification that makes it possible to match different demands from different Commission Directorates-General; from the Cultural and Creative Ecosystem concept of the DG GROW to the demands toward evidence-

based decision-making for culture at EU level from DG EAC[116]) or the interests in creating a reliable baseline of statistical data about digitisation, digital preservation, and online access to cultural heritage in Europe for policy-makers from the DG-CONNECT.

This is therefore an *ad hoc* grouping, but one that seeks to combine a certain conceptual coherence with instrumental pragmatism and the possibility of flexible and diverse readings, meeting the specific demands of various interest groups.

4.3.1.1 G1 Core cultural sectors

The first group comprises those economic activities capable of producing cultural experiences without major intermediate transformation processes or excessive technological intensity, and which imply in most cases a synchronous presence of creation/production-consumption-participation. It includes all live artistic expressions, fine arts, memory and heritage, and cultural education. Moreover, these activities have constituted the main object of the cultural policy model in continental Europe and have basically sought to facilitate the physical relationship between the artistic works of the present or the past, creators, and citizens. They are also the activities most connected to amateur practices and to participation outside the markets, as well as to what is often called third sector social economy activities. As we have noted, the CCS frameworks of EU Member States are more focused on the cultural activities than on the creative activities.

This group would incorporate the 2-digit NACE codes 90 and 91 and the 4-digit group of cultural education 85.52, which does not include formal cultural education.

4.3.1.2 G2 Cultural industries

The second group includes those activities traditionally referred to as cultural industries, which are relatively technology-intensive and require some processing from the creative act to the provision of a cultural good or service. These activities have traditionally been beyond the access of non-professional citizens; however, with the technological leap of the last decades and the fall in production costs and digitalisation, they are now available to most connected citizens. In this group we include the traditionally so-called cultural industries (radio, television, publishing, audio-visual production, and recorded music) but also artistic manufacturing[117], trying to find a suitable fit for the art craft sector, which is difficult to capture with the current NACE codes.

4.3.1.3 G2' Cultural industries (with printing)

As we have seen in the recommendations, on the basis of the criteria used and the arguments set out in the previous paragraphs, we consider that group 18.1 should not be included. However, from the discussions with different actors and especially with the group of cultural statistics of the Member States, we detected in some cases a strong reluctance to leave out printing services. We therefore propose a grouping of cultural industries to include group 18.1. In this way, Member States that for various reasons (from technical difficulties in redoing the series to the consideration that it would mean breaking the integrity of the value chain of book production) can choose this group but make it explicit that printing related activities are included. In this case, the different

[116] Directorate-General for Education, Youth, Sport and Culture.
[117] Although we share the vision of the ESSnet that "*creation function is the main function of art crafts and the whole organization of art crafts originate from creation*".

Member States, depending on their sensitivities or even the relevance of the sector in question, can choose in a flexible, but explicit and transparent way, to use in their cultural statistics the group G2 or G2'. Comparability is ensured by knowing whether or not group 18.1 is included.

4.3.1.4 G3 Creative Services

In this **third group** of creative services we propose to include those creative activities that traditionally have not been included in cultural statistics but which have to be considered if we accept that the object of analysis goes beyond cultural goods and services to incorporate other types of creative activities. In this group we include design (much more detailed in the new proposed revision of the NACE codes), architectural services, and advertising activities. In this group we also propose to include the video games sector (despite the fact that in terms of neither value chain nor cultural content is it distinguishable from audio-visual production) given the resistance of some more conventional views to place video game production under a label that includes the term cultural. Moreover, the increasingly intense use of gamification (from education, health, or the business world) for purposes that go beyond cultural enjoyment or entertainment also points to the convenience of considering the whole activity of video game publishing in the group of creative services.

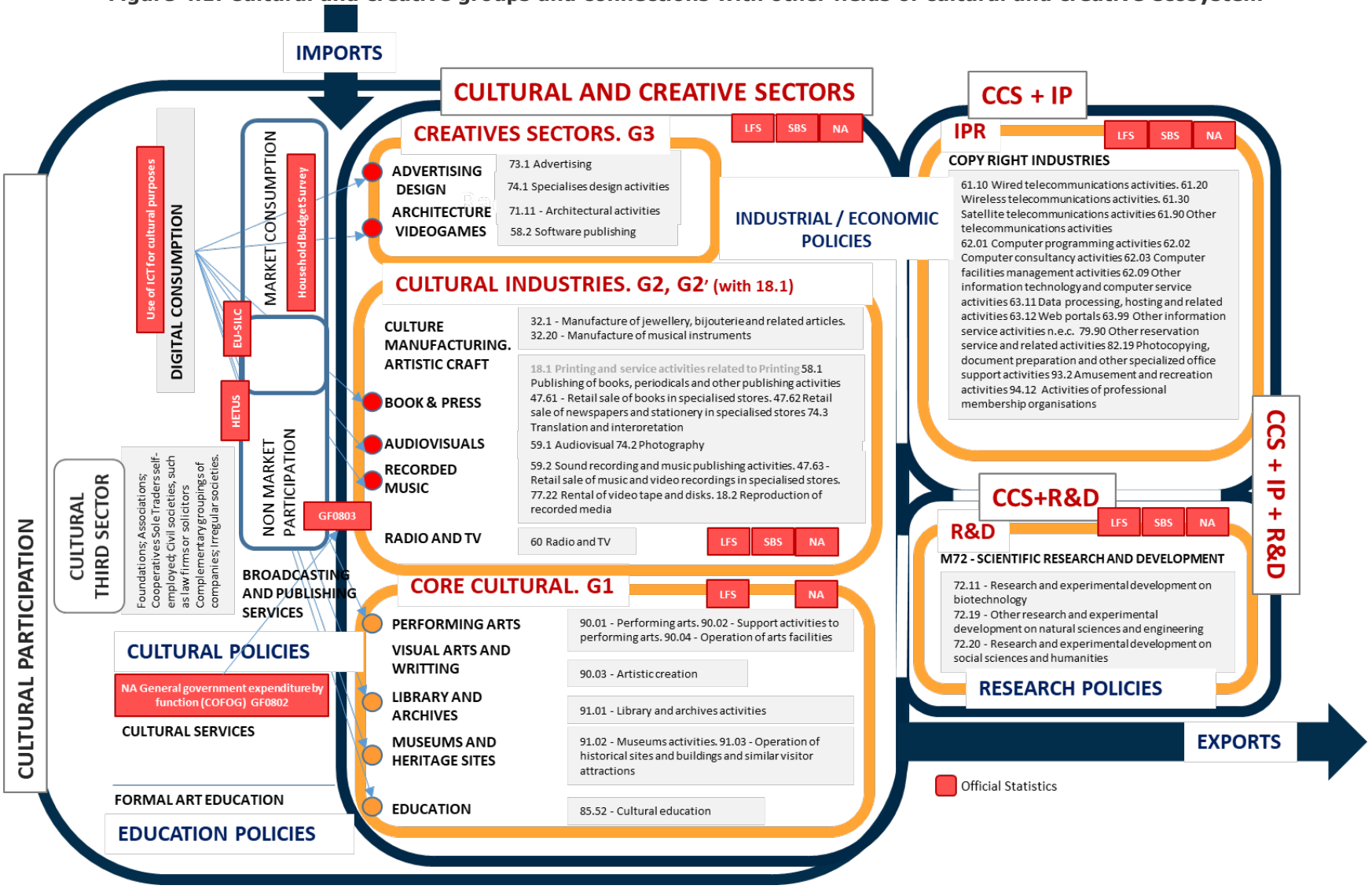
4.3.1.5 IP related Industries

In this group we include those economic activities considered to be intensive in IP and that have not been included in some of the previous groups. The incorporation into the group of cultural and creative sectors would be justified in those cases in which the approach is based on innovation policies. The notion of "cultural industries" is different from a categorization based in the notion of IP, which is closely linked to the concept of information-driven economies and which includes such activities as scientific and technological innovation, software and database development, telecommunication services, and production of hardware and electronic equipment. (UNESCO, 2009)

4.3.1.6 R&D Activities

Finally, we incorporate those R&D activities that are undoubtedly creative and, according to many authors, are also part of the cultural production of a given territory. It is true that traditionally they have not been included in either the group of cultural activities or the set of creative services. The cultural and creative sectors rely on creativity to produce creative products that can be used to generate IP and economic benefits. Following this reasoning there is little reason why the creative industries should include cultural activities while excluding science, research, and development activities. If the approach is based on the creative intensity of the work used, as in the case of NESTA, there is no doubt that R&D is one of the most creative sectors. We understand that there are numerous reasons to defend a much closer connection between science, creativity, and art in a world and in a context that requires imaginative solutions to face the enormous challenges it faces.

Figure 4.1: Cultural and creative groups and connections with other fields of cultural and creative ecosystem



In terms of NACE codes, we refer to the following groupings, which make up the CCS in the framework of this Report and which will then be used for the estimation of the macroeconomic aggregates in Chapter 6.

Table 4.14: Groups of the Cultural and Creative Sectors

Group	Name	Sub-groups	NACE codes (4 digits)*
G1	Core Cultural	Education	85.52 Cultural education
		Museums and heritage sites	91.02 Museums activities. 91.03 - Operation of historical sites and buildings and similar visitor attractions
		Library and archives	91.01 Library and archives activities
		Visual arts and writing	90.03 Artistic creation
		Performing arts	90.01 Performing arts. 90.02 Support activities to performing arts. 90.04 Operation of arts facilities
G2	Cultural Industries	Radio and tv	60 Radio and TV
		Recorded music	59.2 Sound recording and music publishing activities. 47.63 - Retail sale of music and video recordings in specialised stores. 77.22 Rental of video tape and discs. 18.2 Reproduction of recorded media
		Audio-visuals	59.1 Audio-visual 74.2 Photography
		Book and press	58 Publishing activities 47.61 Retail sale of books in specialised stores. 47.62 Retail sale of newspapers and stationery in specialised stores 74.3 Translation and interpretation
		Culture manufacturing. Artistic Craft	32.1 Manufacture of jewellery, bijouterie, and related articles. 32.20 Manufacture of musical instruments
G2'	Cultural industries	Cultural Industries with printing	18.1 Printing and service activities related to Printing
G3	Creative Sectors	Advertising	73.1 Advertising agencies
		Design	74.1 Specialised design activities
		Architecture	71.11 - Architectural activities
		Videogames	58.2 Software publishing

* In cases where headings are described at fewer than 4 digits, it means that all subgroups at that digit level are included.

The model that seeks to collect the whole cultural and creative ecosystem is reflected in Figure 4.1, and from the point of view of statistics it offers a modular system in which each country or each statistical service can choose which of these five modules it incorporates into its cultural and creative sectors statistics, depending on the demands of its users, the characteristics of its cultural or creative sectors, or its technical restrictions.

5 Proposal for a new methodology to measure digital cultural services

This chapter focuses on a proposal for a new methodology to measure digital cultural services across cultural and creative sectors.

This methodology represents **a complementary approach to the definition of dimensions and indicators** presented in section 4.2, in which the main objective is to propose updates to the existing EU statistical tools (i.e., surveys of the Cultural Statistics Framework).

The new approach presented in this chapter **includes two main strands of work:**

- A **demonstration of data analytics capabilities** to collect data from online platforms and service providers of the cultural and creative sectors. The data analytics demonstrator focuses on the collection of metrics that can be considered representative for the production, distribution, and consumption of cultural and creative content online. In particular, the scope of the demonstrator is limited to the music and audiovisual sectors and focuses on two specific platforms. The potential up-scale of this methodology is discussed in the recommendations.
- A **targeted approach to survey digital actors**, which represents a way to complement the information collected through the data analytics demonstrator. This approach entails interrogating online platforms and digital actors directly through targeted surveys in order to capture information that cannot be typically obtained through surveys of a general nature (such as those feeding the SBS) and that is also outside the scope of data analysis methodologies.

While the first strand focuses on demonstrating that data on the cultural and creative sectors – in particular with respect to online production, distribution, and consumption – are accessible in different ways and through different, innovative techniques, and that the data alone cannot provide a complete picture, as they are restricted to what the platforms and online service providers decide to disclose to the public.

Therefore, the targeted approach proposed in the second strand is considered complementary to the demonstrator, as it entails the direct interrogation of said platforms, service providers, and digital actors to measure more tailored indicators that could not otherwise be captured – neither through data analysis methodologies nor by making use of the existing official statistical surveys.

More details on the approach and methodology for the data analytics demonstrator are included in the document "The use of altmetrics to measure digital cultural services in the EU: results of a pilot analysis in the music and audiovisual sectors"[118].

5.1 Purpose and Design of the Data Analytics Demonstrator

Among the six dimensions outlined in section 4.2.4, the last three have been defined "value chain" dimensions since they deal with the production, distribution, and consumption of cultural and creative content through digital channels and means.

[118] Document *MeasuringCCS_Working Paper 3 - The use of altmetrics to measure digital cultural services in the EU - Results of a pilot analysis in the music and audiovisual sectors_v1.0*

These three dimensions include, among other elements, the use of online platforms and online service providers[119] to produce, exchange, or consume online content.

In this respect, the use of Automatic identification and data capture (AIDC)[120] technologies (including techniques such as web scraping) and data analytics allow measuring, to a certain degree, higher frequency[121] data regarding the production, distribution, and consumption of cultural and creative content that occur on online platforms.

The proposed approach explores these techniques to **demonstrate that data can be collected from the web**, with the goal of retrieving publicly available metrics from online platforms that could be interpreted as representative of digital production, distribution, and consumption of cultural content – with the scope of the demonstrator focusing especially on the **audio-visual** and **music** sectors.

The approach relies on the **extraction of data from online platforms through the exploitation of their available APIs**[122]. The approach entails capturing certain metrics (such as the number of views, likes, followers, comments, subscribers, etc.) related to digital "items" that are part of these platforms (this includes videos and songs, but also other "items" such as artists, albums, or channels). It is based on **queries used to automate data collection** from these platforms at regular intervals of time.

Being a pilot of limited size, the demonstrator addresses only two sectors and platforms, but shows the potential to collect vast amounts of data in a relatively short period of time.

From a **policy perspective** the demonstrator represents a starting point to test the possibility of collecting high frequency data from online platforms and service providers, as well as exploring what kind of metrics could be retrieved by using data analysis methodologies.

5.1.1 Scope: Selection of platforms and limitations

The selection of platforms for the approach was based on an exercise that considered different candidates among the bigger players of the music and audio-visual sectors.
Some of the platforms considered did not offer public APIs, including:

- Amazon Prime Video;
- Amazon Music Prime;

[119] COMMISSION STAFF WORKING DOCUMENT. Online Platforms. Accompanying the document "Communication on Online Platforms and the Digital Single Market", used for the definition of online platforms and online service providers. Bearing in mind the distinction between the two, for simplicity throughout the document the term "platform(s)" is mostly used to refer to both kinds of services.
[120] Automatic identification and data capture (AIDC) refers to the methods of automatically identifying objects, collecting data about them, and entering them directly into computer systems, without human intervention.
[121] Based on the frequency of observation allowed by the data extraction method and the limitations of the specific platform.
[122] An Application Programming Interface (API) is a set of defined rules that explain how computers or applications communicate with one another. APIs sit between an application and the web server, acting as an intermediary layer that processes data transfer between systems (IBM Cloud Education (n.d.)).

- Disney+;
- Netflix;
- TIDAL.

On the other hand, a number of platforms did provide publicly available APIs, such as:

- **Apple Music**: Apple music offers an API that accesses information about media in the Apple Music catalogue. This includes metadata about albums, songs, artists, playlists, music videos, Apple music stations, ratings, charts, etc.
- **Deezer**: The publicly available Deezer Simple API provides metadata regarding artists, albums, and charts, allowing the perusal of Deezer's music catalogue.
- **Spotify**: Spotify offers a public API that returns metadata about music artists, albums, and tracks directly from the Spotify Data Catalogue.
- **YouTube**: YouTube offers a Data API to developers that allows them to search and extract metadata related to videos, playlists, and channels.

Overall, the platforms that did not offer APIs were discarded. Among the others, YouTube and Spotify have been chosen as the best candidates to source data as part of the data analytics demonstrator, in light of the following reasons:

- **Popularity and Market share**: YouTube and Spotify are market leaders in their respective sectors, in terms of both user base and catalogue size.
- **Approach feasibility**: The APIs of YouTube and Spotify allow for easier automation of data extraction compared to other platforms on which either no APIs are available or the process is more technically challenging.

It is important to highlight some constraints and **limitations of the approach** that apply to both YouTube and Spotify. These constraints are due to the nature of the platforms themselves, as well as to some limitations of their APIs. The main constraints identified include:

1. On both platforms, the observations investigated with the help of the respective platform API are connected to content, and not mapped to individual user accounts and their characteristics. Therefore, it is not possible, for example:
   - To retrieve the number of users (or subscribers) of the platform(s) as a whole;
   - To retrieve the number of unique viewers (or listeners) of a certain video (or song);
   - To retrieve the geographical distribution of the views (or plays) of a certain video (or song). It is only possible to retrieve the total number of views, but not where these views "come from". For this reason, phenomena such as mobility across countries or the use of VPN accounts are not taken into consideration as part of the scope of this demonstrator;
   - Given these limitations, it is not possible to perform an extraction from all databases of the platforms to analyse users and subscribers holistically.
2. It is not possible to distinguish if a certain video (or song) has been viewed (or listened to) for only a few seconds, for several minutes, or for longer.
3. The APIs do not disclose any kind of financial information or economic data. For example, revenues generated from videos, songs, channels, and so forth, information on advertising revenues for the platforms, or monetisation of videos and content.

4. It is not possible to obtain or analyse historical data. The APIs allow us to make calls to track data in real-time; by repeating the queries over time, we can track the "progress" of metrics related to certain content, but is not possible to make queries to obtain historical data. Nevertheless, in a potential future application of the approach, the period of observation could be extended in order to retrieve data over a longer period of time. This would allow, for example, tracking the distribution of metrics over time (for example, the distribution of views at monthly intervals).

5.1.2 Methodological Approach

For both YouTube and Spotify, the design of the methodological approach for the data collection entailed several steps:

- **Definition of a sample** to be tracked over the period of observation.
- **Definition of specific metrics** to be tracked, and their relationship to the "value chain" digital cultural dimensions.
- Definition of **additional details**, such as period of observation, frequency of data collection, and queries used.
- Definition of **limitations** that are specific to each platform.

A brief summary of each step is provided in the paragraphs below.

Sample definition

For both **YouTube** and **Spotify** it was determined that the definition of the samples to be tracked would be based on the popularity of content across EU countries.

In the case of **YouTube** a specific method of the YouTube API was used at first to identify the set of Top 100 most popular videos per EU country (i.e., videos that are popular **in** a country, but could be originated **from** that country or another one).

The analysis of these videos followed a **dynamic approach** (e.g., the Top 100 could change throughout observation). This made it possible to observe the evolution of the rankings over the period of data collection, to monitor changes in the videos' positions in the rankings of each country, see which videos were rising or falling in the rankings (or dropping out of the Top 100), and allow for comparison between countries.

In addition, a set of **top 10 videos and top 10 channels per EU country have also been defined**, to be tracked throughout the period of data collection independently of the ranking evolution (i.e., the 10 videos and 10 channels selected on Day 1 would be "followed" throughout the entire period of observation). This second, more static, approach was chosen to be able to trace the evolution of metrics related to the same set of content over time.

While the selection of the Top 10 videos is based on the Top 100 per EU country (i.e., tracking the 10 videos that were at the top of the ranking on Day 1), YouTube does not offer API methods to automatically extract channels rankings. Therefore, the selection of the Top 10 channels followed an approach based on the Top 10 videos per country to pick the channels that are associated with such videos.

In the case of **Spotify** a set of **Top 10 songs and Top 10 artists per EU country was defined** based on the popularity of the content across EU countries. It is important to specify two considerations concerning the selection process:

- The selection of the Top 10 songs per EU country is based on gathering the top songs in Spotify's "Top 50" playlists per each EU country and selecting the first 10 songs from the list.
- The selection of the 10 artists to be monitored is also based on the "Top 50" playlists per EU country. More specifically, the selection is made by picking the artists that are associated with the top songs of a country. If an artist is associated with multiple songs within the Top 10, the selection is made by considering the following songs in the playlist, until 10 artists are selected.

Metrics collected

In the case of **YouTube**, its API enables the extraction metrics related to channels and videos, such as views, likes, number of subscribers, number of comments, associated keywords, as well as thumbnails, duration, content rating, category, topic associated, and more.

Table 5.1 provides the list of metrics that have been selected to be collected and tracked during the period of observation. It also shows their relationship to the three "value chain" dimensions, as well as to some specific indicators and/or topics per each dimension.

Table 5.1: List of YouTube metrics

Dimension	Indicator / Topic	Representative metric
Digital cultural production[123]	Video content production	Number of videos uploaded on a selected YouTube Channel
	Origin of video content production	Country of origin of YouTube Channel
Digital cultural distribution[124]	Level of outreach of a certain Channel	Number of subscribers a certain channel has on YouTube
	Types of most popular channels	List of categories that can be associated with YouTube channels.
Digital cultural consumption[125]	Level of consumption associated with a certain channel/topic	Number of views of a selected YouTube Channel (sum of views of all videos)
	Level of consumption associated with a certain video	Number of views of a selected YouTube Video

[123] Although publishing a video online does not represent production *per se*, the act of publishing makes the video available (to be viewed) by other users. It then becomes part of the platform's "overall catalogue", which can be assimilated to the overall content production that occurs on YouTube.
[124] Distribution refers to how widely content is disseminated and made available. Looking at metrics such as channels' types and number of subscribers can help to understand its outreach, which can be assimilated to the audience that is exposed to the content that the channel distributes.
[125] Consumption here refers to the extent of and pace to which videos are "consumed" by the users of the platform. Likes and comments allow for understanding some nuances of consumption, such as which videos are most engaging and generate the most positive reactions.

Dimension	Indicator / Topic	Representative metric
	Engagement associated with a certain video	Number of comments on a selected YouTube Video
	Sentiment associated with a certain video	Number of likes on a selected YouTube Video

Source: Authors.

In the case of **Spotify**, its API enables the extraction metrics related to songs and artists, such as albums, tracks and artists' data, markets (countries) in which it is available, duration, playlists, popularity, and more.

Table 5.2 provides the list of metrics that have been selected to be collected and tracked during the period of observation. It also shows their relationship to the three "value chain" dimensions, as well as to some specific indicators and/or topics per each dimension.

Table 5.2: List of Spotify metrics

Dimension	Indicator / Topic	Representative metric
Digital cultural production[126]	Artist "musical" Production	Number of songs published by an artist on their Spotify Profile
		Number of albums published by an artist on their Spotify Profile
Digital cultural distribution[127]	Level of outreach of a certain artist	Number of followers a certain artist has on Spotify
Digital cultural consumption[128]	Level of popularity of a certain artist	Popularity of an artist[129] (number between 0 and 100 - calculated based on the popularity of all the artist's tracks)
	Genre(s) associated with most popular artists	A list of the genres the artist is associated with.

[126] Although publishing a song online does not represent production *per se*, the act of publishing makes the song available (to be listened to) by other users. It then becomes part of the platform's "overall catalogue", which can be assimilated to the overall content production that occurs on Spotify.
[127] Distribution refers to how widely content is disseminated and made available. Looking at metrics such as an artist's number of followers can help to understand her or his outreach, which can be assimilated to the audience that is exposed to the content the artist distributes.
[128] Consumption here refers to the extent to and pace at which songs are "consumed" by the users of the platform. As Spotify's API does not provide "Plays" values, popularity is used as representative for consumption instead (See following footnotes).
[129] **Spotify definition of artist popularity**: The value will be between 0 and 100, with 100 being the most popular. The artist's popularity is calculated from the popularity of all the artist's tracks.

Dimension	Indicator / Topic	Representative metric
	Level of consumption associated with a certain song	Popularity of a track[130] (number between 0 and 100 - calculated by algorithm, based on total number and recentness of plays of the track)

Source: Authors.

Additional details

Concerning the period of observation, for both platforms the data collection was carried out between 7 May and 25 June 2022 (a total of 49 days), to ensure that a minimum of 40 days for each item of analysis (i.e., videos, channels, songs, and artists) was reached.

In terms of frequency, in the case of **YouTube**, the data extraction was performed at hourly intervals, for a frequency of 24 API calls[131] per day (for the list of Top 100 videos, as well as for the channel insights). The exceptions were the insights related to videos (i.e., views, comments, and likes), which were extracted with a frequency of 3 times per day (every 8 hours).

In the case of **Spotify** the data extraction was performed at daily intervals (this is the refresh rate of the data on Spotify, meaning that metrics are updated once per day. It would not be worth increasing the frequency of data collection, as this would only result in duplicate observations).

For both platforms, additional details on the queries and endpoints used to extract the data are described in greater detail in the corresponding section of the document "The use of altmetrics to measure digital cultural services in the EU - Results of a pilot analysis in the music and audiovisual sectors"[132].

Specific limitations

In the case of **YouTube**, some specific limitations encountered during the implementation of the approach included:

- For the number of views of videos, if a video is watched for less than 30 seconds, the view is not counted. At the same time, it is not possible to distinguish long from short viewing times;

[130] **Spotify definition of track popularity**: The value will be between 0 and 100, with 100 being the most popular. The popularity is calculated by algorithm and is based, in the most part, on the total number of plays the track has had and how recent those plays are.
Generally speaking, songs that are currently being played frequently will have a higher popularity than songs that were played frequently in the past. Artist and album popularity are derived mathematically from track popularity. Note: the popularity value may lag actual popularity by a few days because the value is not updated in real time.
[131] A call here is intended as a request that is sent to the YouTube API, which if successful results in the extraction of the defined metrics at that specific moment in time.
[132] File *MeasuringCCS_Working Paper 3 - The use of altmetrics to measure digital cultural services in the EU - Results of a pilot analysis in the music and audiovisual sectors_v1.0*.

- The free version of the API has a limit of 10,000 quota points per day[133]. Each search API call (used for obtaining video information from each channel) consumes 100 points; each call for retrieving individual video insights (e.g., views, comments, likes) consumes 1 point; each call to retrieve the list of the Top 100 videos consumes 2 points (1 every 50 videos).

Moreover, some technical challenges that are specific to YouTube were also identified:

- **Bots**: It was detected that for some channels, bots are used to inflate the number of views of new videos, and this causes the corresponding channel to be placed at the top of the popularity rankings. To overcome this, the frequency of data extraction was increased, to minimise the impact on the bots on the datasets.
- **Private insights**: Almost all news channels (as well as some other channels) have privacy restrictions (Return "N/A" data for the metrics queried). To overcomes this, the sample of channels of analysis was expanded to replace the channels returning "N/A" data with channels returning appropriate results.
- **Empty responses**[134]: in sporadic cases, it occurs that some of the queries sent obtained no response. Nevertheless, there are only very few (and small) gaps in the data collection, which can be considered negligible for the overall results.

In the case of **Spotify**, some specific limitations (connected to the nature and characteristics of its API, and in particular connected to the "popularity" metric) included:

- The API of Spotify does not allow retrieving the number of plays of a certain track – it is only possible to retrieve its popularity.
- The popularity value may lag "actual" popularity by a few days (the value is not updated in real time).
- The value for the popularity of a song is global (i.e., based on the popularity in all countries in which the song is available). Therefore, the same song will have the same popularity value regardless of the country.

Moreover, a technical challenge that is specific to Spotify has also been identified:

- **Token restriction**: To access the Spotify API, a particular "access token" is needed. This token can be obtained without charge, but it is valid for only one week, after which it expires. An auto-refresh functionality has been implemented to ensure the continuity of data collection.

Overall**, all the challenges and limitations described in this section were identified in an initial phase,** i.e., before the official start of the data collection period. This led to the **adjustment of the algorithm and methodology** to ensure the delivery of more meaningful and accurate results. After the adjustments, the mechanism for data collection was re-tested and the period of observation officially started.

[133] The points of the quota are used to send queries and extract data from the platform. All API requests, including invalid requests, incur a quota cost of at least 1 point. More information on quota costs is available at YouTube Data API (v3) - Quota Calculator.
[134] It should be noted that the scope of the present analysis does not cover the treatment of outlying data and/or empty values.

5.1.3 Preliminary insights

This section presents some example findings based on the data collected through the data analytics demonstrator.

It is important to note that the objective of **demonstrating that publicly available information and metrics can be collected from selected online platforms and service providers has been achieved.** In particular, more than 2.2 million observations were gathered over 40 days of data collection in all 27 EU Member States. This includes observations on metrics from YouTube channels and videos and from Spotify artists and songs, at daily or hourly intervals.

The following insights are supplementary to the main goal of the demonstrator and **represent simple and example analyses** based on aggregations – i.e., the analyses refer only to average or aggregate values at country level throughout the period of observation.

Any additional manipulation or interpretations of the data, including transformations and estimations, as well as control of outlier values, normalisation, or standardisation techniques, have not been considered as they fall outside the scope of this research.

A first set of insights of a more general nature allows us to **explore similarities and cultural proximity in digital consumption habits** across different geographies. In particular, the following insights intend to analyse audiovisual consumption patterns in different European countries by comparing the different results of the data collection in EU Member States or grouping them by region.

The second set of insights **focuses on the dimensions of digital cultural production, distribution, and consumption**, and presents some aggregated figures per EU country with respect to the populations' use of YouTube and Spotify. Altogether, only a few selected metrics are presented in the corresponding paragraphs.

As mentioned in the introduction of this chapter, additional details are available in Chapter 4 of the accompanying document "The use of altmetrics to measure digital cultural services in the EU: results of a pilot analysis in the music and audiovisual sectors"[135].

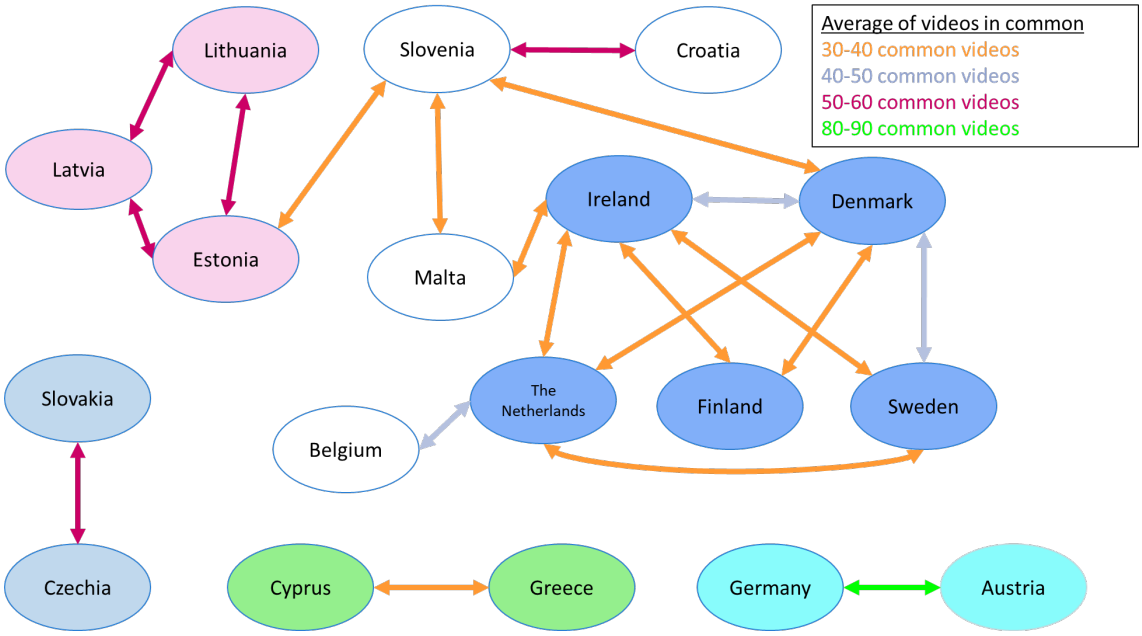
Average number of common videos across different EU countries

Figure 5.1 (below) is a graphical representation of the extent to which different Member States share videos in common amongst their Top 100 video rankings – and therefore they have similar "online consumption" patterns – based on the collected data.

Circles with the same colour (except white circles) represent Member States with the highest mean (i.e., highest average number of videos in common). The arrows represent the extent (expressed as intervals of common videos) to which Member States share videos in common, based on colours as illustrated in the legend. The figure shows groups of countries whose residents tend to consume the same videos: Germany and Austria; Cyprus and Greece; Latvia, Lithuania, and Estonia, and more.

[135] Document *MeasuringCCS_Working Paper 3 - The use of altmetrics to measure digital cultural services in the EU - Results of a pilot analysis in the music and audiovisual sectors_v1.0*

Figure 5.1: Illustrative presentation of country connections

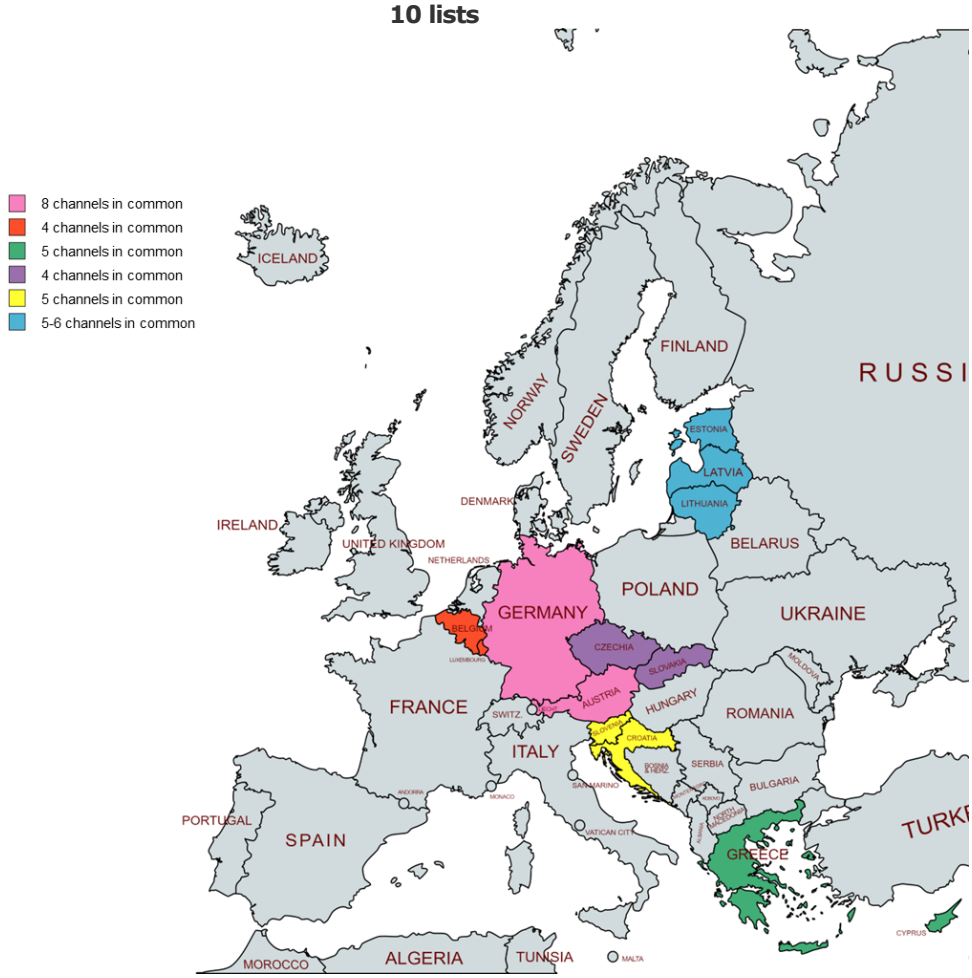


Source: Authors.

Preliminary findings from Top 10 YouTube Channels analysis

Focusing on the Top 10 channels per EU Member State, Austria and Germany have eight channels in common in their Top 10 list. This was already expected after the analysis of the Top 100 videos rankings, as well as their geographical position and common official language. A similar situation occurs with Belgium and Luxembourg, which share two of their official languages (French and German). They have four common channels in their rankings. In the same way, Greece and Cyprus have five channels in common, and Slovenia and Croatia also have five. Czechia matches with Slovakia four times in their lists. The Baltic countries (Estonia, Latvia, and Lithuania) have an average of 5.33 channels in common on their lists. Finally, countries such as Bulgaria, Hungary, Italy, Romania, and Spain have no channels in common with other States of the European Union.

Figure 5.2: Representation of Member States related to each other based on their YouTube Top 10 lists



Source: Authors.

Insights on Digital cultural dimensions

In addition to the general insights, an analysis has been carried out with regard to the evolution of the collected metrics (i.e., views, followers, likes, etc.) over the period of tracking, across the three "value chain" dimensions of digital cultural production, distribution, and consumption, according to the overview presented in the previous section.

For this analysis, averages have been computed for a selection of metrics within each EU Member State, which have then been placed into a ranking.

Digital cultural production

This section highlights example results for the metrics related to the production of online content, referring to the publishing of albums and songs (on Spotify) throughout the period of observation.

Technically, uploading or publishing content online does not represent production *per se* (as it is not necessarily the moment in which the content is created)[136]. However, through the act of publishing the content it becomes available to be viewed or listened to by other users or consumers, thus it becomes part of the "overall catalogue", which can be assimilated to the overall content production that occurs on a platform[137].

As an example analysis, an average of the amount of content uploaded or published by the Top 10 YouTube most popular channels in each EU Member State is provided. The analysis does not reflect uploads or published content necessarily originating from the observed countries, but rather content that has been uploaded or published by the channels (which may be from other countries) that were at the top of each country's rankings.

Having selected the Top 10 YouTube channels in each EU country, the ranking below (Figure 5.3) presents the average number of videos uploaded on each channel during the period of data collection.

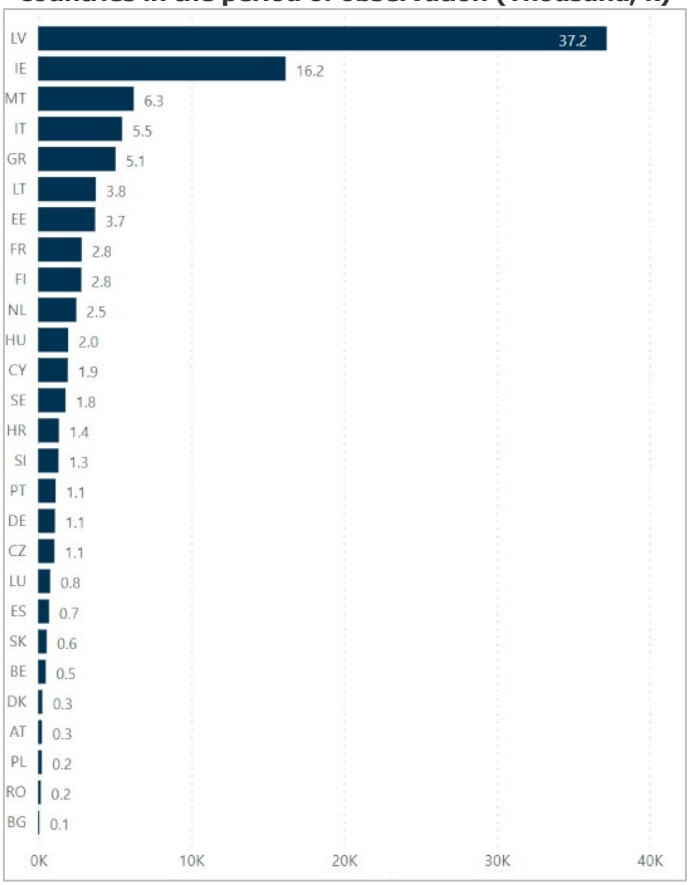
When looking at the number of videos uploaded to the observed channels in the period of analysis, the Top 10 YouTube channels in Latvia present an extraordinarily high average with 37,200 videos. After Latvia, Ireland (16,200) and Malta (6,300) are second and third in the ranking.

At the bottom, with the lowest average number of uploads to YouTube channels, there are Bulgaria, Romania, and Poland, with fewer than 1,000 videos uploaded on average. As explained above, this does not necessarily mean that Bulgarian, Romanian, and Polish channels upload only a few videos, but rather that YouTube users from these countries tend to watch channels that do not publish a lot of content.

[136] It could be argued that it would be interesting to track the production of content that is not shared with others (e.g., created on one's personal computer, and not published on any platform). However, due to the fact that this content is not available outside of the creator's private storage space, it is by nature not possible to account for it.

[137] In this respect, the following definition of production is adopted: "*an item is considered manufactured/produced when it is completed and is ready for dissemination*".

Figure 5.3: Number of videos uploaded, distributed for the Top 10 YouTube channels in EU countries in the period of observation (Thousand, k)



Source: Authors.

Digital cultural distribution

This section highlights example results for the metrics related to the distribution of online content. It presents the figures for the number of followers of Spotify artists throughout the period of data collection. Again, the figures are grouped and aggregated at country level, which are then positioned in a ranking. The rationale is that tracking the number of subscribers or followers can represent the distribution and outreach that the top artists have across EU Member States.

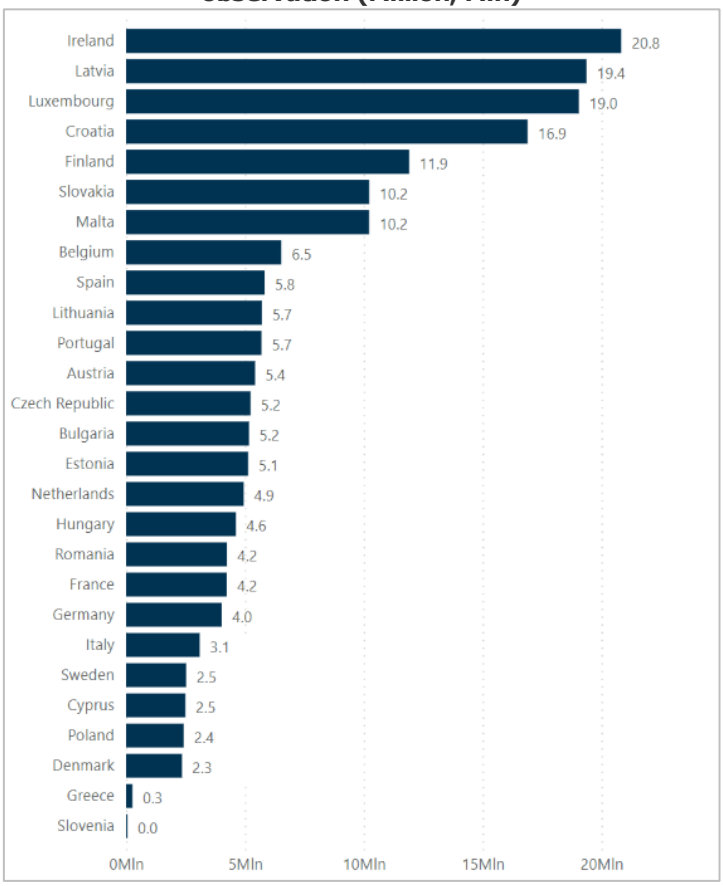
With respect to the following figure, it is important to note that it does not necessarily represent the countries of origin of the artists with the largest number of followers. Instead, they represent the countries whose citizens "consume" content from the artists that have respectively the highest average numbers of followers.

Therefore, having selected the Top 10 Spotify artists in each EU country, the figure below (Figure 5.4) ranks Member States according to the average number of followers of the 10 artists that were most popular in each during the period of observation (regardless of the nationality or origin of the artist).

The Member States whose Spotify users listened to artists with the highest number of followers are Ireland (20.8 million), Latvia (19.4 million), and Luxemburg (19 million).

As mentioned above, the fact that Ireland is on top of the ranking does not mean that artists from Ireland are the ones with the greatest number of followers, but rather that Irish Spotify users tend to listen to artists that have very high numbers of followers.
Greece and Slovenia appear at the bottom of the ranking, with the Top 10 Spotify artists in these two countries having fewer than 1 million followers each on average. Similarly to previous cases, this does not necessarily mean that Greek or Slovenian artists do not have many followers, but rather that Spotify users from these two countries tend to listen to artists – which could be from anywhere – that do not have a great deal of followers on average (e.g., possibly more "niche" artists).

Figure 5.4: Number of followers distributed for the Top 10 artists in EU countries in the period of observation (Million, Mln)



Source: Authors

Digital cultural consumption

This section highlights results for the metrics related to the consumption of online content, referring to the number of views, likes, and comments on selected videos (on YouTube), throughout the observation period.

The rationale is that the number of views of videos represent the amount and pace at which they are "consumed" by the users of the platform. Moreover, the metrics for comments and likes make it possible to explore different nuances of consumption, bringing additional elements into the picture. They allow us to understand, respectively, what the level of engagement and overall sentiment associated with a certain video are. A video with a high number of comments represents content that is highly engaging for users, and a video with a high number of likes represents content that generates overall

positive reactions (in this sense, it would have been interesting to also track the number of dislikes, to have a representation of the "negative" reactions as well; however this metric has recently been made private and is accessible only to the videos' uploaders, and cannot be investigated with the YouTube API).

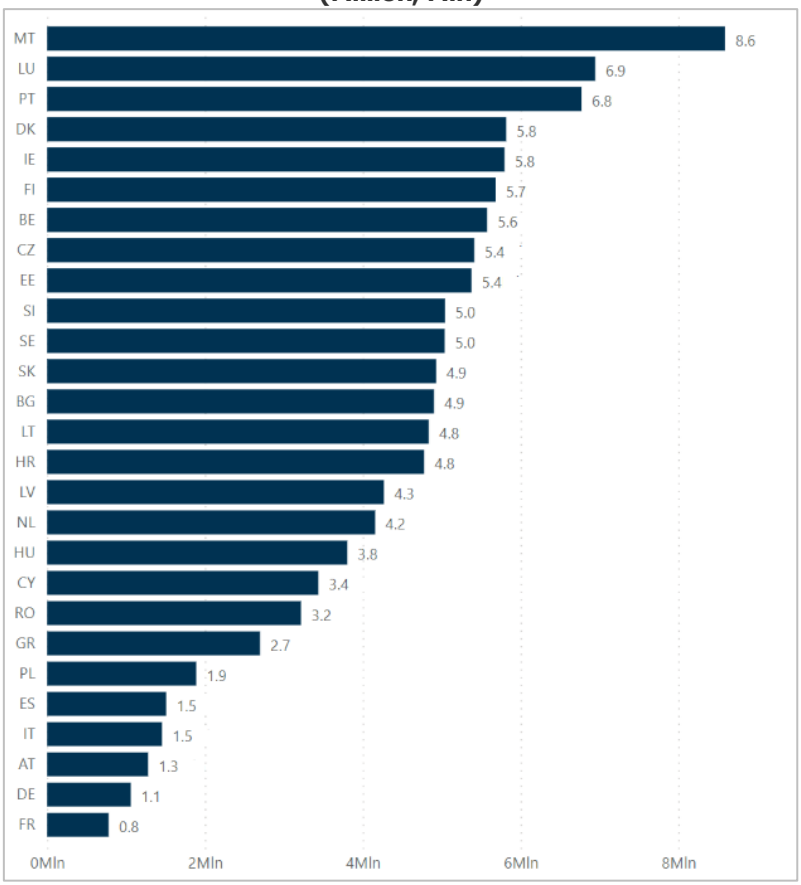
For the purpose of the analysis, an average of the number of views, comments, and likes of the Top 100 videos in each EU Member State is provided. It is important to note once again that the videos are not necessarily from the countries themselves (potentially, videos in a country's Top 100 are likely to also be from channels of other countries).

To clarify further, if a country is ranking high in this analysis, it does not mean that the country itself has the videos with the highest number of views, comments and/or likes, but rather that the respective citizens (i.e., online content consumers) tend to watch highly popular YouTube videos (e.g., with a high number of views, comments, and/or likes). Therefore, the population size of a country is not a factor for this analysis.

Having selected the Top 100 YouTube videos in each EU country, the ranking below (Figure 5.5) presents the average number of global views for those videos.

The Member States whose citizens tend to consume videos that have the highest average number of views are Malta (with the 100 most popular videos in the country having 8.6 million views on average), followed by Luxembourg with 6.9 million and Portugal with 6.8 million average views. Countries such as Austria (1.3 million average views), Germany (1.1 million), and France (800,000) are at the bottom of this ranking, signalling that YouTube users from these countries tend to watch videos that are not highly viewed at global level.

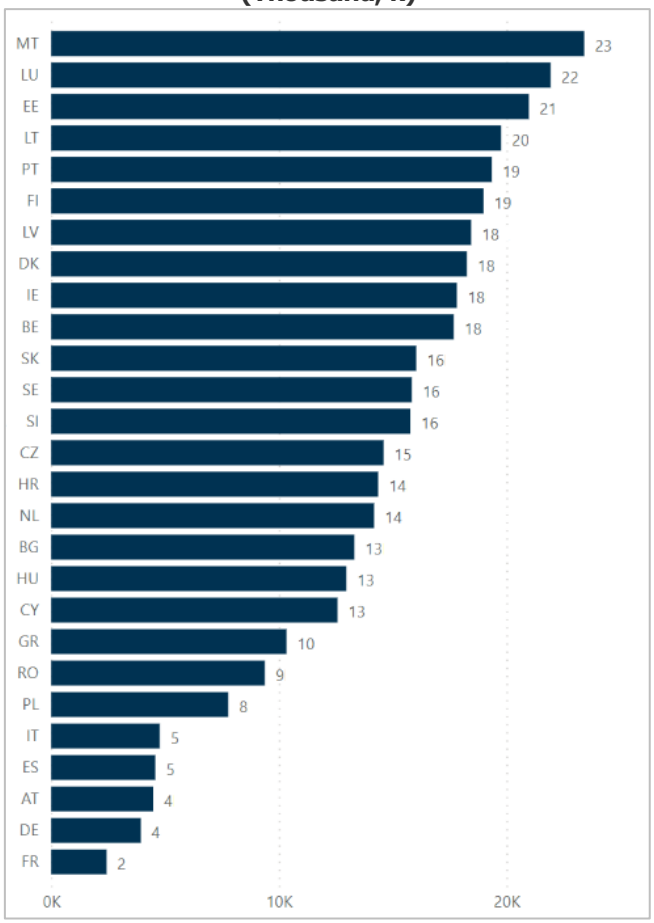
Figure 5.5: Average number of views of videos consumed by citizens of the 27 EU countries (Million, Mln)



Source: Authors.

Similarly, the ranking on comments per video (Figure 5.6) builds on data from the observation of the Top 100 videos per country, and presents the average number of global comments for those videos. The Member State whose citizens tend to consume videos that have the highest average number of comments is once again Malta (with 23,000 comments per video on average), followed by Luxembourg (22,000) and Estonia (21,000). The countries with the lowest average number of comments among videos in their Top 100 lists are Austria and Germany – both with an average of 4,000 comments per video – and France, which is in last position with around 2,000 comments on average. As before, this signals that Austrian, German, and French users tend to watch videos that do not receive a high number of comments.

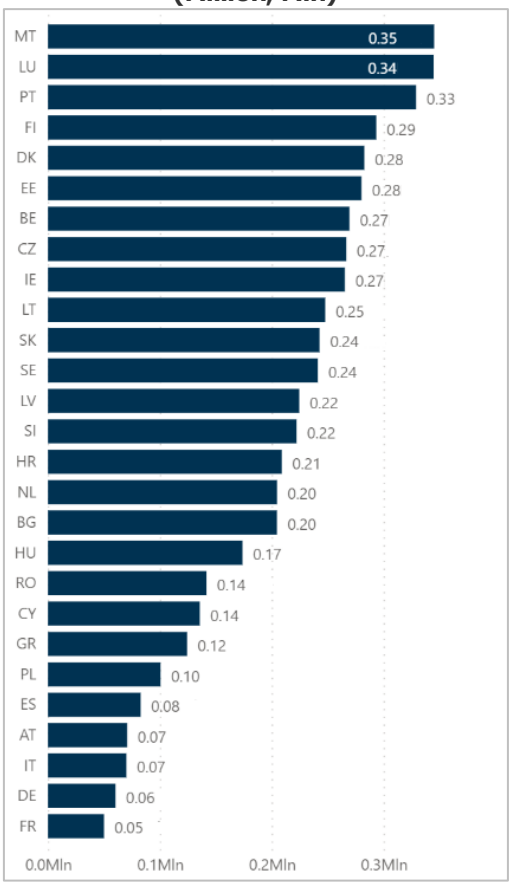
Figure 5.6: Average number of comments of videos consumed by citizens of the 27 EU countries (Thousand, k)



Source: Authors

Finally, starting once again from the Top 100 videos rankings per EU country, Figure 5.7 presents the average number of global likes for those videos. Similarly to before, the Member States whose citizens tend to consume videos that have the highest average number of likes are Malta (with videos from its Top 100 having 350,000 likes on average), Luxembourg (340,000) and Portugal (330,000). At the bottom of the ranking there are Italy (70,000), Germany (60,000), and France (50,000), all with fewer than 100,000 likes per video, among the videos that appear in their Top 100 lists.

Figure 5.7: Average number of likes of videos consumed by citizens of the 27 EU countries (Million, Mln)



Source: Authors.

In general, it can be seen that patterns for the average number of views, comments, and likes are quite similar (the same countries tend to be at the top and at the bottom of the rankings). This is quite straightforward, as it leads to the conclusion that videos that are most watched (i.e., highest number of views), are also the ones that are most "acted upon" (i.e., receiving high numbers of comments and likes).

5.1.4 Considerations on the approach

With respect to the data analytics approach, this work is important as it demonstrates that **collecting micro-data from IT systems for the purpose of providing statistical data on the cultural and creative sectors is possible** and is a start for future decision-making regarding economic statistics.

This demonstrator is not the first of its nature. Earlier work using data collection from IT systems has been carried out in 2018 by DG GROW in its Digital Transformation Scoreboard[138]. Nevertheless, this is the first time an attempt to use such data from digital actors is carried out in the CCS with the purpose of improving economic indicators to measure the sector.

[138] European Commission, (2018). Digital transformation scoreboard 2018. Publications Office of the EU

As a starting point for decision-making, this work is constrained in scale and focused on two specific sub-sectors: music and audiovisual.

It is important to point out that in both sectors, online platforms and online service providers already represent an important part of the value chain. The specific application of this approach is by nature oriented at platforms that enable the upload, exchange, streaming, or distribution of multimedia content.

In addition, platforms' libraries and content catalogues tend to be very volatile over time, with content being continuously added, removed, uploaded, and/or exchanged. For example, musical or audiovisual works can alternate between peak moments, during which they become extremely popular among the platform's content catalogue (in light of algorithms that drive their appearance on users' dashboards), and latency moments, following which they can become quickly obsolete.

On this premises, one important point to consider when analysing a scale up of the approach is the establishment of appropriate period of observations, which take into account the differences between platforms, the type of content they offer, and the dynamic nature of their catalogues. Another aspect to be considered is language fragmentation across EU Member States, with differences in languages being a useful parameter to carry out comparative analyses across countries, but also being a potential issue when it comes to describing areas and subareas of the musical market.

A potential up-scaling of the approach to other CCS sub-sectors should depart from a sound analysis of the landscape of their online platforms, or the availability of web data regarding the sectors. Clearly, different sub-sectors present specificities that would require an adaptation of the approach. For example, the museum sector is intrinsically different from the music sector, which is in turn entirely different from the cultural heritage sector.

Nevertheless, the use of data analytics with the necessary adaptations could still present benefits and offer new perspectives on measuring aspects that fall out of the scope of regular statistics.

As an example for the libraries sector, the identification of a relevant libraries database, and the subsequent setting up of a systematic approach for data collection, processing, and analysis could lead to the production of valuable indicators and statistics on the sector.

In addition, the demonstrator was based on certain considerations of business of legal and technical natures that have been highlighted throughout the Project. A synthesis of these considerations in provided in the sections below. Following the considerations, recommendations on the potential up-scaling of the approach are presented.

Business considerations and activities

The use of Big Data acquisition via AIDC technologies is not new but has recently become a line of activity in data analytics and has become mainstream in IT design and development and at a higher level in data strategy and governance. Such business activities today are currently explored and adopted by both public and private organisations to harness the possibilities offered by the availability of large data sets and the constant development of capabilities to exploit them.

Business considerations for the adoption and further implementation of organisational data strategies for a given purpose need to cover certain practices as per industry

standards. As such, the decision to further develop and scale up the proposed approach to use micro-data from IT systems to reflect metrics in the cultural and creative sectors should be preceded by the **formalisation of a high-level data strategy** that is able to:

- Engage different parties (including a representative sample of digital actors in the sector) at the beginning of the process to examine the possibilities of data sharing for measuring purposes.
- Define the governance framework that will provide the base for interactions, collaboration, communication, and conflict resolution amongst the different parties from the private and public sector.
- Establish the standards and best practices to adopt for the purpose of sharing and/or collecting large volumes of micro-data from engaged digital actors to ensure a common ground for transmission and exploitation.
- Define the data management processes, tools, and responsibilities to ensure that adequate metadata and master data management activities are integrated in the process.
- Identify the appropriate IT landscape available to DG EAC and Eurostat for the purpose of managing a scale up of the demonstrator and make efficient use of the technologies available in house, and/or assess the need for and potential implementation of additional market or "customised over the shelf (COTS)" solutions.
- Develop a reasonable project plan to implement the scaled-up data analytics demonstrator into the current cultural statistics framework with adequate risk management.

These considerations represent a non-exhaustive list of business activities that should be explored to foresee the adoption of data analytics and Big Data capabilities for measuring the cultural and creative sectors.

We recommend **preparing the ground for the use of innovative and alternative methods** to measure digital cultural services through three main sets of activities:

- As a first step, we recommend performing a proper analysis to **assess the coherence, relevance, and effectiveness** of using metrics and indicators collected through data analytics techniques to support decision-making;
- From an operational perspective, we recommend carrying **out a specific study on the design for the implementation of the approach**. The study should define the roadmap for implementation, the implementation planning and roll out;
- Moreover, we have experienced that the use of analytical AIDC (Automated Information and Data Collection) technologies is resource intensive in material resources as well as human resources (i.e., software, hardware, and people). To scale up the use of data analytics capabilities for the purpose of measuring the digital economy, we recommend investing in adequate infrastructure and resources and acquiring proper expertise in the field of big data and data analysis.

Legal considerations

When collecting data from the cultural and creative sectors through an approach based on data analytics (or in general), some legal limitations need to be taken into consideration, specifically legal limits on data privacy, such as the General Data Protection Regulation (GDPR). The GDPR is an EU law regulation on data protection and privacy in the European Union and the European Economic Area that focuses on the

protection of individuals regarding the processing of personal data.[139] It applies to personal data collected for various purposes, such as administrative, commercial, and statistical[140], as is the case for the demonstrator.

While ensuring the fundamental right to protection of personal data, these regulations partially limit the application of a data analytics approach or statistical data collection in general, as it is not possible to collect data that can be traced back to individuals. Furthermore, data holders are obliged to grant individuals access to their personal data, as well as to change and erase the subject's data if so requested.

The GDPR is complemented by the *statistical legal framework*[141], which refers to objectives, tasks, and obligations of official statistical authorities. When it comes to data protection in statistics, it is called "statistical confidentiality", and it entails that data on individual persons may be used only for statistical purposes and that measures have to be applied to prevent the disclosure of personal information. Therefore, businesses and statistical authorities are obliged to ensure that individuals and their personal information are not identifiable ("statistically confidential data") when collecting statistics.

This also applies to approaches based on data analytics, as the data collected must follow the principles of statistical confidentiality. This implies that data collected from online platforms and service providers (such as Spotify or YouTube) in the scope of the demonstrator cannot be traced back to individuals.

Generally speaking, businesses and statistical authorities have to ensure that they comply with the statistical and legal requirements such as the GDPR and statistical legal framework when collecting data. On one hand, this can bring some advantages for businesses, as for example the automation of the provision of information and being able to source information at the IT system level. On the other hand, it can also present a burden in the sense that there is too much pressure put on this information provided by the IT systems, as it needs to be ensured that it meets the legal requirements mentioned above.

Data privacy and legal requirements for (online) businesses and platforms will be further enforced once the Digital Services Act and Digital Markets Act are in place, as one of their main goals it is to create a safer digital space for the users of online platforms.

Technical considerations

The demonstrator allowed us to explore how the use of data analysis capabilities can enable the extraction of information from online platforms and online service providers on a regular basis and in an automated manner.

The demonstrator has exploited the availability of APIs to collect publicly available information from selected platforms. In the examples analysed through the demonstrator, this mainly entailed metrics related to content (i.e., views, likes, comments, and popularity), or to creators/artists (i.e., followers, subscribers, and content uploaded).

[139] European Commission (2020): Data protection in the EU
[140] EUR - Lex (n.d.): REGULATION (EU) 2016/679 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation)
[141] UNECE 2019.

In practical terms, there are two main considerations on the feasibility and potential up-scaling of this approach:

- It can be applied exclusively to platforms that make available public APIs. With respect to platforms that do not have public APIs, it may be possible to design specific solutions or tailored approaches to collect data in an automated manner, bearing in mind technical efforts and legal limitations. However, this is not part of the scope of this Project.
- With respect to the platforms that make available public APIs, it is only possible to collect the set of metrics that each actor makes available for public use and view. Other kinds of metrics that are outside the scope of the API methods or documentation cannot be collected with this approach.

In addition, the experience from the demonstrator, although limited, also allowed us to explore relevant dynamics and limitations with respect to APIs and data collection:

- Observations are typically connected to content, and not mapped to individual user accounts and their characteristics. Therefore, although it is possible to capture data related to certain actions or activities (an additional view, a new comment, and so on), it is usually not possible to specifically determine who performed that action.
- APIs can be queried to retrieve metrics and data in "real-time". Observing metrics for an extended period of time can allow for the detection of patterns and help better understand activities that occur on a certain platform (e.g., increase of followers of a certain artist over time). However, typically it is not possible to access historical data or look at past trends.
- Platforms can offer free versions of their APIs (as was the case for YouTube and Spotify), but normally these present some limitations, in terms of either access or number of queries that can be sent over a period of time (e.g., over a day).
- Artificial intelligence and software applications (such as bots) can inflate metrics (e.g., views, comments) and in turn influence algorithmic recommendations. This can have an impact on the understanding and analysis of consumption of content on online platforms.

Bearing in mind these considerations, we recommend **up-scaling the use of methodologies based on data collection and analysis**, to:

- Collect data for longer periods of time (to enable more regular and consistent analysis); and
- Extend the number of platforms to be queried, to grasp a broader view of the phenomenon of online production, consumption, and exchange of content.

5.2 Targeted approach for digital platforms

This section proposes an alternative approach to capture other areas of the digital economy in the context of the CCS, in particular for what concerns the businesses of online platforms.

As part of this proposal, a preliminary list of actors representing relevant candidates for the targeted survey is presented, as well as potential methods to identify additional actors, platforms, and service providers at EU level.

Moreover, a list of indicators and corresponding survey questions is presented. The proposed indicators explore themes that are relevant for measuring digital cultural services and understanding the business models and activities of digital actors. The indicators have been defined based on findings from the literature and desk research, as well as consultations with experts and CCS' actors from the Hackathon and Stakeholder Input Session.

5.2.1 Rationale for a targeted approach

The data sources feeding the current Cultural Statistics Framework (e.g., the Structural Business Statistics - SBS) do not allow to **precisely capture the activities and revenue streams of platforms and online content providers** offering digital services (such as streaming or download services).

In particular, a first challenge is represented by the impossibility to pinpoint online platforms among the actors surveyed for the SBS (it is only possible to have breakdowns by Nace Rev. 2 economic activities, and often at a very aggregated level).

Secondly, Eurostat does not currently include indicators that make it possible to distinguish between the different sources of revenue for digital service providers – for example, subscription-based revenues versus advertising revenues (in the context of "Free" services financed via advertising)[142].

As an alternative, for several digital platforms (e.g., Amazon, Apple, Spotify, Netflix, and more) it is possible to **extract specific information from annual reports and financial statements**, such as their user base, paid memberships, or sources of revenues (including advertising). However, **this alternative also has limitations**:

- **Geographical breakdowns are often unavailable** (or available only at wider regional levels e.g., EMEA – Europe, Middle East, and Africa – in the case of Netflix), thus not allowing to obtain any precise information at Member State level;
- The **level of granularity** of the data provided in the annual reports does not always allow disentangling relevant pieces of information (for example, Amazon reports about "Subscription services revenues" as a single item, which includes both CCS – such as digital video and music subscriptions – and non-CCS related services – such as Amazon Prime memberships);
- Companies report on different metrics and at different levels of granularity, which **prevents the comparability of data** from one firm to another;
- **Companies do not always report on the same metrics over the years**, which could result in breaks in time series or missing observations.

The data analysis approach described in the previous section represents an additional alternative, as a possible means to overcome some of these challenges by allowing to collect metrics and information from online platforms directly.

[142] Within this type of services, consumers benefit from the music service without explicitly paying for it or engaging in any market transaction. The only explicit economic transaction is between the music service provider and the advertising agency (EUIPO, 2019. *A Satellite Account for the European Union Creative Industries*).

The exercise has been **successful in demonstrating the possibility to collect higher frequency data** and metrics from online platforms, but it has also highlighted the existence of several challenges and limitations. In particular, data analysis approaches relying on platforms' public APIs **do not allow to capture economic and social indicators**, such as user characteristics (e.g., number, type of users, and actions performed) or revenues (e.g., overall, download and/or streaming revenues, advertisng-supported).

Given these limitations, a different approach could be considered as part of the updates of the Cultural Statistics Framework, to obtain more **relevant, consistent, and granular** data from online platforms, such as the above-mentioned economic, social, and employment metrics. The approach consists of the design of targeted surveys directed at digital actors of the cultural and creative sectors.

The targeted approach **complements** the updates to the Cultural Statistics Framework proposed in section 4.2, as well as the data analytics demonstrator outlined in section 5.1.

5.2.2 Outline of the approach

A different approach for gathering data and information on key metrics from online platforms and online service providers would be to **interrogate such platforms directly, through targeted surveys**.

What follows is a detailed explanation of how such a survey could be designed and implemented.

Regarding the identification of which relevant platforms and online businesses should be targeted by the survey, the EUIPO Pan-European portal **Agorateka**[143] provides a list of websites per EU Member State, each of which includes a catalogue of legal digital service providers in the country. Such catalogues can be used to select the target platforms/service providers for the survey.

Table 5.3 summarises the main aggregators of digital services offered per country.

Table 5.3: Aggregators of legal service offering per EU country

Country	Portal listing legal digital services offering
Austria (AT)	Legale Online Film- und TV-Angebote in Österreich
Belgium (BE)	Belgian Entertainment Association – BEA*
Bulgaria (BG)	N/A
Cyprus (CY)	N/A
Czechia (CZ)	Film toro (Audiovisual)
Germany (DE)	WerStreamt.es
Denmark (DK)	Sharewithcare
Estonia (EE)	JustWatch Estonia (Audiovisual)
Greece (EL)	Enjoylegal
Spain (ES)	JustWatch Spain (Audiovisual)
Finland (FI)	Laillisetpalvelut.fi
France (FR)	Hadopi
Croatia (HR)	N/A
Hungary (HU)	Hungaroteka

[143] Agorateka (n.d.)

Country	Portal listing legal digital services offering
Ireland (IE)	https://www.justwatch.com/ie
Italy (IT)	Mappa dei contenuti
Lithuania (LT)	Naudok legaliai*
Luxembourg (LU)	N/A
Latvia (LV)	Ņem droši!
Malta (MT)	N/A
Netherlands (NL)	Film.nl
Poland (PL)	Legalna Kultura
Portugal (PT)	Ofertaslegais | MAPiNET - Movimento Cívico Anti-Pirataria na Internet
Romania (RO)	Agorateka Romanian
Sweden (SE)	Streamalagligt – Swedish Patent & Registration Office
Slovenia (SI)	N/A
Slovakia (SK)	Agorakoteka Slovakia

N/A: Not available

Furthermore, other actors provide sector-specific information about legal digital streaming services:

- In the Audio-visual sector, the **MAVISE** database includes information about audio-visual services across over 40 European countries. An exchange with the European Audio-visual Observatory would allow retrieving a list of legal audio-visual services across Europe (by type of service) to be contacted for the survey.
- In the music sector, **Pro-music** provides an overview of legal digital music services across countries, including European countries, distinguishing by service type – downloads, subscriptions, advertising-supported, or others.

For the countries that do not have a specific portal on the availability of legal digital services (i.e., Bulgaria, Croatia, Luxembourg, Malta, and Slovenia), or for the countries for which portals provide information on only specific services – such as audio-visual, for the Czechia, Germany, Spain, and others – the above actors could be helpful in identifying the organisations to be contacted.

As an example, a short-list of actors that could be selected and contacted for the survey includes:

- 7digital;
- Amazon (in relation to Prime and Music services, the streaming platform Twitch, or Amazon Kindle);
- Apple (including Apple TV, iTunes, Apple Music, the Apple AppStore, and iBooks);
- Google (YouTube, YouTube Music, Google Play Store, and Play Music);
- Netflix;
- Disney Plus;
- HBO;
- MUBI;
- Soundcloud;
- Spotify;
- Deezer;
- Meta (including Facebook and Instagram);
- Napster;
- Wikipedia;
- Tidal;
- Twitter;
- Valve (Steam platform);

- Videogame companies' online stores (e.g., Microsoft, Sony, and Nintendo).

Most of these actors have also been highlighted as relevant candidates during the **Stakeholder Input Session**. Examples of other relevant platforms that have been mentioned include TikTok, Tidal, Kobo and Tolino, Filmin, Storytel, Envato, Shutterstock, Soundcloud and Mixcloud, and IMDb (the Internet Movie Database).
Moreover, some examples of smaller actors operating at national level – in a selection of Member States – include:

- **Belgium**: Streamz, Videloland (Audiovisual);
- **France**: 121 MusicStore, Deedo, munki (Music), Madelen (Music & Audiovisual), Idagio (Audiovisual);
- **Germany:** SCM-Shop (Music), Idagio, JoynPlus, WOW (Audiovisual);
- **Italy**: Azzurra music, Tim Music (Music), TimVision, Now TV, Sky Go, Infinity (Audiovisual);
- **Netherlands**: Muziekweb (Music), Videloand, RTL XL (Audiovisual);
- **Poland**: Czasoumilacz, GO ON (Music), CDA Premium, ipla, Polsat Box Go (Audiovisual);
- **Portugal**: Vodafone (Music), HBO Portugal (Audiovisual);
- **Spain:** Idagio, Movistar Musica, Vodafone (Music), Movistar**+** (Audiovisual).

In order to allow for **greater data granularity and geographical breakdowns**, in case of platforms operating in multiple EU Member States the survey should be either (i) proposed to all the different subsidiaries or entities of the company in the different countries, or (ii) targeted to the parent company only, but with the request - if possible - to provide distinct figures per EU country.

Once the actors to be surveyed have been identified, the next step would entail the design of the survey itself. In terms of the **survey type**, the approach could rely on a written survey, in either paper or digital form (with the latter being preferable, as it would be time-saving and make it easier to process results).

Regarding the **content of the possible survey**, see Table 5.4, which provides:

- Indicators that measure different features of the activities of digital platforms. As mentioned in section 4.2, the examples of indicators encountered in the desk research have been used as inspiration to define the current indicators.
- The specific question to be asked to measure the indicator.
- A brief explanation of what each indicator is about.

Table 5.4: Indicators for targeted approach

Dimension	Indicator	Question	Explanation
Investment	Source(s) of funding	What are the different sources of funding that your organization uses to sustain its business model?	The types of funding sources that an organisation have access to and makes use of for sustaining its activities and/or business model (e.g. private funding, public funding, crowd-funding, organisation's own resources).

Dimension	Indicator	Question	Explanation
Human capital	Number of employees	What is the total number of employees in your organization?	The total number of employees of the company or organization that is running the platform
Human capital	Share of employees working in content curation and/or creation	What is the percentage of employees in your organization that are involved in the curation and/or creation of content?	The share of employees of the organization that deal with the curation, selection, or creation of content that is available on the platform.
Human capital	Share of employees working on ICT-intensive tasks	What is the percentage of employees in your organization that are involved in ICT-intensive tasks (e.g., developers, software engineers, data analysts)?	The share of employees of the organization that deal with ICT-intensive tasks, such as data analysis, software development, IT architecture maintenance.
Production	Average number of uploads (If applicable)	What is the average number of uploads (e.g., views, plays) that occur on your platform over a day/week/month?	The average number of uploads refers to the average number of uploads that occur on a platform over a certain period of time (e.g., day, week, month). For example, the number of uploads of tracks on Soundcloud in a day, on average.
Production	Hours of content uploaded (if applicable)	What is the average number of hours of content uploaded on your platform in a day/week/month?	The average number of hours of content that are published on a platform by users over a certain period of time (e.g., day, week, month). For example, how many hours of content are uploaded on YouTube each day, on average.
Distribution	Total revenues of the organization	What have been the total revenues of your organization during the last year?	The total revenues of the organization during the previous year.
Distribution	Total revenues, by revenue type: download revenues (If applicable)	What is the percentage of revenues of your organization that is connected to content download (during the last year)?	The share of revenues of the organization during the previous year that are connected to download of content (e.g., purchase and download of music files, films, e-books, or any other type of multimedia content).
Distribution	Total revenues, by revenue type: streaming revenues (If applicable)	What is the percentage of revenues of your organization that is connected to the streaming of content (during the last year)?	The share of revenues of the organization during the previous year that are connected to the provision of streaming services.
Distribution	Total revenues,	What is the percentage of	The share of revenues of the

Dimension	Indicator	Question	Explanation
	by revenue type: ad-supported revenues (If applicable)	revenues of your organization that is connected to the display of advertising on the content you provide (during the last year)?	organization during the previous year that are connected to the display of advertisements on content (e.g., payments made by other companies or organizations to display their advertisements on the platform).
Distribution	Total revenues, by revenue type: subscription revenues (If applicable)	What is the percentage of revenues of your organization that is connected to subscriptions to your services (during the last year)?	The share of revenues of the organization during the previous year that are connected to subscription fees paid by users.
Distribution	Diversity of catalogue	What is the type of content available on your platform's catalogue (e.g., music, audiovisual, e-books, games)?	The type of catalogue available on the platform, in terms of music, videos, e-books, or other types of digital content available on the platform in question.
Extent of catalogue	What is the extent of the content catalogue available on your platform (e.g., what is the number of songs, videos, e-books available on the platform)?	The extent to which the catalogue refers to the number of songs, videos, e-books, or other types of digital content available on the platform in question.	
Distribution	Share of European content available in catalogue	What is the share of catalogue available on your platform that is of European origin (i.e., has been produced in Europe or by a European artist)?	The share of European works among the content available on a certain platform. For audiovisual (i.e. films, tv series), it can be based on the country of production. For music (i.e. songs, albums) and books, it can be based on either the main artist/writer nationality(ies), or the country(ies) of the publishing label(s) or book publisher(s).
Distribution	Percentage of revenues distributed to content providers/creators /publishers (If applicable)	What percentage of your revenues are distributed among the content creators/artists /publishers that publish on your platform?	The redistribution of revenues from online platforms to the content creators/providers, publishers or artists.
Consumption	Number of total	What is the total number of	The total number of users of

Dimension	Indicator	Question	Explanation
	users	users of your platform?	the platform.
Consumption	Number of users, by type: premium users (If applicable)	What is the total number of premium users (if any) of your platform?	The total number of premium users of the platform (i.e., having a paid subscription account – for example paying a fee for additional or premium services).
Consumption	Number of users, by type: "free" users (If applicable)	What is the total number of "free" users (using services without paying an explicit fee of subscription) of your platform (if any)?	The total number of "free" users of the platform (i.e., using the services of the platform without paying an explicit fee – for example, being subjected to advertising).
Consumption	Number of users, by type: registered users (If applicable)	What is the total number of registered users (if any) of your platform?	The total number of registered users of the platform (whether they are paying or non-paying users – there could be overlaps with the indicators above).
Consumption	Number of visits (If applicable)	How many visits on average does your platform receive over a day/week/month?	The total number of visits refers to the how many visits a certain platform, application, or websites receives over a certain period of time (e.g., day, week, month).
Consumption	Number of unique visitors (If applicable)	What is the average number of unique visitors of your platform in a day/week/month?	The average number of unique visitors refers to the how many people on average visit/access a certain platform, application, or website over a certain period (e.g., day, week, month).
Consumption	Average time spent per visit (If applicable)	What is the average time that each visitor spends on your platform?	The average time spent per visit refers to how much time each visitor of a certain platform, application, or website spends on average on the service.
Consumption	Average number of streams (If applicable)	What is the average number of streams (e.g., views, plays) that occur on your platform over a day/week/month?	The average number of streams refers to the average number of views, plays (or other streaming indicators) that occur on a platform over a certain period of time (e.g. day, week, month). For example, the number of views occurring on YouTube's videos in a day, on average.

Dimension	Indicator	Question	Explanation
Consumption	Average number of downloads (If applicable)	What is the average number of downloads (e.g., views, plays) that occur on your platform over a day/week/month?	The average number of downloads that occur on a platform over a certain period of time (e.g., day, week, month). For example, the number of downloads of music content on iTunes in a day, on average. If a platform offers different types of content, a breakdown by type of content is possible.

With regard to the indicators that are described as "If applicable", this refers to the fact that they may not be relevant for all platforms that are in the scope of the survey. In this case, **organisations for which these indicators are not applicable are not expected to reply to the connected questions.**

Regarding the indicator on "Extent of the catalogue", in some cases this type of information could also be retrieved through alternative sources. For example, **Lumiere VOD** is an important source of information in the audio-visual sector, as it provides data on the Film and TV content catalogues available on on-demand services across Europe.

Altogether, **the development of a targeted survey would allow to retrieve complementary information** on some dimensions that cannot be explored in detail through the current tools and questionnaires of the Cultural Statistics Framework, or through the application of data analysis methodologies – in particular concerning **metrics connected to revenues and users of online platforms**.

Therefore, it is important to **further develop the targeted approach**, and implicate stakeholders of the CCS – in particular, digital actors – to determine methods to obtain information directly from them.

In this respect, and in line with the approach presented in this section, we recommend:

- Carrying out an analysis to expand the approach scope in terms of platforms and sectors (including audiobooks and books streaming platforms, and the digital activity of other CCS besides music, videogames and audiovisual), and to identify additional relevant indicators (related for instance to discoverability of content);
- Setting up mechanisms to identify relevant digital economy actors at Member State level (such as the use of digital services aggregators, complemented by additional research);
- Designing targeted survey(s) to collect first-hand information from digital actors, which can be used to build and measure specific indicators on digital actors' revenues, employment, and users' characteristics.

6 Updated estimation on the contribution and impact of CCS to EU Main Macroeconomic Aggregates

6.1 Introduction

In this report we present evidence[144] of the economic dimension of the CCS from the data obtained from a homogeneous, modular, and comparable proposal, as well as some measurements of the effects that the dimension of culture has on variables as important as the productivity of the labour factor and the added value of the whole economy. We can consider that the cultural ecosystem is a "social intangible asset" for national productive systems and its evolution partially explains the labour productivity of the system as a whole.

Productivity is the key driver of a country's living standards, affecting output, employment, and wages. Yet over the past decade, aggregate productivity grew at a fairly low and decreasing rate in most developed countries. Productivity growth in the Euro Area (EA19), was already falling steadily before the Financial Crisis and even approached zero in 2021. At the same time, the economy experienced a phase of intense technological acceleration and deepening globalization of production, expected to bring large productivity gains through multiple channels. The absence of aggregate productivity gains despite these processes is referred to as "productivity puzzle" or "productivity paradox"[145]. Although we offer only circumstantial evidence, the isolation of the CCS since 2008 could be part of the answer.

In this new context, understanding the functionalities of cultural dynamics requires novel methodological and operational approaches to convert the recognition of this new reality into useful knowledge through the collection of data, for all those agents operating in the creative and cultural field and for the citizenry as a whole. In short, we need new tools to recover effective social control by the community that generate cultural dynamics, to maximise and capture all their positive externalities, and to avoid processes of alienation.

The recent availability of the OECD Inter-Country Input-Output tables, providing homogenous information for 68 countries, allows us to provide new evidence on the multiplier effect that some cultural and creative sectors have on the economic system as a whole. Obtaining multipliers allows us to compare across countries, points in time and sectors, and to support specific development strategies based on culture and creativity.

But we should strive more to have a coherent picture of the way culture delivers its societal impacts, creating value to individuals and communities. Therefore, we approach in a more experimental but very promising way a basic framework that allow us to infer relationships between the size of the cultural and creative sectors and the dimensions of well-being, reaching the preliminary conclusion that it positively affects 7 out of the 11

[144] In order not to complicate a linear reading of the results and given that this text aims to be a dissemination tool for a wide audience, in the methodological appendix to this chapter we provide a summary of how we proceeded in constructing the databases on which the figures we offer are based.
In the case of data on international trade in cultural goods, we explain the methodology at the beginning of the point to clarify that we are dealing with data on trade in goods only, and not services. For the more exploratory aspects of productivity and welfare impacts, we synthesise the basic methodology in the text with the help of some footnotes.

[145] *Report on productivity and its development over time across European countries (and industries) using the new data*. Project MICROPROD. Raising EU Productivity: Lessons from Improved Micro Data H2020-SC6-TRANSFORMATIONS-2018. D1.3

dimensions of well-being. These conclusions open up a new field of analysis and data observation that brings us to the core of the broad spectrum of the social impact of culture.

For some decades now, the economic dimension of economic activities linked to culture and creativity has been underscored. In spite of the difficulties and controversies that we have reflected on in the previous paragraphs regarding the precise definition of the economic activities we are referring to, numerous works present aggregate data as evidence and in defence of the relevance of the CCS.

It is worth noting that even the text of the Terms of Reference (ToRs) for this very Pilot Project does extend and reduce, alternatively, the scope of the activities to be included (thus, to be measured and quantified) under the expression "CCI". The ToRs say that "the CCI in Europe employ more than 12 million workers, or 7.5% of the European workforce and they create about EUR 509 billion of value added." But this is extracted from an important study of DG GROW of the European Commission, which expressly includes in its calculations all these high-end industries. That is, the same industries that the ToRs later expressly exclude from the scope of the research to be implemented.

With regard to figures on productivity impacts, multiplier effects or relationships with various dimensions of well-being, it must be understood that these are works that need to be interpreted with the due caution. In general, the research on this topic is still in progress and will require in the future further analyses. But we do not want to miss the opportunity to point out the many transformative impacts of culture and creativity in a wide range of fields. The evidence now suggests that this is a fact beyond "wishful thinking". The ultimate intention is that these features should be incorporated into the European research agenda. We have strong signals that the cultural and creative sectors are relevant tools for social change and can provide solutions to the challenges we face. However, from a public policy perspective we do not yet know very well how to use them.

In this part of the Report we present graphs and tables with data for the EU-27 as a whole and by country, according to the new scope of the CCS statistical framework proposed in this Project – including in some cases data for countries outside the EU in order to visualise the magnitude and relevance of Brexit in aggregate values. But complementary to this information we also provide, in a separate document, a set of factsheets for all the countries of the EU-27 with individualised data and some indicators that facilitate their comparability.

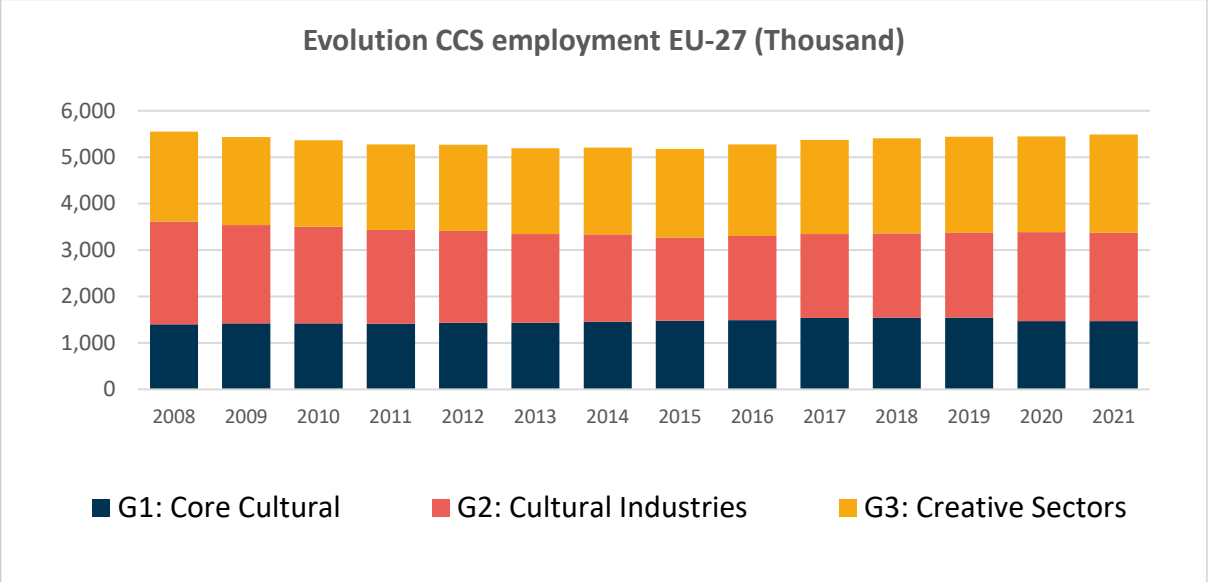
6.2 Main figures

According to Eurostat figures, cultural and creative industries employed 7.4 million people in the EU (2021), equivalent to 3.7% of total employment in the EU, representing 1.2 million enterprises (2019). However, it must be borne in mind that in 2020 Brexit entered into force, which means that an important country such as the United Kingdom, with almost 1.5 million employed people, no longer counts in the EU aggregates. At the same time, the effect of the 2008 crises was a very strong blow having long-term effects, while the health pandemic since 2020 has had a substantial impact in the short term. The normalisation of mobility, the recovery of travel and tourist flows are having an effect on the normalisation of the activity of face-to-face cultural services, but we still do not have enough perspective on the long-term effects of cultural practices and habits.

This research has not estimated cultural workers but has sought to estimate the number of people working in the CCS. With all these nuances, those employed in the cultural and creative sectors in 2021 accounted for 5.5 million people and 2.6% of the total employed workforce in the EU 27 as a whole.

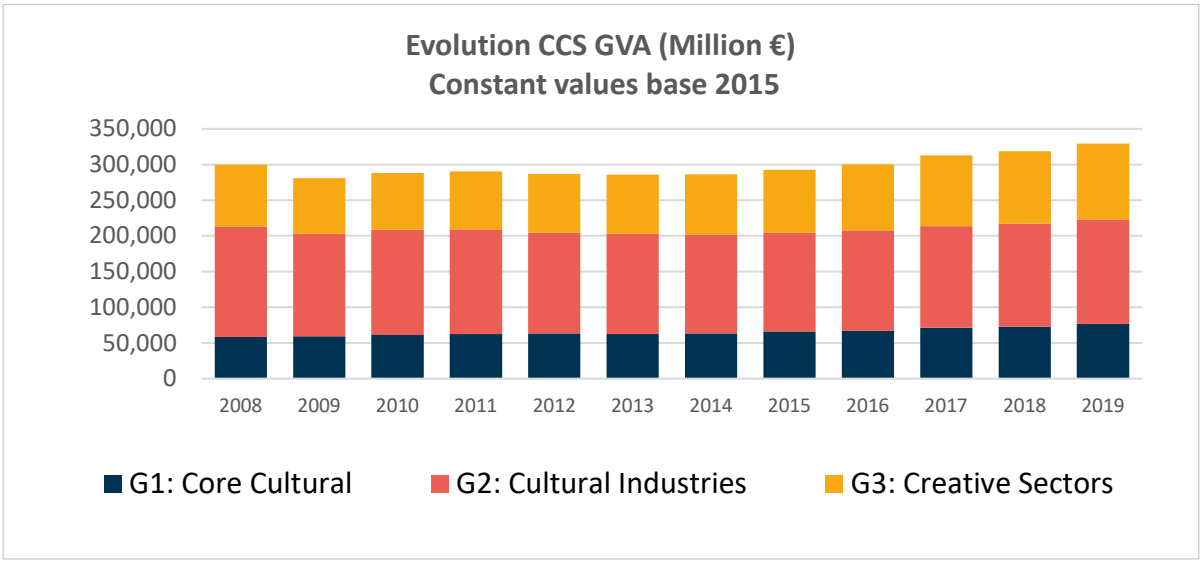
What is true is that the last 14 years have not been especially bright for the CCS. In 2021 we are at 99% of the 2008 levels of people employed in the cultural sectors, albeit at 126% in terms of added value generation.

Figure 6.1: Evolution of CCS employment in the EU-27 by groups (2008-2021) (Thousand)



In terms of value added, CCS accounted for 2.6% of total EU value added in 2019 (last available year of 106 385 million Euros of value added), which is a very high value and above some sectorial figures that sometimes receive much media attention.

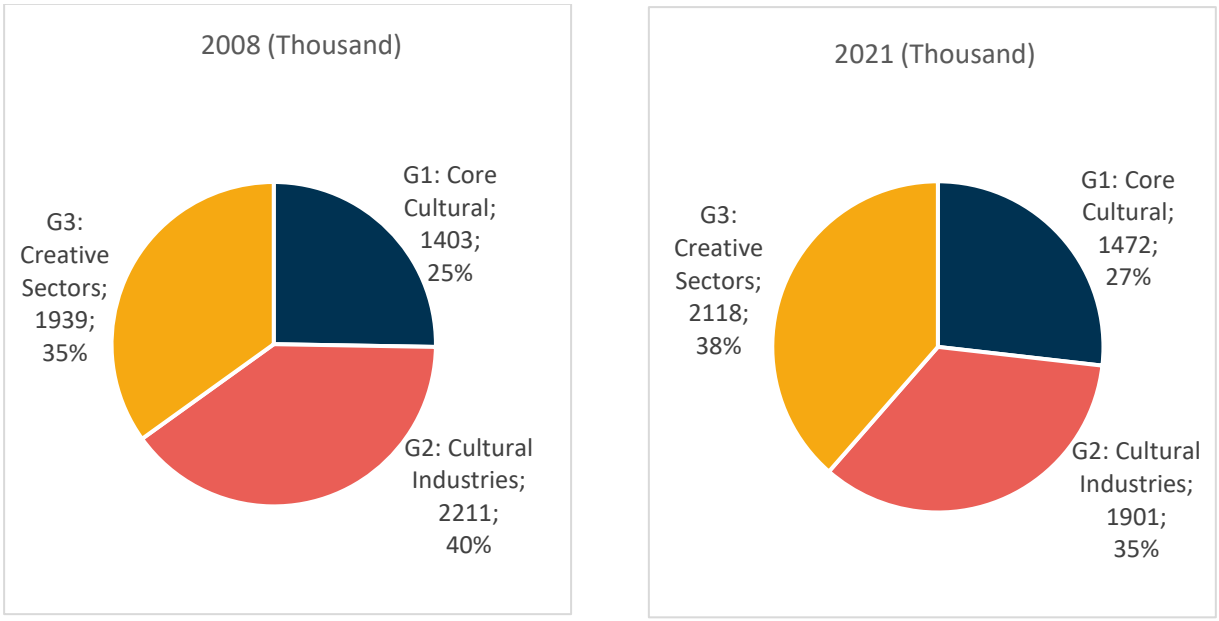
Figure 6.2: Evolution of CCS Gross Value Added by groups (2008-2019) (Million €)



The evolution of employment has gone from 2.8% (2008) of the total employed in the EU-27 to 2.6% (2021); while value added (in constant values) has gone from 3% (2008) to 2.6% (2019) of total.

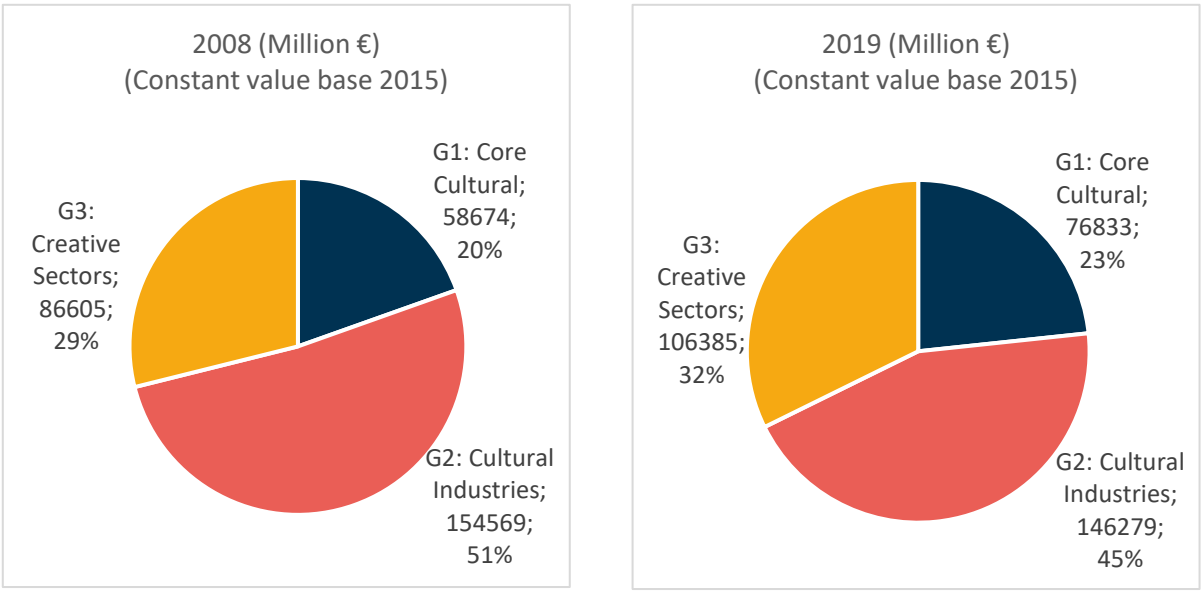
If we distribute by groups of activities according to the classifications proposed in section 4.3 (G1; G2; G3), we can see a certain balance between the three groups. In 2021 the cultural core represented 27% of the employed, the cultural industries 35%, and the creative sectors 38% of the total. In the period under consideration, we see a decrease of 5 percentage points of the cultural industries, which is distributed in 3% more for the creative sectors and 2% for the Core Cultural activities.

Figure 6.3: Distribution of workers by groups (2008 vs. 2021) (Thousand)



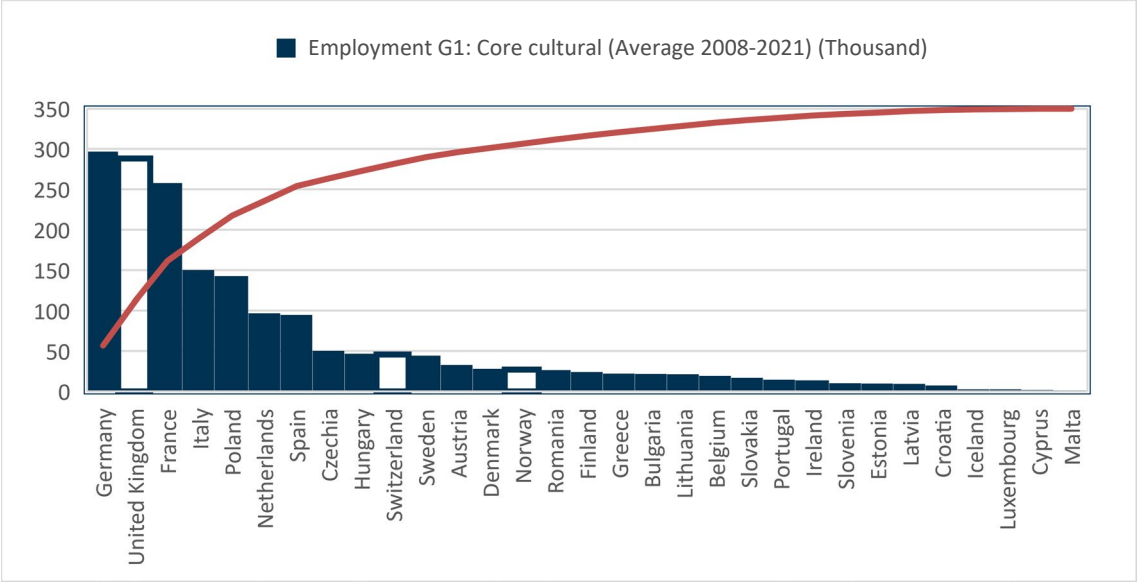
The same relative change is also seen in the case of value added. If we represent the distribution of added value in 2019, we see that the cultural industries group has decreased its contribution from 51% to 45%, while both the cultural core and creative sectors groups have increased their percentages in terms of added value.

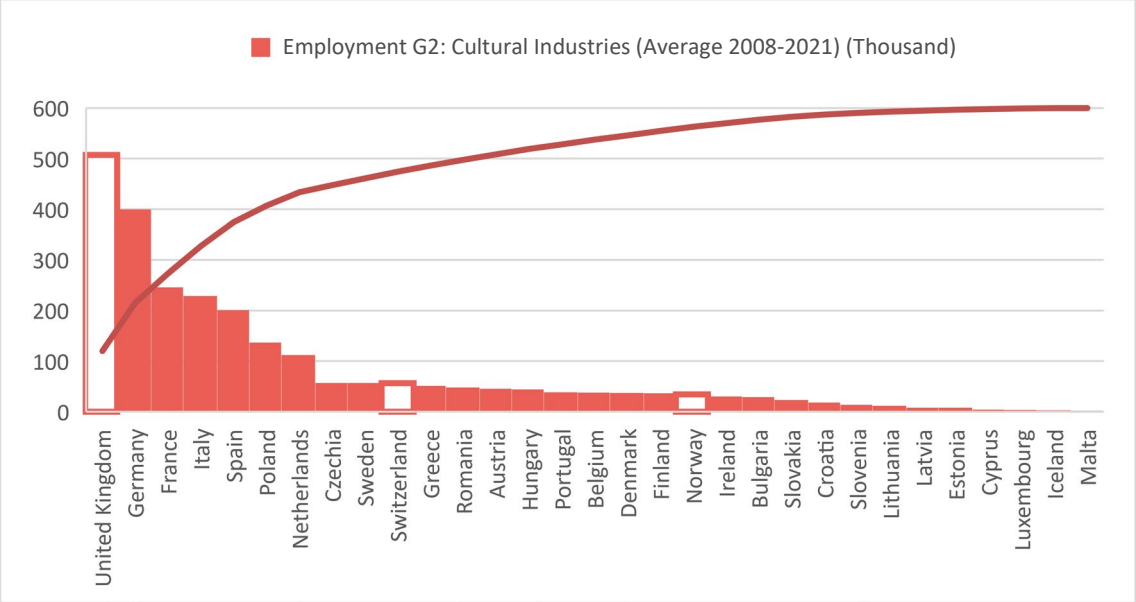
Figure 6.4: Distribution of Gross Value Added by groups (2019) (Million €) (Constant value base 2015)



6.3 Employment by country

Figure 6.5: Employment in CCS by groups and countries EU + UK, CH, IS, NO




Employment G2: Cultural Industries (Average 2008-2021) (Thousand)
600
500
400
300
200
100
0
United Kingdom
Germany
France
Italy
Spain
Poland
Netherlands
Czechia
Sweden
Switzerland
Greece
Romania
Austria
Hungary
Portugal
Belgium
Denmark
Finland
Norway
Ireland
Bulgaria
Slovakia
Croatia
Slovenia
Lithuania
Latvia
Estonia
Cyprus
Luxembourg
Iceland
Malta

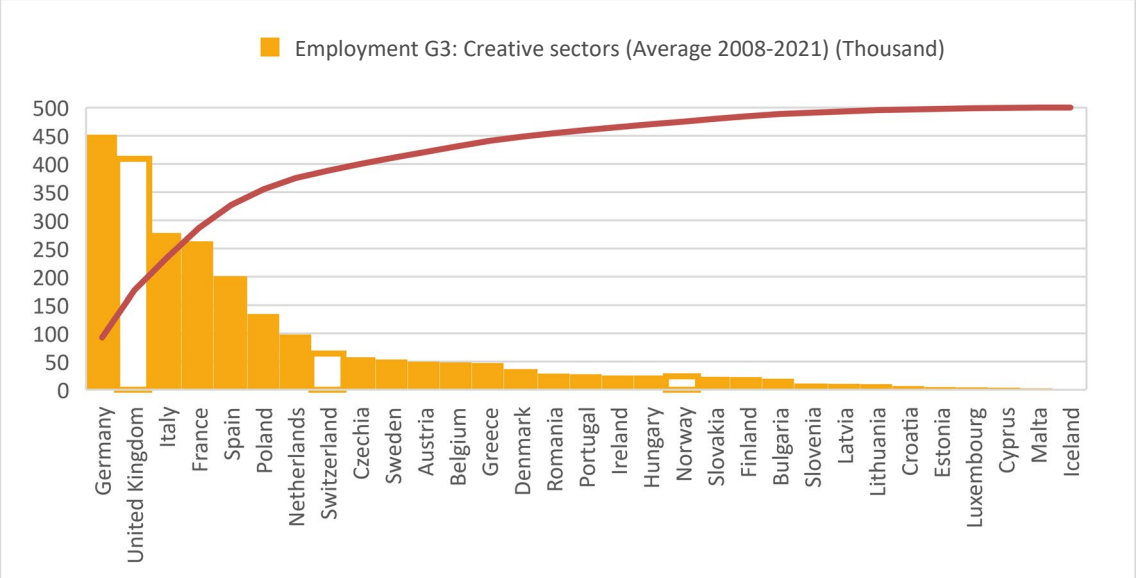

Employment G3: Creative sectors (Average 2008-2021) (Thousand)
500
450
400
350
300
250
200
150
100
50
0
Germany
United Kingdom
Italy
France
Spain
Poland
Netherlands
Switzerland
Czechia
Sweden
Austria
Belgium
Greece
Denmark
Romania
Portugal
Ireland
Hungary
Norway
Slovakia
Finland
Bulgaria
Slovenia
Latvia
Lithuania
Croatia
Estonia
Luxembourg
Cyprus
Malta
Iceland

Figure 6.6: % CCS Employment /Total Employment. EU Countries. Average 2008-2021

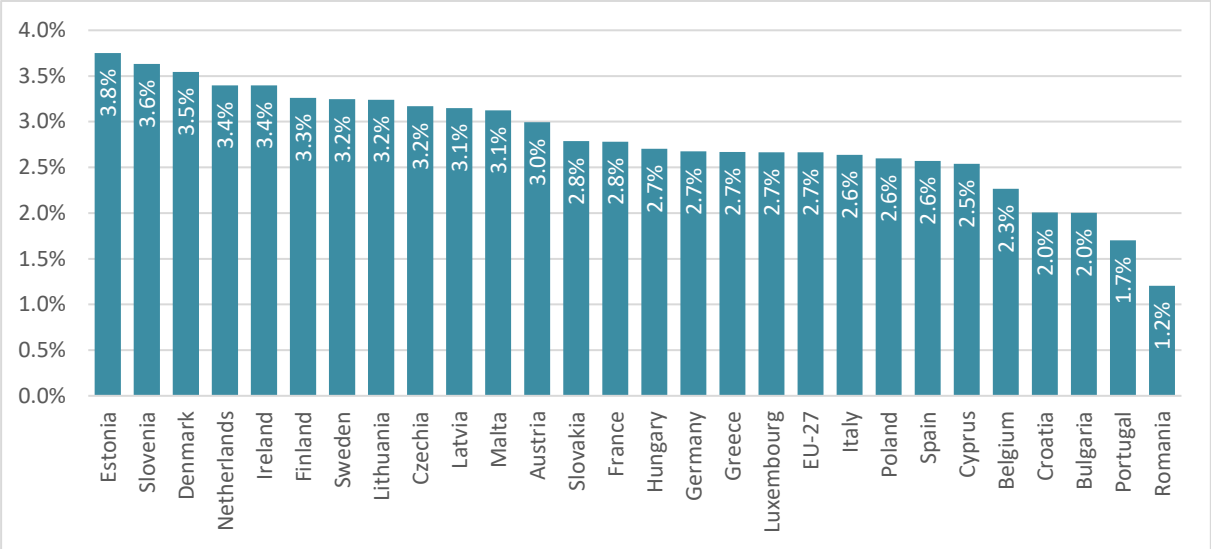
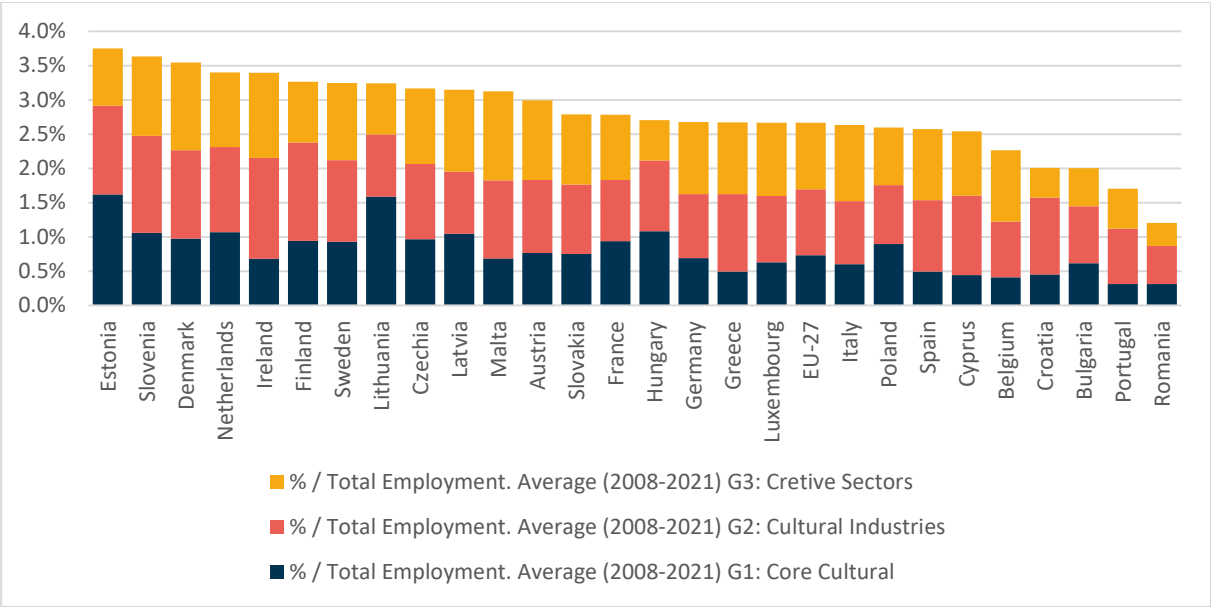


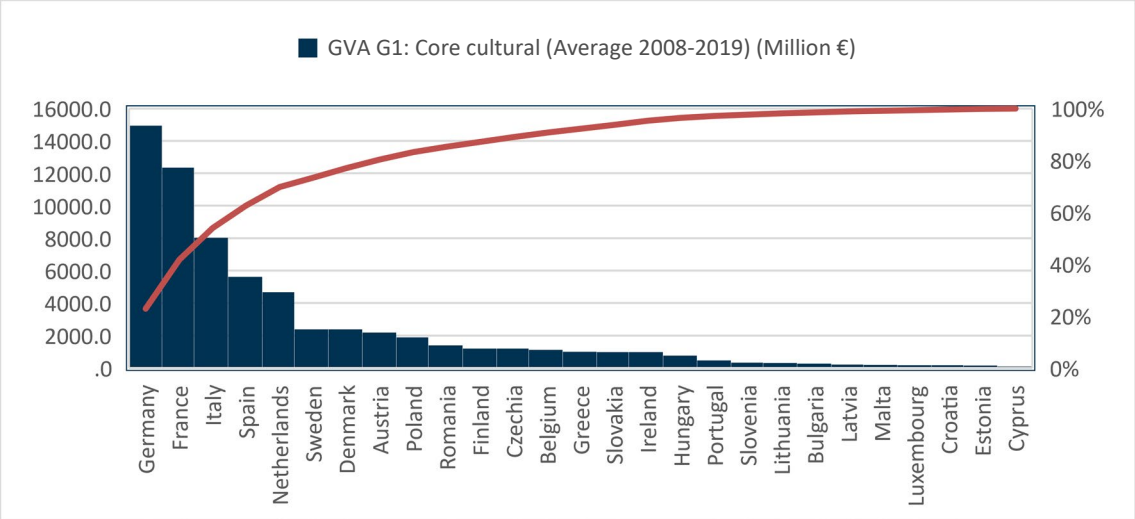
Figure 6.7: % CCS Employment /Total Employment by groups. EU Countries. Average 2008-2021

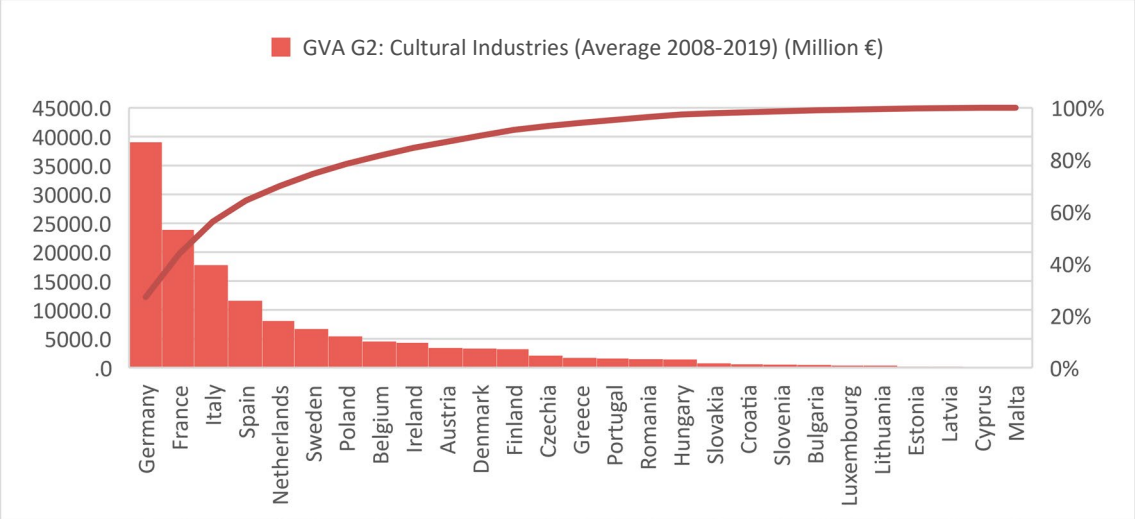


The countries with the greatest presence of G1 (Core cultural activities) are Estonia and Lithuania, while for G2 (Cultural industries) the countries with the highest percentages are Finland and Ireland. Finally in G3 (Creative services) the most outstanding performances on average over the period analysed are Denmark and Malta.

6.4 Gross Value Added

Figure 6.8: Gross Value Added by groups and countries





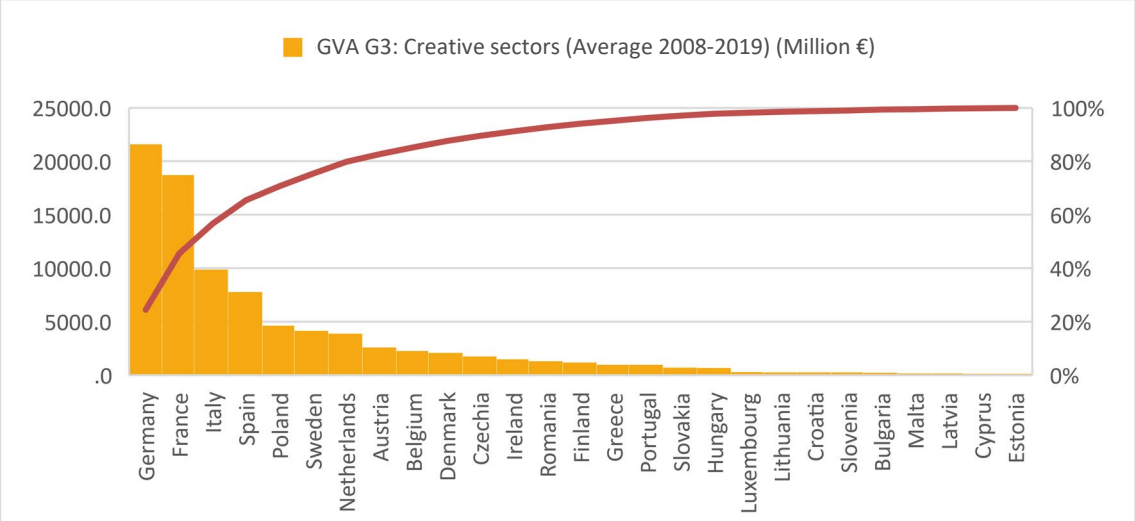
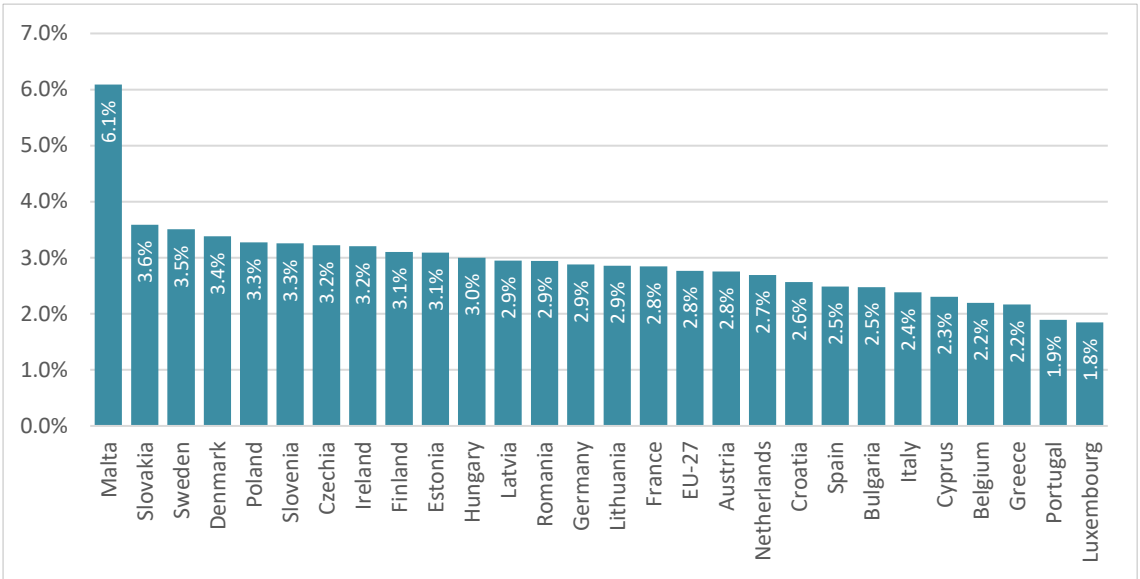


Figure 6.9: % GVA CCS /Total Gross Value Added by EU countries (Average 2008-2019)



It is clear that in absolute terms the size of the population and consequently of the economy influences the volume of value added generated. As can be seen in the figures above, in all the groups and taking the average of the period 2008-2019, the four main countries (Germany, France, Italy, and Spain) account for more than 60% of the value added generated.

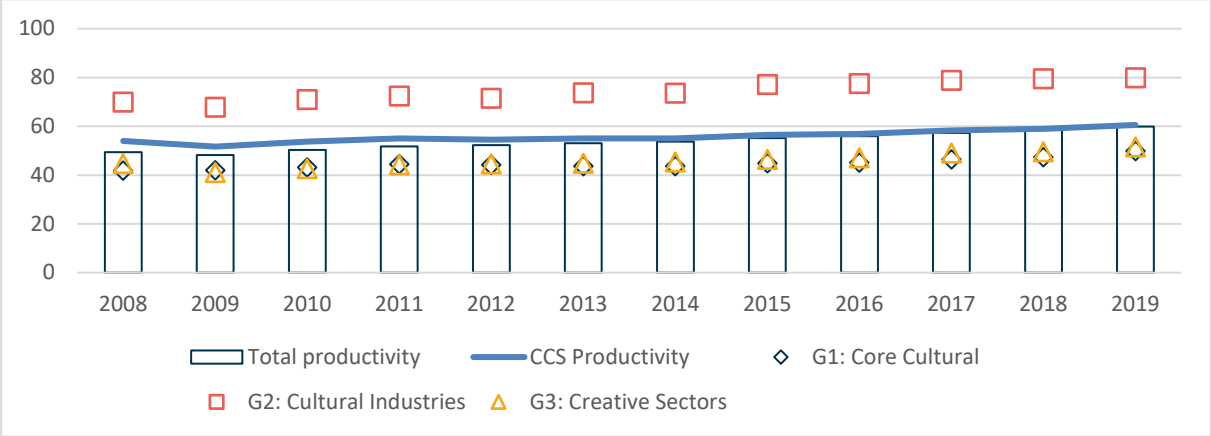
If we analyse the data in relative terms to the total economy, we can see that small Eastern European countries such as Slovakia, Slovenia, and Czechia, but also Finland and Denmark, show figures above 3%. Malta is the country with the highest average rate during the period.

6.5 Productivity of labour force

Labour productivity is an important concept, as it locates the degree of competitiveness of the CCS *vis-à-vis* the rest of the economic activities. If, in general, the productivity of the CCS is above the average of the economy as a whole, any increase in the participation of these sectors will translate into an overall increase in the productivity of the system.

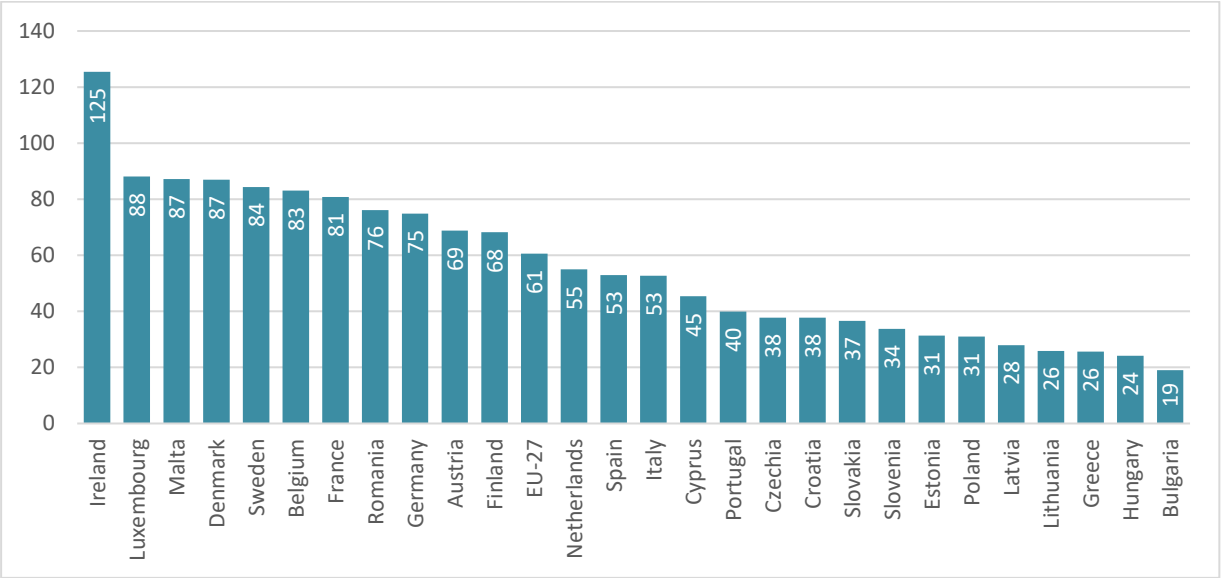
In the EU-27 as a whole we can see that the productivity of the CCS as a whole is slightly above the average for the economy, and that this is mainly due to the fact that it is the productivity of the cultural industries that pushes the average upward, while both the cultural core and creative sectors show productivities below the average for the economy and at practically the same level.

Figure 6.10: Evolution of labour productivity by groups (EU-27) (Thousand €)



Of course, the situation in the different countries shows very different realities for the different groups, as can be seen in the factsheets of the individual countries. The productivity levels of the CCS as a whole also vary considerably between countries, ranging from € 125 000 in Ireland to € 19 000 in Bulgaria.

Figure 6.11: CCS Labour force productivity by country (2019) (Thousand €)



If we look at the different groups, we can also see big differences.

Figure 6.12: G1 Core Cultural Labour force productivity by country (2019) (Thousand €)

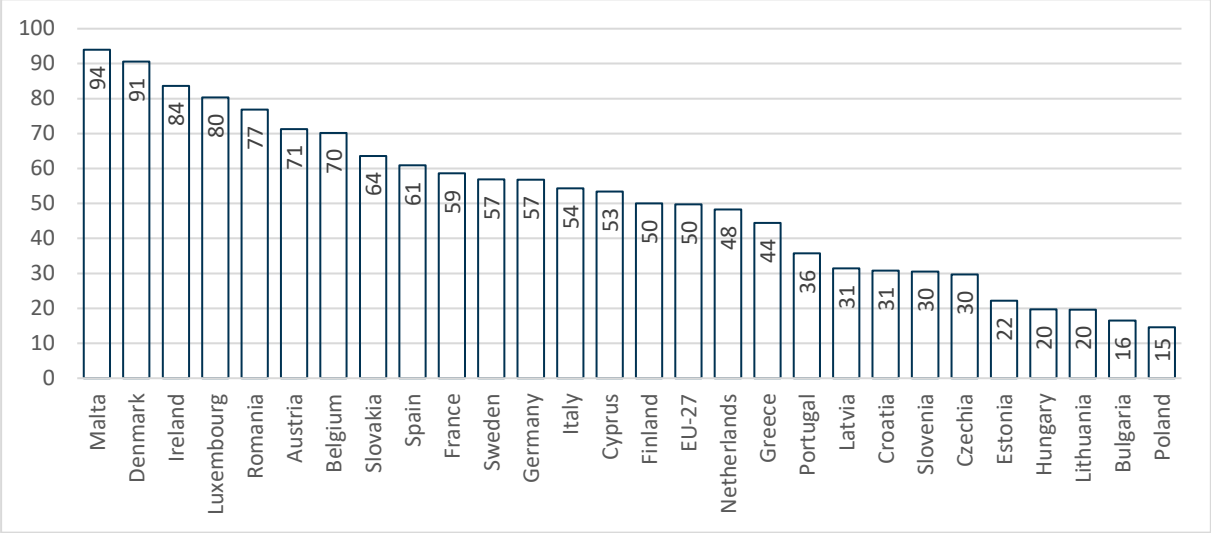


Figure 6.13: G2 Cultural industries. Labour force productivity by country (2019) (Thousand €)

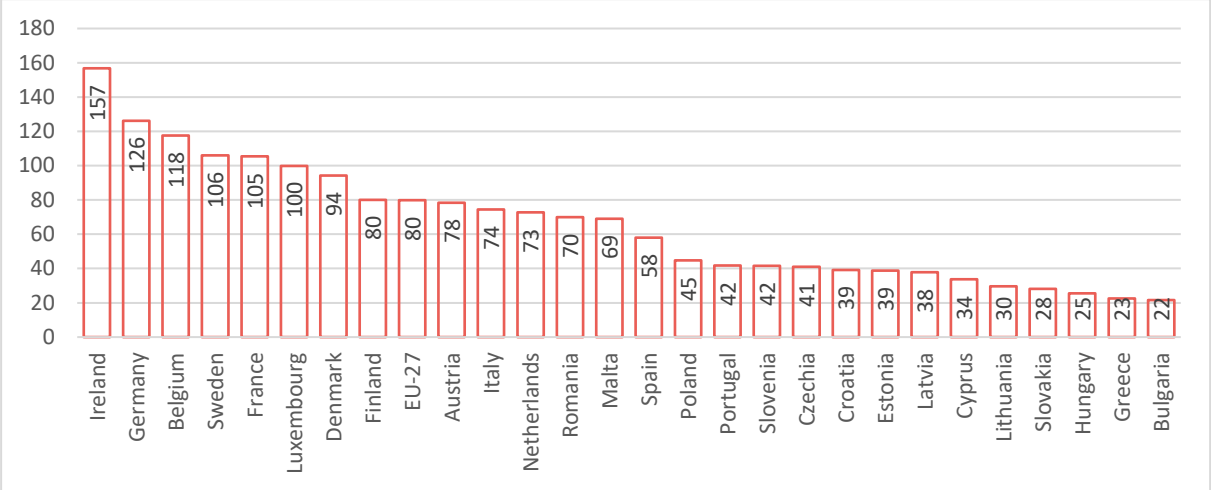
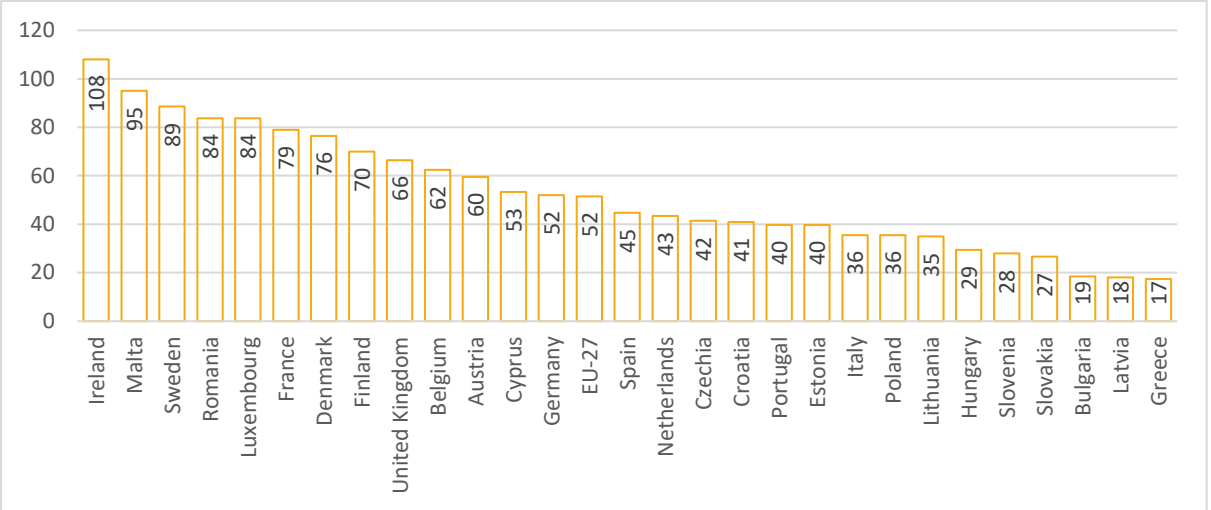


Figure 6.14: G3 Creative sectors. Labour force productivity by country (2019) (Thousand €)



6.6 Exports and Imports

The updated figures on the international trade of CCS goods are summarised in Figures 6.15, 6.16, and 6.17. In general, there was an increasing trend of CCS extra-EU trade between 2009 and 2019, but transactions fell from 2019 to 2020 (Figure 6.15). In 2020, the Top 3 exporters were Germany, France, and Italy (Figure 6.16), and the Top 3 importers were Germany, France, and the Netherlands (Figure 6.17). Poland and the Netherlands also stand out that year in export values when compared to the remaining Member States.

Figure 6.15: Evolution of the international trade of CCS goods in the EU-27, between EU Member States and non-EU countries (extra-EU trade, 2008-2020) (Thousand €)

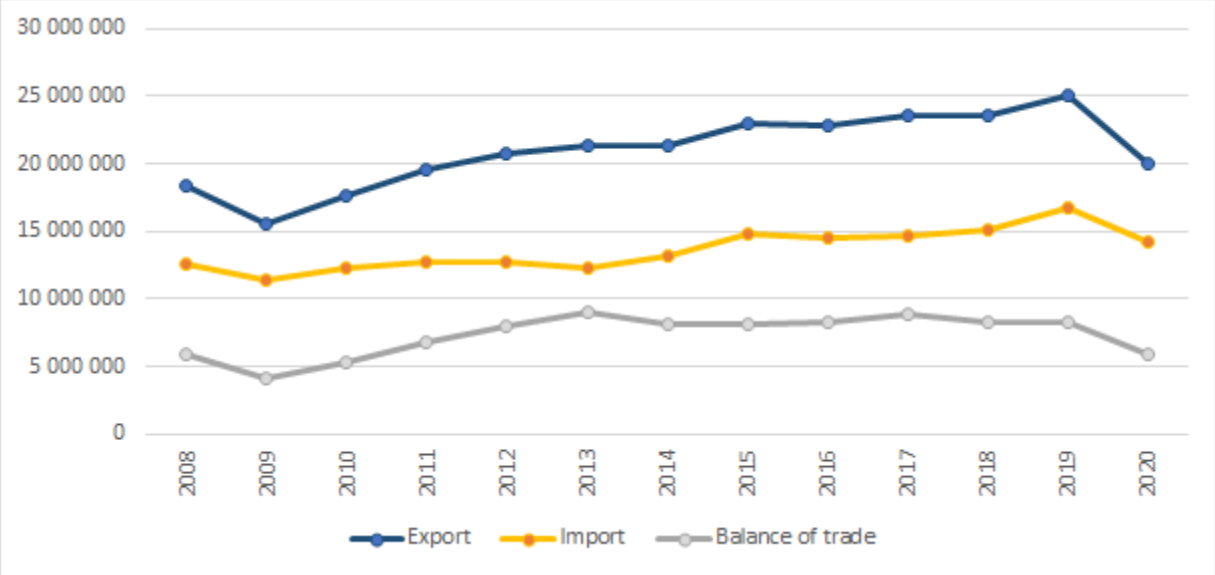


Figure 6.16: Exports of CCS goods by country (extra-EU plus intra-EU trade, 2020) (Thousand €)

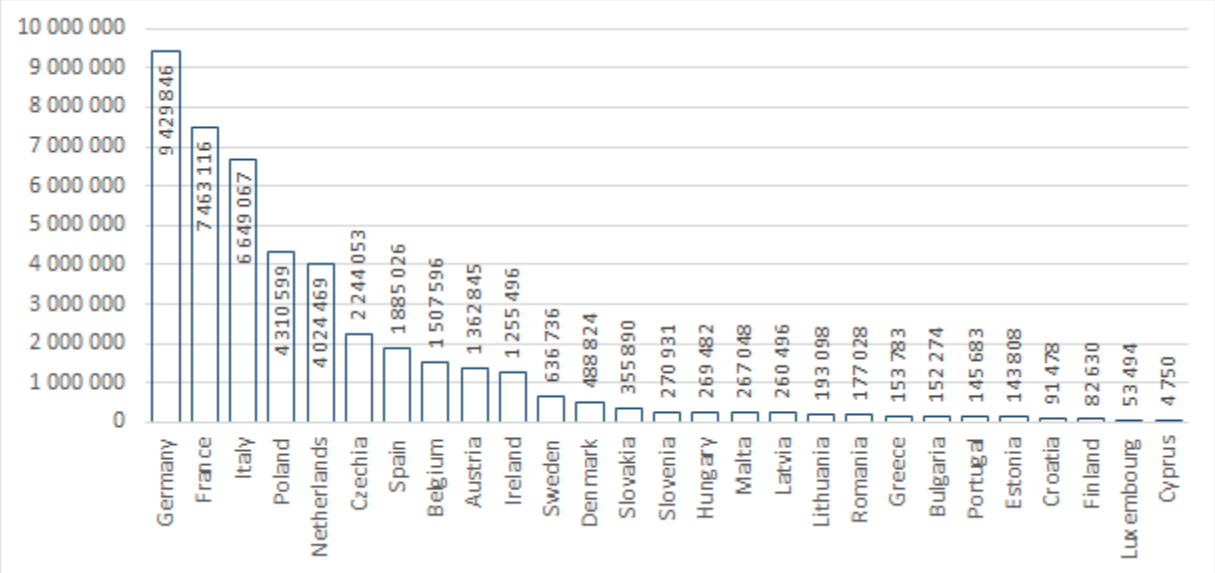
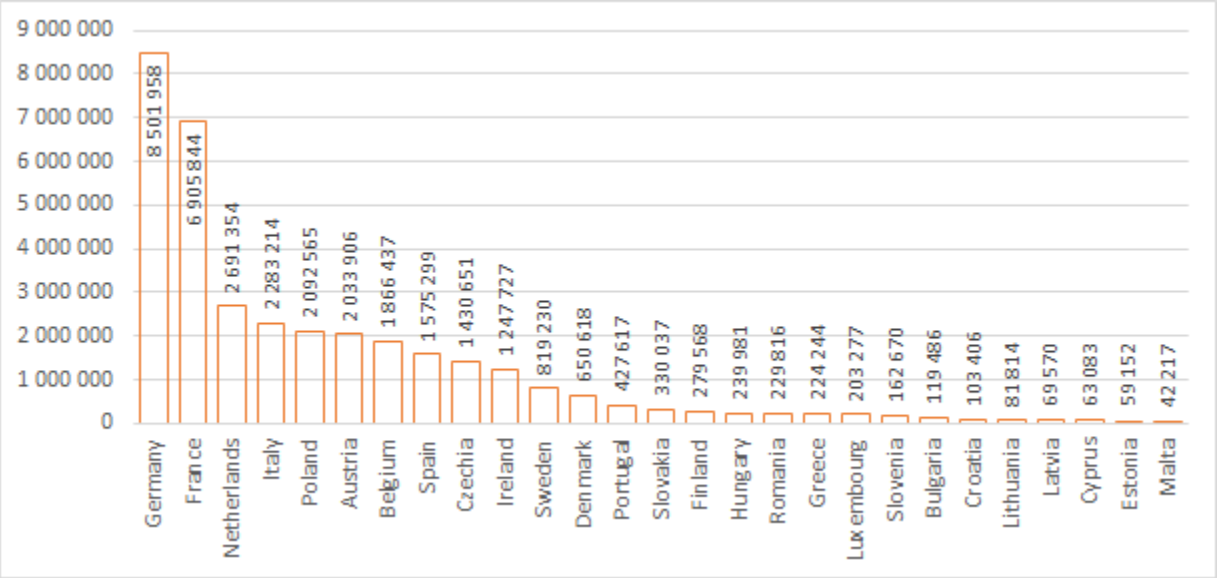


Figure 6.17: Imports of CCS goods by country (extra-EU plus intra-EU trade, 2020) (Thousand €)



Figures 6.18 and 6.19 report the indicators of openness degree of the CCS Economy. Since 2015 the openness degree of the EU-27 has stabilised between 12% and 13% (Figure 6.18). In 2019 (the last year of available data), Czechia, Poland, and Latvia were the Top 3 open economies in CCS (Figure 6.19).

Figure 6.18: Evolution of the openness degree of the CCS Economy in the EU-27, between EU Member States and non-EU countries (extra-EU trade, 2008-2019) (%)

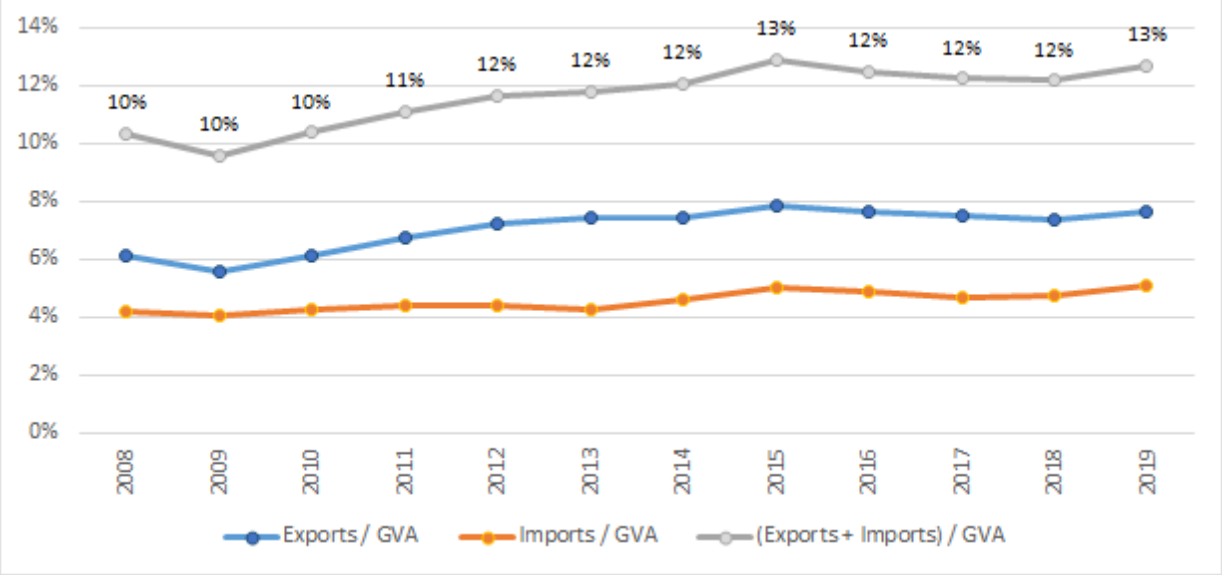
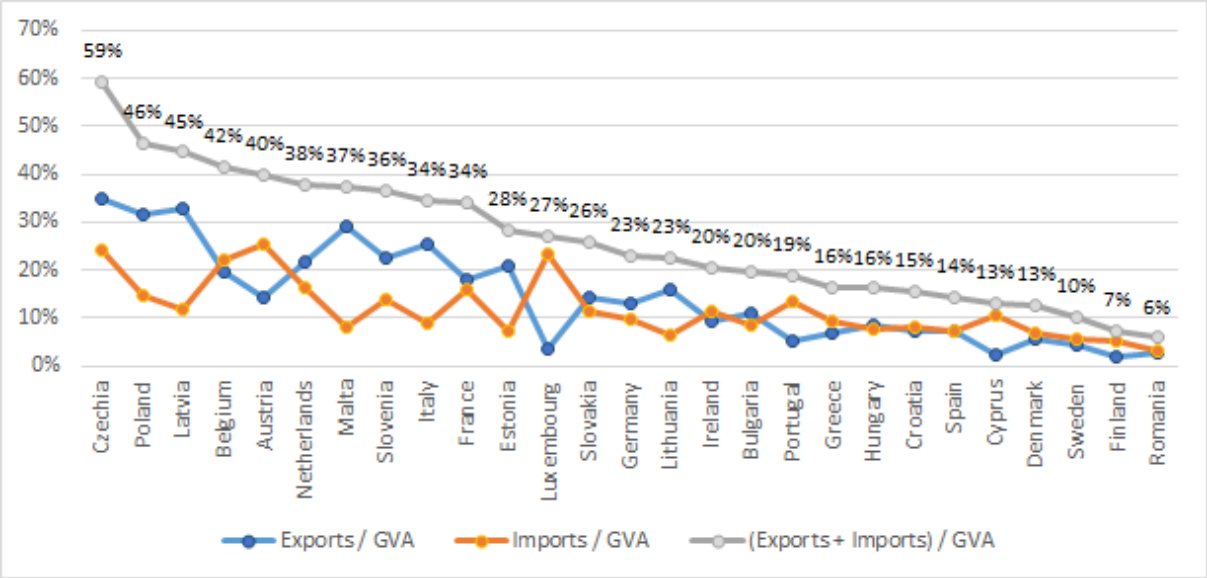


Figure 6.19: Openness degree of the CCS Economy by country (extra-EU plus intra-EU trade, 2019) (%)



6.7 Assessment of CCS impact on labour productivity

What we seek to quantify in this section is the effect that CCS can have on the labour productivity of the economic system as a whole. There is already a growing scholarly literature that claims that the size of the cultural and creative sectors, measured in terms of the number of persons they employ, affects the productivity of the economy as a whole. And productivity is one of the leading variables to explain the prosperity of territories. Although it is still not entirely clear what the causal chains are that generate these processes, and it is likely that they are multifactorial and diverse phenomena depending on different spaces, we know that they occur.

The following exercise endeavours to measure the sensitivity of productivity in each of the countries to changes in the number of people employed in the CCS using one of the mechanisms previously introduced by the scientific literature, and based on the endogenous growth theory. In this mechanism, the ideas and designs produced by the creative sector are used by an intermediate sector to transform creative capital into intermediate goods and services used to create higher variety of new products, avoiding diminishing returns and increasing productivity. The policy implications are that those countries with higher relative responses to changes in the size of the CCS have powerful tools for transforming the economy as a whole in the policies targeted at these sectors.

Data by country are available for the period 2008-2021. This period includes a year still relatively free from the effects of the financial crisis (2008), the years of the crisis, and the subsequent recovery period. The theoretical model and specific estimation methodology using flexible nonparametric methods (Local linear least squares LLLS) are described in detail at the end of the chapter.

6.7.1 Basic results

Table 6.1 shows the results of the estimations, including the mean and the quartiles 1, 2 (median), and 3. As in the theoretical model, labour productivity and the percentage of people employed in CCS are both in Neperian logarithms, the coefficients are interpreted directly as elasticities (relative variations in labour productivity with respect to relative variations in the weight of the CCS in employment in each country).The theoretical model, based on the endogenous growth theory, allows for a causal interpretation of the effects of CCS on labour productivity.

A variation of 1% in the weight of the CCS in the EU-27 countries translates into a variation of 0.0125% in labour productivity. In other words, if the weight of the CCS in the sample countries is doubled, the average labour productivity increases by 1.25%. This elasticity is lower than that found in other research for European regions (Boix-Domènech & Soler-i-Marco, 2017), although it would fall within the feasible range, taking into account the different definitions and units of analysis used.

Table 6.1: Detail of the estimates of the elasticities of labour productivity to the percentage of persons employed in cultural and creative industries (only CCS coefficients are reported)[146]. Years 2008 to 2019. Estimation using local linear least squares with cross-validation. P-values in parentheses

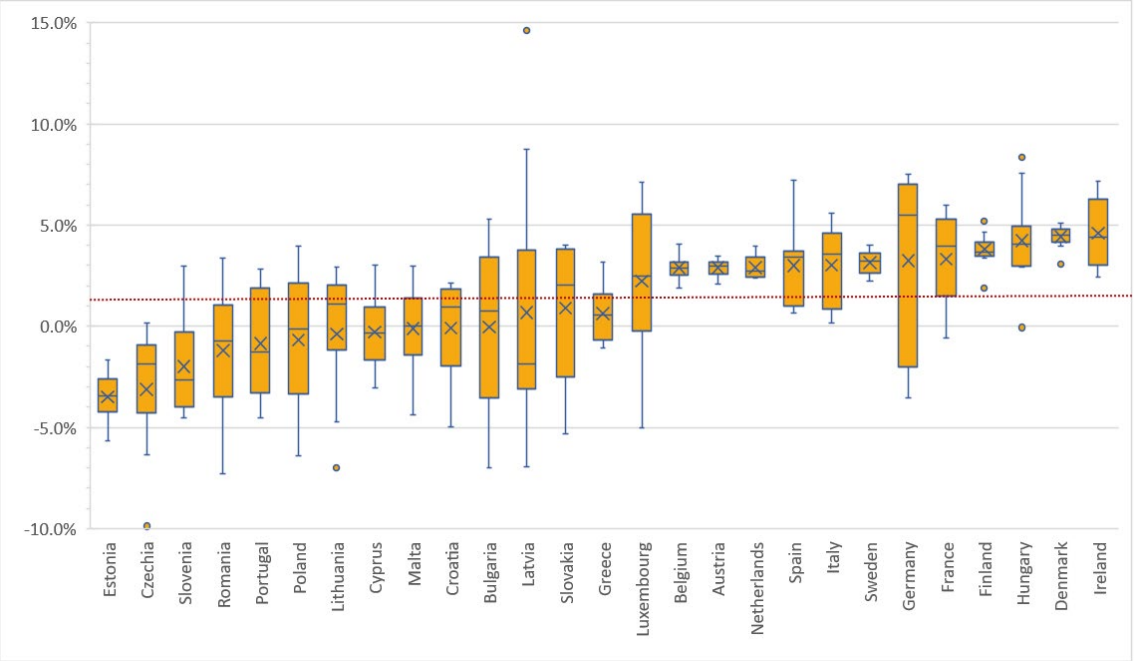
Estimation		Mean	Quartile 1	Quartile 2 (median)	Quartile 3
1	CCS	0.0125	-0.0105	0.021	0.0357
		(0.000)	(0.000)	(0.000)	(0.000)
2	Other copyright industries	-0.0058	-0.033	-0.0017	0.0243
		(0.5485)	(0.000)	(0.5743)	(0.000)
3	CCS + other copyright industries	0.0087	-0.0239	0.0232	0.0539
		(0.3249	(0.000)	(0.000)	(0.000)

6.7.2 Country results

One advantage of the Local linear least squares is that they calculate individual effects for each country and year (Figure 6.20). This allows us to observe that there are significant differences in the effects that the CCS have on labour productivity depending on the country and the year. The largest median effects (for all years) are observed for Germany, Denmark, Ireland, Hungary, and France (all above 4%). The elasticities are also above the mean for Finland, Italy, Spain, Sweden, Austria, Belgium, Netherlands, Luxembourg, and Slovakia. Below the mean, but with positive elasticities, we find Malta, Lithuania, Croatia, Bulgaria, and Greece. Negative median elasticities are observed mainly for Eastern European countries (Poland, Romania, Czechia, Latvia, Slovenia, and Estonia) plus Cyprus and Portugal. This difference between some of the Eastern European countries and the rest is consistent with the results found by previous research (Boix-Domenech, Peiró-Palomino, & Rausell-Köster, 2021) for the European regions.

[146] Estimation using local linear least squares fixed effects and least squares cross-validation. Gaussian kernel for continuous features and Li and Racine kernel for discrete features. Standard errors using wild bootstrap with 500 replications. Coefficients are elasticities. P-values in parentheses.

Figure 6.20: Effects of CCS in national labour productivity[147]



The dimension of the boxes of the boxplot (range between the first and third quartiles) shows the difference that the effects of the CCS on the productivity of each country vary depending on the years. For example, Germany, which shows the largest median effects for the period, also has negative elasticities for the years 2008, and 2019-2021. Latvia, which although it shows a negative median elasticity for the period, actually concentrates the negative effects between 2008 and 2017, and they are positive from 2018. In contrast, in Denmark, Finland, Sweden, Austria, Belgium, and the Netherlands, the elasticities are very constant, and the year-on-year variation is low.

6.7.3 Sensitivity to the definition of CCS

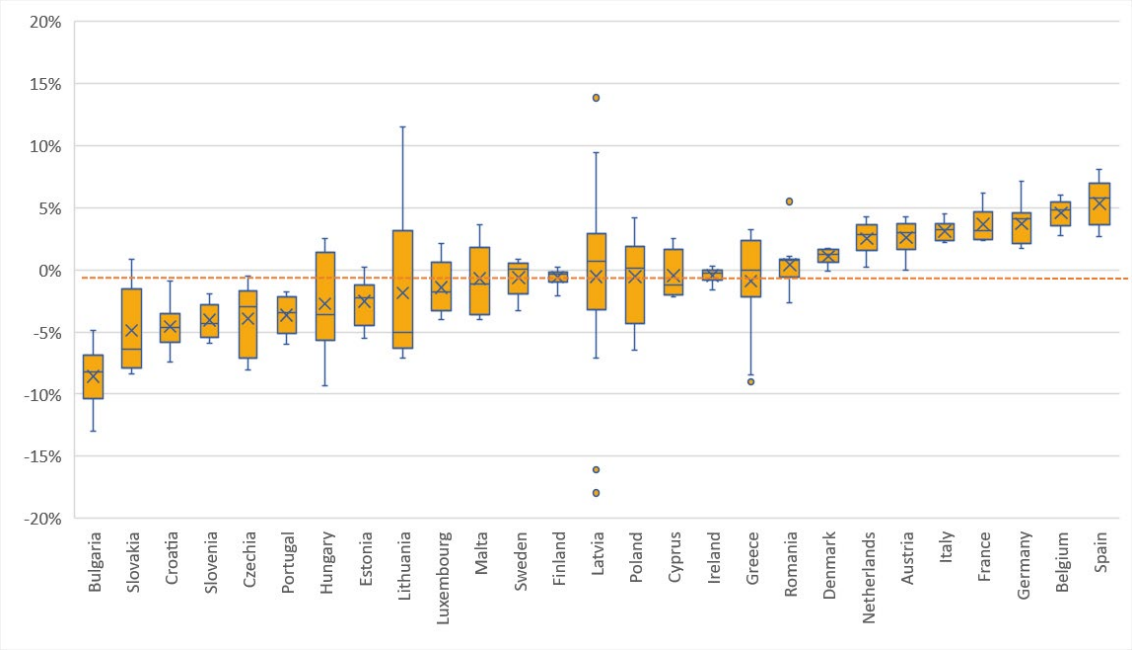
Table 6.1 and Figures 6.21 and 6.22 also shows the sensitivity of the effects to alternative definitions of CSS, using as creative industries the core copyright industries not included in the previous definition of CCS. In this case, the mean and median elasticities are practically zero, even slightly negative (-0.05% and -0.01 respectively). Again, the average effects mask very different responses between countries. Spain, Belgium, Germany, Italy, and France show median elasticities for the entire period above 3%. Again, it is Eastern European countries that tend to show negative elasticities, especially Bulgaria, Slovakia, Croatia, and Slovenia.

[147] Note: The black horizontal line marks the value zero. The red horizontal line marks the mean for all countries and years. For each country: the upper limit of the orange box represents the beginning of the third quartile (Q3), the lower limit of the gray box represents the beginning of the first quartile (Q1), and the bold black line inside the gray box represents the median (beginning of the second quartile). The dotted segments outside the box represent the minimum and maximum value without counting the outliers (values greater than Q3+1.5*IQR or less than Q1-1.5*IQR, where IQR is the interquartile range Q3-Q1).

Figure 6.22 shows the results considering an expanded definition of CCS that includes CCS plus the rest of the core copyright industries not included in the CCS definition. The mean elasticity is lower than that estimated using only the CCS (0.87% vs. 1.25%), although the median elasticity is slightly higher than that estimated using only the CCS (2.32% vs. 2.1%). As in the previous cases, the joint effects "CCS + rest of core cultural industries" are heterogeneous between countries. In fact, the range of elasticities now tends to be greater. Germany, France, Spain, and Italy show median elasticities above 5% for the entire period. Once again, the largest negative elasticities tend to be concentrated in the countries of Eastern Europe.

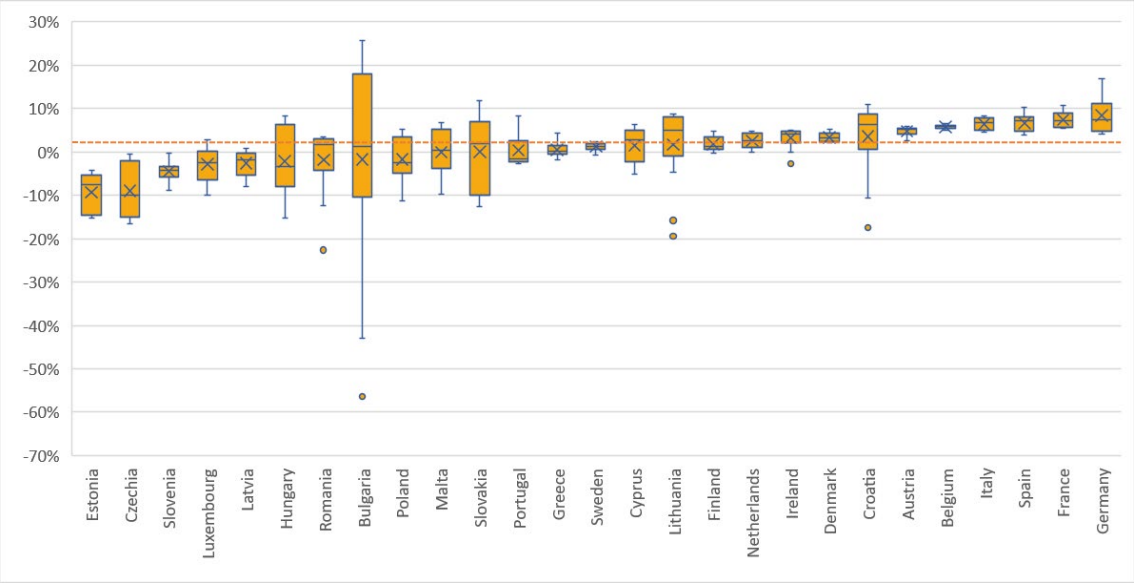
As Figure 6.23 shows, the average effects of the CCS on labour productivity tended to grow between 2008 and 2015, decreasing between 2016 and 2021. Although, as mentioned above, the individual trends by country differ from the average.

Figure 6.21: Effects on labour productivity from "Other copyright industries"[148]



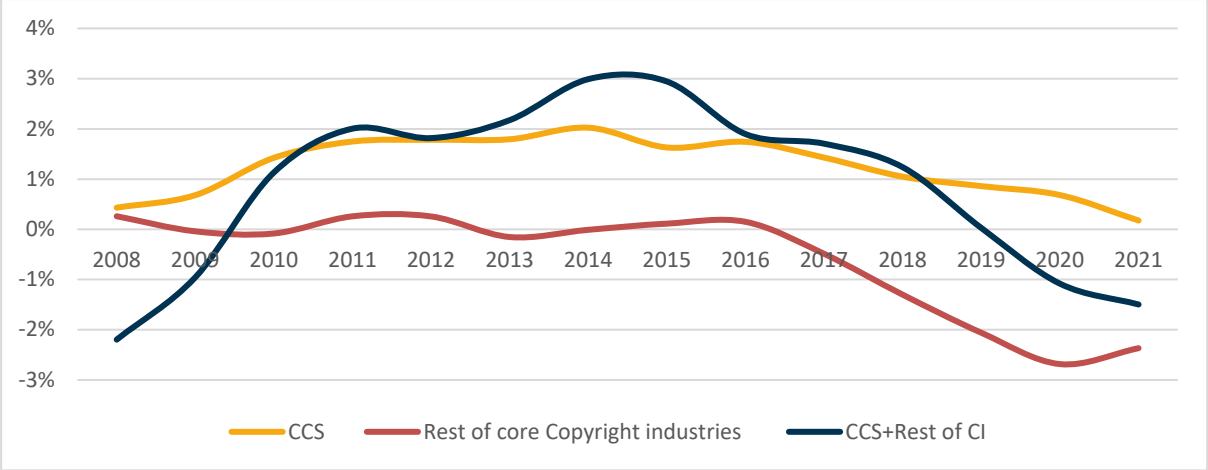
[148] See previous note.

Figure 6.22: Effects on labour productivity from CCS plus "Other copyright industries"[149]



Note: The black horizontal line marks the value zero. The red horizontal line marks the mean for all countries and years. For each country: the upper limit of the orange box represents the beginning of the third quartile (Q3), the lower limit of the gray box represents the beginning of the first quartile (Q1), and the bold black line inside the gray box represents the median (beginning of the second quartile). The dotted segments outside the box represent the minimum and maximum value without counting the outliers (values greater than Q3+1.5*IQR or less than Q1-1.5*IQR, where IQR is the interquartile range Q3-Q1).

Figure 6.23: Elasticities of labour productivity to the percentage of persons employed in cultural and creative industries averaged by year



6.8 The multipliers of the Cultural and Creative Sectors

This section presents simple value-added multipliers for CCS for the years 2008 and 2018. The methodology is based on the estimation of a multi-regional input-output model and its subsequent multiplier analysis, and can be found in Input-Output Analysis:

[149] See previous note.

Foundations and Extensions (Miller & Blair, 2009). The database used is the OECD Inter-Country Input-Output Tables OECD (2021).

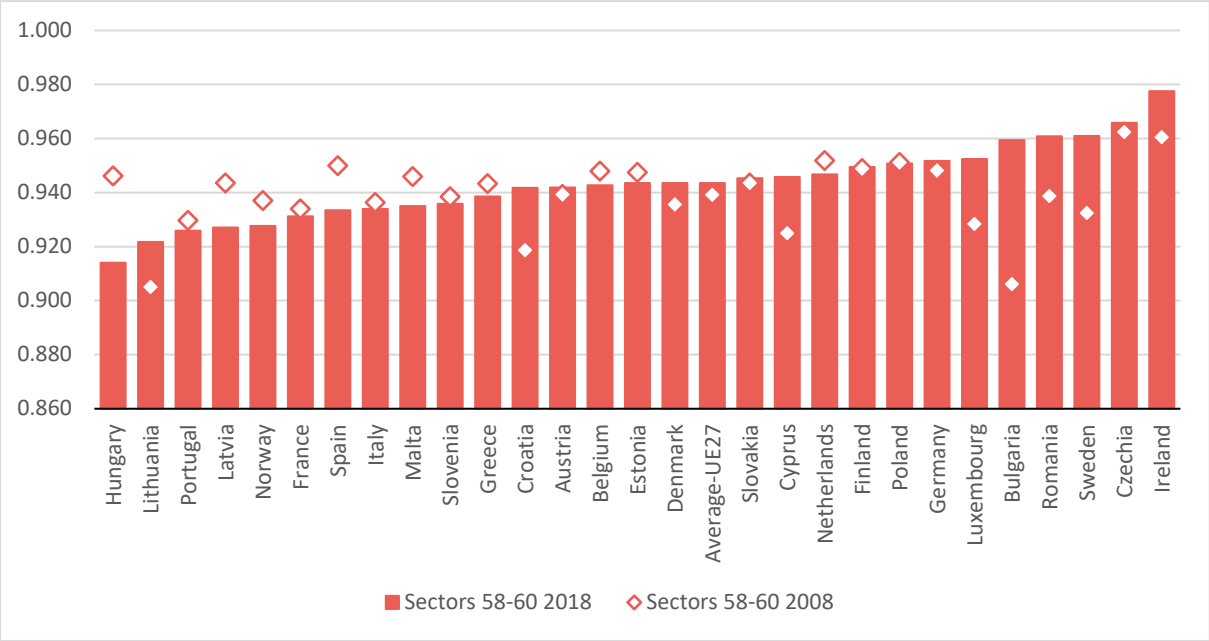
The simple value-added multiplier indicates the value added generated by the economy as a whole from a one-euro external increase in final demand for CCS. This type of multiplier incorporates both direct and indirect effects. The direct effect is the increase in value added generated on the CCS themselves, while the indirect effect is the increase in value added generated in the rest of the productive structure as a supplier of goods and services to the CCS. Although they are always less than 1 due to the non-inclusion of induced effects, the simple multipliers are especially valuable for analysing territorial comparative advantages at the sectoral level.

As the OECD Input-Output Tables do not allow detailed disaggregation, we present the information for:

- Sectors 58-60. This section includes the production and distribution of information and cultural products, the provision of the means to transmit or distribute these products. The main components of this section are publishing activities (division 58), including software publishing, motion picture and sound recording activities (division 59), radio and TV broadcasting and programming activities (division 60).
- Sectors 62-63. Includes IT activities (division 62) and other information service activities (division 63).
- Sectors 90-93, which include 90-91, but also 92 and 93, which are not usually included in the cultural and creative sectors groups. In total this is a wide range of activities to meet varied cultural, entertainment, and recreational interests of the general public, including live performances, operation of museum sites, gambling, sports, and recreation activities.

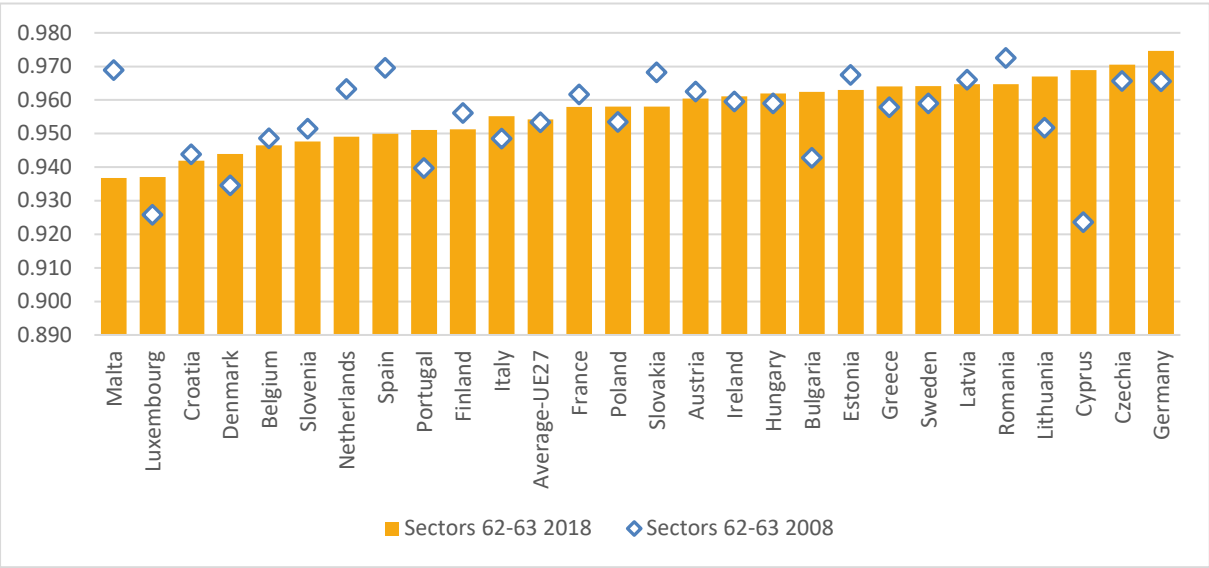
For the sectors 58-60; publishing, dissemination and content production, distribution activities in the EU-27 generated on average €0.94 of value added in the economy as a whole, for each euro of expenditure in 2018. The highest multipliers are found in Ireland (€0.978), Czechia (€0.966), Sweden and Romania (both €0.961), while the lowest are found in Portugal (€0.926), Lithuania (€0.922), and Hungary (€0.914) (Figure 6.24). Compared to 2008, the case of Bulgaria, which was the country with the second lowest value-added generation (€0.906), is especially noteworthy, and in 2018 it is the fifth highest (€0.978). Sweden, Romania, and Luxembourg also stand out in this respect. On the contrary, Hungary has suffered a loss of positions over the period, from being above average in 2008 (€0.946) to last place in 2018.

Figure 6.24: Multipliers sectors 58-60 (Euros, €)



As for the IT sector, the EU-27 average stands at €0.957. In 2018 the country with the highest capacity to generate added value was Germany, where each euro of expenditure in this sector results in €0.975 of added value (Figure 6.25). The values of the Czechia (€0.971) and Cyprus (€0.969) also stand out. The countries with the lowest multipliers are Croatia (€0.942), Luxembourg and Malta (both €0.937). Compared to 2008, the cases of Spain and Malta stand out, as they were among the best performers, but in 2018 they were below average and ranked last in 2018, respectively. In contrast, Cyprus and Bulgaria have taken the opposite path, moving to higher positions.

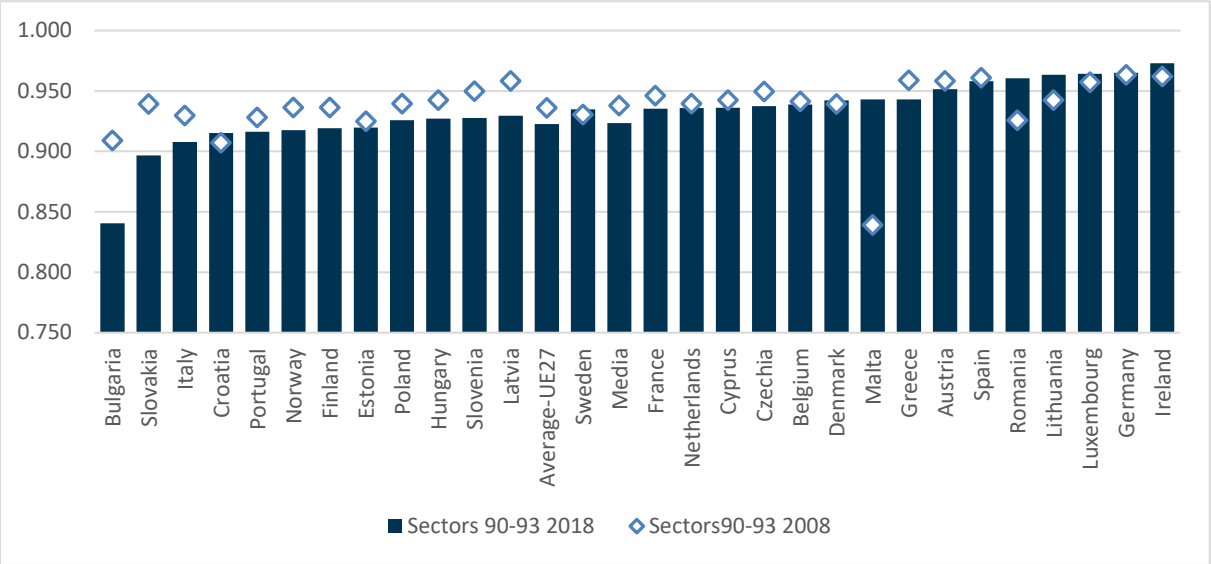
Figure 6.25: Multipliers sectors 62-63 (Euros, €)



Finally, artistic, cultural, and recreational activities report €0.936 of value added per euro of expenditure in 2018 for the EU-27 average. Thus, the countries with the highest impacts are Ireland (€0.973), Germany (€0.965, and Luxembourg (€0.964), while the lowest impacts are generated in Italy (€0.908), Slovakia (€0.897), and Bulgaria (€0.941)

(Figure 6.26). For the rest of the CCS, arts, cultural, and recreational activities show the highest variability between the maximum and minimum values. However, the changes between both periods of analysis have been minor, being relevant only in three countries. On the one hand, Malta has gone from being the country with the lowest generation of added value in 2008 (€0.839) to being positioned above the European average (€0.943). On the other hand, Slovakia's and Bulgaria's values plummet in the period, registering the lowest values as detailed above.

Figure 6.26: Multipliers sectors 90-93 (Euros, €)



6.9 Impact of the CCS in the national well-being

The effects of CCS go far beyond the strictly economic impact. It has been argued that CCS also generate effects on other dimensions of well-being, not only through the indirect effect of higher productivity and income. These are produced by the activation of creative and innovative processes, applicable to the satisfaction of a wide range of human well-being needs, as well as by the generation of cultural content, which provides shared ways of understanding the world, a sense of belonging to a community, contributes to the development of critical thinking, and generates pleasure and personal growth when consumed.

However, measuring such impacts is always more challenging, as it is not easy to obtain indicators that capture them appropriately and that are comparable across time and space. Well-being is often made up of qualitative matters that are difficult to quantify, sometimes even subjective in nature, but always the result of complex and multi-causal phenomena.

There are studies linking different cultural practices to individual psychological well-being (Grossi, Sacco, Tavano Blessi, & Cerutti, 2011; Grossi, Tavano Blessi, Sacco, & Buscema, 2012; Tavano Blessi, Grossi, Sacco, Pieretti, & Ferilli, 2016), health (e.g., Fancourt & Finn (2019) compiles an exhaustive sample of studies analysing the effects on prevention, health promotion, and the management and treatment of numerous diseases), and other domains such as community relations, civic engagement, social cohesion, education, and crime (see Taylor et al. (2015) for an extensive review). Regarding the effects of the presence of CCS in the production structure, studies have

focused on their impacts on productivity, growth, and per capita income (Boix-Domènech et al., 2021; Boix-Domènech & Soler-i-Marco, 2017; De-Miguel-Molina, Hervás-Oliver, Boix-Domènech, & De-Miguel-Molina, 2012; Marco-Serrano, Rausell-Köster, & Abeledo-Sanchis, 2014).

Traditionally, GDP per capita has been the most common measure of a country's welfare. This perspective has been widely criticised (e.g., Stiglitz, Sen, & Fitoussi, 2009) for being extremely limited and biased exclusively toward economic outputs. However, alternative indicators have emerged over the years including the Human Development Index, now widely used, which is one of the pioneers in covering aspects such as health and education. Other examples are the Basic Capabilities Index, the Happy Planet Index, and the Prosperity Index. Among them, the Better Life Index (BLI) (Durand, 2015; OECD, 2020), developed by the OECD, stands out, especially in the context of developed countries.

The BLI defines 11 dimensions of well-being and 24 indicators (Table 6.2). The dimensions combine material basis with other aspects related to the quality of life and the environment, while considering sustainability and the reproduction of future well-being. Indicators, on the other hand, meet certain criteria: they are easy to interpret; they are commonly accepted and used as measures of well-being by the academic and statistical community; they are susceptible to being altered by public interventions; they are based, in most cases, on official data that are regularly updated; and they can be compared in a fairly harmonised framework across OECD countries (Durand, 2015).

Table 6.2: Composition of better life index (OECD)

Dimension	Indicator	Year
Housing	Dwellings without basic facilities (%)	Average of data available between 2015-2020
	Housing expenditure (%)	2019, except for Luxembourg and Switzerland (2018)
	Rooms per person (ratio)	Average of data available between 2015-2020
Income	Household net adjusted disposable income (US Dollars)	2019, except for Luxembourg (2018)
	Household net wealth (US Dollars)	2019 for Denmark and the Netherlands; 2018 for Greece, Ireland, Luxembourg, Norway, and Spain; 2016 for Finland, Italy, Lithuania, and Poland; and 2017 for all the other countries
Jobs	Labour market insecurity (%)	2016
	Employment rate (%)	2020, except for Germany (2019)
	Long-term unemployment rate (%)	2020, except for Germany (2019)
	Personal earnings (US Dollars)	2020
Community	Quality of support network (%)	2020, except for Luxembourg (2019)
Education	Educational attainment (%)	2020, except for Denmark (2019)
	Students' skills (average score)	2018
	Years in education (years)	2017
Environment	Air pollution (micrograms)	2017-2019 (3-year moving average)
	Water quality (%)	2020, except for Luxembourg (2019)
Civic Engagement	Stakeholder engagement for developing regulations (average score)	2017
	Voter turnout (%)	2021 for the Netherlands; 2020 for Ireland, Poland and the Slovak Republic; 2018 for the

Dimension	Indicator	Year
		Czechia, Hungary, Italy, Latvia, Luxembourg, Slovenia, and Sweden; and 2017 for France, Germany, Iceland, and Norway
Health	Life expectancy (years)	2019
	Self-reported health (%)	2019, except for Iceland (2018)
Life Satisfaction	Life satisfaction (average score)	2020, except for Luxembourg (2019)
Safety	Feeling safe walking alone at night (%)	2020, except for Luxembourg (2019)
	Homicide rate (ratio)	2019 for Austria, the Czechia, Estonia, Germany, and Slovenia; 2017-19 for Hungary and Lithuania; 2017 for Italy, Spain, and Switzerland; 2016 for Belgium, France, Norway, and the United Kingdom; 2015 for Ireland; 2014 for the Slovak Republic; and 2018 for all the other countries
Work-Life Balance	Employees working very long hours (%)	2020, except for Slovenia (2011)
	Time devoted to leisure and personal care (hours)	2016 for the Netherlands; 2014-15 for the United Kingdom; 2013-14 for Italy; 2012-13 for Belgium, Germany, Greece, and Poland; 2010-11 for Norway; 2009-10 for Austria, Estonia, Finland, France, Hungary, and Spain; and 2005 for Ireland

A particularity of the BLI is that for each of the 11 dimensions the average of the indices that make up the dimension is taken to create a composite indicator. This composite indicator is then normalised using the min-max method, that is, subtracting the value for each country from the minimum value for all OECD countries, and dividing the result by the difference between the maximum and minimum value: [xi – min (xi)]/[max(xi) – min(xi)]. For the indicators in "negative" a max-min normalisation is applied so that they can be interpreted as positive. The result is multiplied by 10 to obtain a normalised score between 0 and 10. What is thus estimated and interpreted is not the gross well-being indices, but the normalised scores.

For this analysis we took all of the EU countries that belong to the OECD countries: 22 in total. Bulgaria, Croatia, Cyprus, Malta, and Romania cannot be included since the Better Life Index is not compiled for these non-OECD countries.

6.9.1 Econometric estimates

To date there is no research or general framework that relates the CCS to the BLI's battery of indicators. What do exist are approximations for some of these partial indices (or parts of them) separately. For example, on GDP per capita (Boix, De Miguel, & Rausell, 2021), jobs-wages (Lee, 2014), and life satisfaction and happiness (Fujiwara & Lawton, 2016).

The lack of an integrated model makes it difficult to jointly measure the effects of CCS on well-being with many indicators. For this reason, we propose an initial measurement based on a simple or naive model. In this model each dimension of well-being (Wi) is explained as a function of the percentage of people employed in CCS (CCS), and an average of the other 10 dimensions of well-being (WR) acts as a control variable. To avoid the simultaneity between CCS and well-being, the variable that measures the CCS

is introduced delayed. The approximation is very rough, but it simplifies the complexity of using 11 different models, one for each indicator. Thus, the simple model takes the form:

$$Wi_t = f(CCS_{t-1}, WR_t)$$

Since the simple model does not assume any functional form, the same non-parametric LLLS estimator used to measure the effects of CCS on labour productivity is used.

In this case, the coefficients are interpreted as the effects of the participation of the CCS in employment on the well-being score. Thus, for example, a coefficient of 1 implies an improvement of 1 point in the well-being score.

In addition, it is necessary to be careful with the interpretation of the results and the conclusions that are obtained from them. First, because the simple model controls causality very roughly for some of the indicators. Second, because non-parametric models need a certain number of observations for their bandwidths to be reliable, and in this case only 22 observations are available, which increases the risk of overfitting. As a control measure, the average estimates are compared with those from an Ordinary Least Squares (OLS) model. In the event that the relationship between the well-being indicator and the CCS is linear, the means of the OLS and LLLS models should be similar, although linearity will occur in few cases. Either way, the comparison serves to establish that the difference is within a sign and range.

6.9.2 Results

Figure 6.27 shows the scores of the 11 dimensions of well-being by country for the year 2020. The horizontal line inside the box marks the median of the scores by country. The figure includes only the EU countries that also belong to the OECD and for which the OECD produces the scores. The average score for all dimensions and countries is 6.4 out of 10.

However, there is a high dispersion in the average scores. The Netherlands, Denmark, Sweden, Finland, and Luxembourg have the highest average scores, close to 7.7. Above the EU-27- OECD average are also Ireland, Austria, Germany, Slovenia, France, Estonia, and Belgium. Below the EU-27- OECD average we find Italy, Czechia, Spain, Poland, Slovakia, Hungary, Lithuania, and Portugal. Greece and Latvia show the lowest scores, with a median below 4.

Figure 6.27: Boxplot of the scores of the 11 dimensions of well-being by country (Year 2020) (Source: Better Life Index) (OECD)

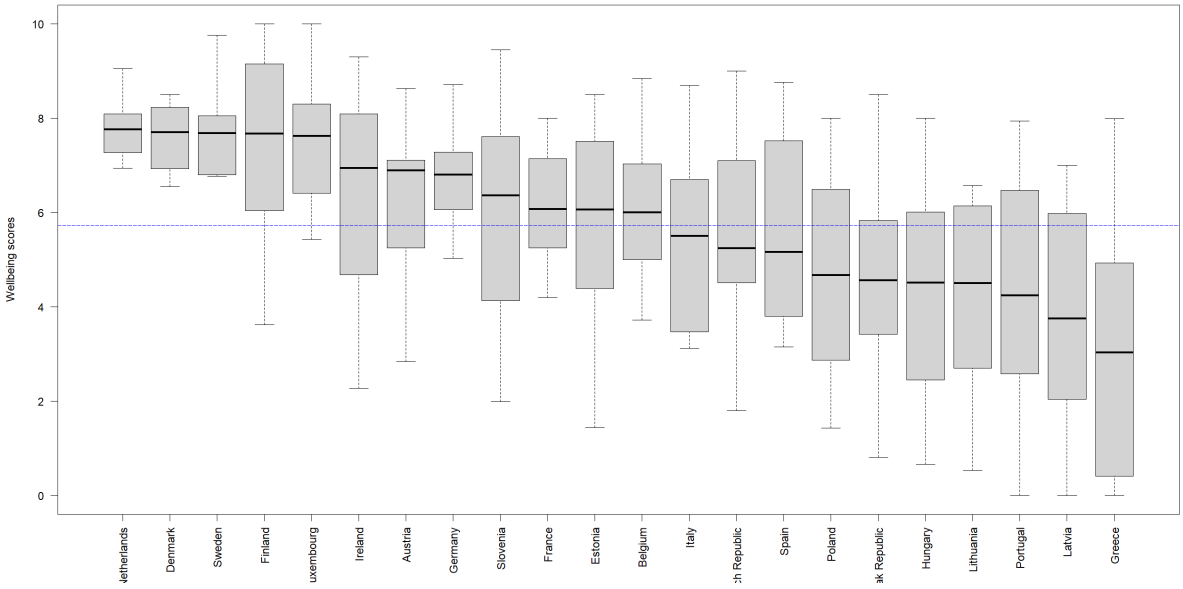


Table 6.3 shows the results of the estimates of the simple well-being model using OLS and LLLS. For most indicators, the relationship between CCS and well-being tends to be non-linear, so it is advisable to use the results of non-parametric estimation by LLLS. The CCS show a positive effect of the CCS on well-being in 7 of the 11 scores: Jobs, Community, Education, Environment, Civic engagement, Life Satisfaction, and Life-Work balance. The highest effects are observed on the Education and Community scores: a 1% increase in the participation of the CCS in employment increases the Education score by 0.95 points and the Community score by 0.78. The relationship between CCS and well-being is negative for Income, Health, Housing, and Safety[150].

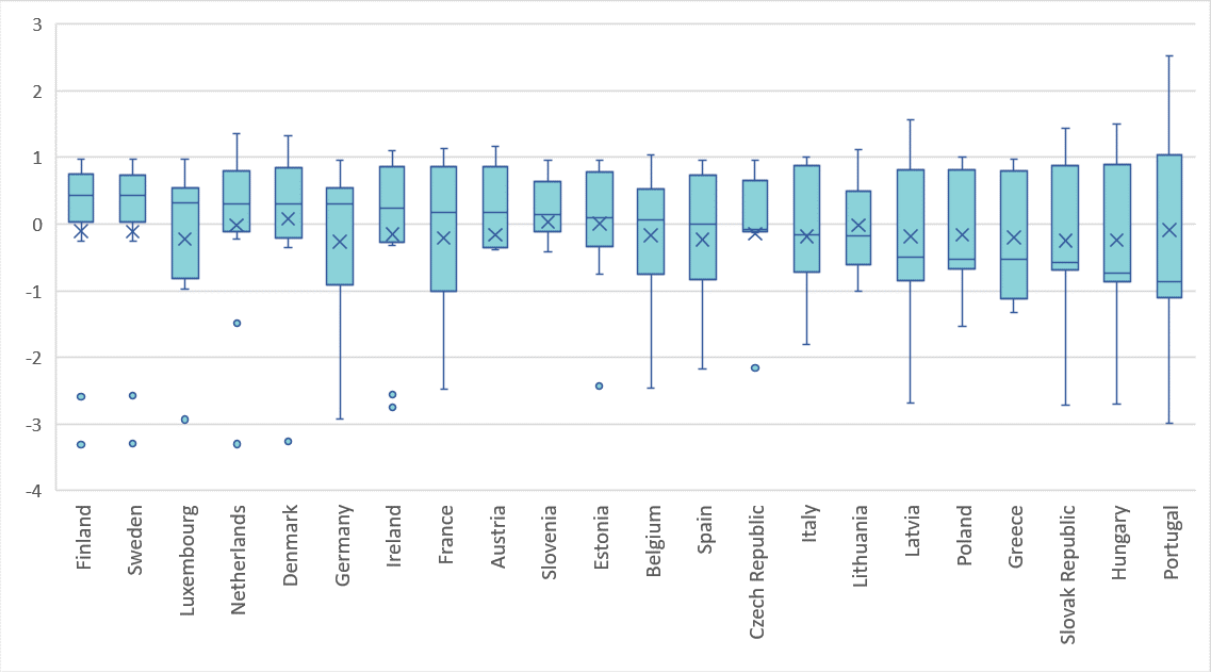
Table 6.3: Effect of CCS on the dimensions of well-being in the EU-27 countries. Detail for the coefficient of CCS. P-values in parentheses

	OLS (parametric)		LLLS (non-parametric)	
	Coefficient	R^2	Coefficient	R^2
Housing	-1.2418 (0.0276)	0.5492	-0.4655 (0.0067)	0.7776
Income	-2.1965 (0.0017)	0.6493	-2.1235 (0.000)	0.7737
Jobs	0.7132 (0.2690)	0.5105	0.3486 (0.3727)	0.7415
Community	1.9529 (0.0115)	0.4136	0.7818 (0.0004)	0.4556
Education	2.0058 (0.0059)	0.3829	0.9596 (0.0012)	0.3839
Environment	0.7926 (0.2861)	0.3845	0.5590 (0.0723)	0.7886

[150] The negative average relationship between CCS and Income is explained by the indicator and data used by the OECD, by the selection of countries, and by the naive causal model. It may partially contradict the results for labour productivity in the previous section and with other works in the literature (e.g., Boix et al., 2021), and in such cases it is recommended to follow the more elaborate results of the previous section.

	OLS (parametric)		LLLS (non-parametric)	
	Coefficient	R^2	Coefficient	R^2
Civic engagement	0.4171 (0.569))	0.1784	0.0330 (0.9662)	0.5039
Health	-2.2037 (0.0364)	0.3667	-1.3449 (0.0301)	0.7259
Life satisfaction	0.5082 (0.3996)	0.7817	0.488 (0.1837)	0.9031
Safety	-0.4558 (0.5583)	0.2195	-0.1475 (0.6757)	0.4642
Work-life balance	0.2148 (0.7523)	0.02554	0.0403 (0.9364)	0.4538

Figure 6.28: Estimates of the effects of CCS on the well-being scores



In this sense, the countries that would improve their well-being indicators the most with an increase in the number of people employed in the cultural and creative sectors are Finland and Sweden (Figure 6.28). Whereas for countries such as Hungary and Portugal, the effect of an increase in the number of people working in the cultural and creative sectors would, on average, have a negative effect on the aggregate well-being indicator.

Althuogh the results must be taken with caution due to the limitations of this approach, they provide preliminary evidence that cultural and creative sectors could have impacts on aspects as diverse as political participation and work-life balance.

It should be borne in mind that culture and cultural experiences are manifested not only in professional and market activities (those employed in the cultural and creative sectors comprise the indicator we use in these estimates) but we can infer, in a general way, that there will be a high correlation between the frequency of cultural experiences and the people who are professionally engaged in these activities.

It is true that we are in the initial stages of showing and understanding the causality between some processes and others, but the aim of these notes was precisely to show

that with reliable and comparable data on both the CCS and other social indicators, we can go much further and with much more certainty toward obtaining evidence that relates cultural experiences with other dimensions of social life.

6.10 Impact of the recommended changes on the current scope of CCS

We present in this section the economic impact of the recommendations on the current scope of CCS. Table 6.4 shows that the new scope improves the economic importance of CCS in terms of GVA (+ 6.9%) and employment (+5.8%). Table 6.4 also shows that the recommended scope gives a much higher external trade CCS goods surplus (+125.4%) because, compared with the current CCS scope, the recommended scope gives higher exports (+ 13.3%) and lower imports (-9.2%).

Table 6.4: Impact of the recommended scope compared to the current scope of CCS on 4 macroeconomic variables

EU-27 2019	Current scope	New scope CCS	Variation
GVA CCS (Million €)	308 095	329 497	6.9%
Employment CCS	5 143 756	5 442 463	5.8%
Exports CCS goods (Thousand €)*	22 134 400	25 072 429	13.3%
Imports CCS goods (Thousand €)*	18 441 952	16 751 152	-9.2%
External trade surplus CCS goods (Thousand €)	3 692 448	8 321 277	125.3%

*Extra-EU trade

6.11 Methodological approach for the estimation of macroeconomic aggregates.

The fundamental problem in calculating the magnitudes of employment, value added, and productivity in the cultural and creative industries (CCS) is that up to 4 class-level disaggregation digits of NACE Rev. 2 are needed. Unfortunately, there is currently no official database with complete coverage for all sectors (or, at least, for all the fundamental sectors):

- The "Structural Business Statistics" (SBS) contains 4-digit details but does not include all sectors, only NACE Rev. 2 sections B to N and division 95. This implies that sectors 90 and 91 – directly related to the culture and the arts – cannot be measured. In addition, the percentages of the total economy cannot be calculated, as not all sectors are included in the statistics.

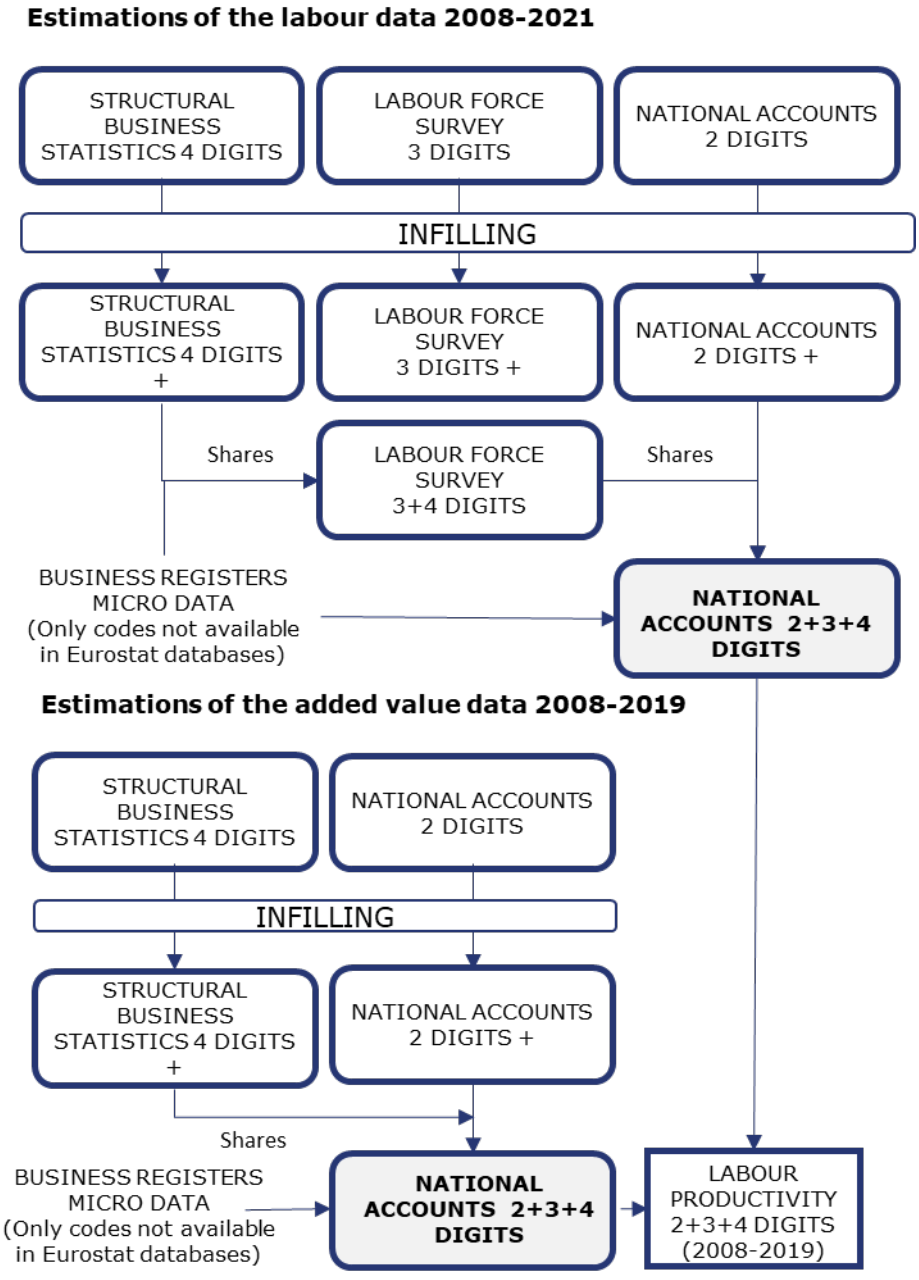
- The "Labour Force Survey" (EU-LFS) contains detailed information on employment and other magnitudes related to the labour market, with a maximum disaggregation of 3 digits. With this level of disaggregation, it is not possible to measure CCS activities or core copyright industries, such as those of sectors 32.12, 32.2, 47.61, 47.62, 47.63, 71.11, 77.22, 79.9, or 82.12.

- The National Accounts (NA) contain information of employed persons and added value, which also allows the calculation of labour productivity. However, its maximum level of detail is 2 digits, which would force the CCS classification to collapse to 2 digits, with the consequent loss of detail.

In addition to the Eurostat databases there are business directories (Amadeus, Orbis, Axesor, etc.) covering all European countries and all sectors up to 4 digits. However, the use of micro-data raises the problem of the huge number of empty records. The large number of gaps is explained both by the national business accounting regulations (which do not oblige in all cases to present the information) and by the data collection and processing methods themselves by the companies that compile them. The use of micro-data is reserved for extreme cases in which there is no other possibility of obtaining information, and they represent only a first indicative measurement.

Figure 6.29 shows the basic scheme of the process to obtain the magnitudes of employment, added value, and labour productivity.

Figure 6.29: Estimates of the effects of CCS on the well-being scores



Despite all these limitations, it is possible to enrich some databases from others. The procedure we use to measure the magnitudes is based on combining the databases with partial information on employment and value added in the CCS to generate enriched databases that allow a feasible measurement of all the fundamental sectors that make up the classification of the CCS. The procedure is applicable to different definitions of CCS. In fact, it was originally intended to allow analysis of the sensitivity of the results to different definitions of the CCS.

The objective is to produce:

- Magnitudes of employment compatible with the "Labour Force Survey" and the National Accounts;
- Magnitudes of added value compatible with the National Accounts;
- Labour productivity (calculated with the magnitudes of employment and value added compatible with national accounting).

The procedure is based on completing the gaps in the databases (infilling) and applying percentages from one database to another to obtain the statistics with a sufficient level of detail and maintaining compatibility of the data with the scale of the database of destination.

6.11.1 Infilling

All databases have numerous empty records. The gaps are explained, above all, by the requirements of statistical secrecy and the limitations of the primary data to make inferences reliably. The first step is therefore to fill in these gaps for the sectors that we want to measure.

The infilling has been done manually, considering the most appropriate rule to apply to each gap based on the available information. The cases vary but the most usual methods are:

- The value of the record can be inferred as the difference between the sub-sectors with available data and the higher-level sector. For example, for a country and year, complete information is available for sector 18 and sector 181, but the data for sector 182 is missing. As *sector 18 = sub-sector 181 + sub-sector 182*, the value of *sub-sector 182 = sector 18 – sub-sector 181*.

- Arithmetic mean between two years. For example, if there is information for a sector and a country for the years 2017 and 2019, the value for the year 2018 is inferred as: 0.5*(value 2019 – value 2017). In addition, the resulting value must meet the requirement of not altering the sum of values in the upper sector. For example, if for sectors 181 and 182 the value for the year 2018 has been inferred and the value for sector 18 exists, it must be verified that the sum of the inferred values 181 + 182 = 18. If it is not so, then we calculate the mean for the smallest sub-sector (or the most stable in the time series) and obtain the other sub-sector as the remainder between 18 and the subsectors;18.1, 18.2. In this way the consistency of the data between levels is ensured.

- The same principle of the arithmetic mean is applied for gaps of more than 1 year (e.g., 2, 3, 4 years), calculating in this case the cumulative annual

growth rate and applying it from the value of the initial year to fill the empty gaps.

- Sometimes it is not possible to apply averages or growth rates because there is no initial or final data. For example, there are values for sub-sector 181 until 2017, but not for 2018 or 2019. In this case, extrapolating the growth rate of the series can be considered, although it is not always stable and sometimes produces explosive values. It is usually more stable to consider the percentage of the sub-sector over the higher-level sector to be fixed, and to apply it for the remaining years. For example, for a country in 2017, sub-sector 181 is 90% of sector 18. To obtain the values for 2018 and 2019, multiply 0.9 times the sector 18 value in 2018, and 0.9 times the sector 18 value in 2019.

- If the trend of the data in the available time points was similar to an exponential distribution, an alternative method for the infilling of gaps of 1 or more years or gaps at the beginning or the end of the time series was to apply the exponential regression or the geometric mean. This was particularly used for the missing values of international trade of cultural goods, by NACE Rev. 2 codes, in each country.

The rest of the rules are fundamentally variations or combinations of the previous ones. In all cases the coherence of the data generated with the rest of the vertical and horizontal levels of the sector-country-year is ensured.

A final detail is whether the infilling is done on all the sectors/sub-sectors of all the databases used in the process. In the first version of the database (February 2022), it was done in this way, in order to obtain the detail of the 4-digit sub-sectors for each country and year between 2008 and 2019. However, since the process cannot be automated from the start, it is time consuming and although a great deal of detail is generated, some of it will not be used.

In the second version of the database (July 2022) there is a more precise delimitation of the CCS sectors and the digits to which each one can collapse. In this case, a parsimonious solution is chosen, and infilling is done only for the level of sectorial detail to be used, and only in the databases in which it is necessary. This greatly speeds up the process and makes it easier to automate some of the rules. For example, sector 58 does not need to be split and is available in the EU-LFS and NA databases, so it is filled directly based on these two 2-digit databases, and not on the 4 or 3 digits SBS, or on the EU-LFS to 3 digits.

6.11.2 Combination and application of percentages

Once the infilling is done, the combination of databases based on the application of percentages is used to disaggregate sub-sectors in a database from the information in another database.

6.11.2.1 Added value

The idea is simple. Let us first look at the case of added value. Value-added data exists in the NA and SBS databases. The NA database does not have 3- and 4-digit value-added data, but the SBS does. However, the methodology, sampling, and treatment of both databases is different and produces values that are not directly comparable in levels. In

this case, the assumption is made that the internal composition of the sectors must be very similar in both databases, so we apply the weight of the sub-sectors in SBS to the value added of the higher-level sector in the NA to obtain an equivalent value with a higher level of detail.

For example, in the NA database for Spain in 2008, the added value at constant prices of 2015 of sector 18 is 4,258 million euros. The SBS database tells us that for Spain in 2008 sub-sector 181 is 96% of value added, and sub-sector 182 is 4% of value added. The value of sub-sectors 181 and 182 in NA terms at constant 2015 prices is obtained as:

Added value sub-sector 181 in NA equivalent = 0.96 (SBS) 4,258 (NA) = 4,086 (NA equivalent)*

Added value sub-sector 182 in NA equivalent = 0.04 (SBS) 4,258 (NA) = 172 (NA equivalent)*

As in the infilling, in the final database this process has only been carried out when it is necessary to partition the sector in the destination database. Thus, for example, in the case of sector 58, the detailed sub-sectors can be obtained, but this would not be necessary since we use all the parts of the sector. In this case we directly use the value of the NA for the sector 58, year 2008, in constant prices.

The added value has been elaborated for the database in both nominal and real magnitudes (chain-linked values base 2015). In the final database and also for the calculation of productivity only the real values are used, which allows for comparison between years, eliminating the distortion of inflation.

6.11.2.2Persons employed

The procedure followed to separate the sub-sectors of the final database is similar to the previous one, although in this case not only 2-digit NA and 4-digit SBS are available, but also 3-digit EU-LFS, and therefore more information.

In this case the SBS is used to partition the EU-LFS sectors that need 4-digit detail (e.g., 3212, 3220, 7111, etc.). The result is the EU-LFS at 3 and 4 digits, which can now be used to provide the value for the persons employed in CCS and their percentages of the employment of the countries per year.

Once the EU-LFS values have been obtained, in those sectors of the NA for which 3 or 4-digit detail is necessary, the percentages of the EU-LFS on the 2-digit NA sector are used.

6.11.2.3Labour productivity

Once the equivalent values of value added in chain linked volumes based on 2015 and people employed have been obtained on the basis of NA, the apparent productivity of the labour factor is calculated by dividing the value added by the number of persons employed. The added value database is in millions of euros and the employment database is in thousands of people, so the value of productivity is multiplied by 1,000 to obtain productivity in euros.

6.11.3 Calculation of the value of elusive sub-sectors

In the potential list of CCS sectors there are two sub-sectors that are particularly difficult to measure: 88.52 (Cultural education) and 91.04 (Botanical and zoological gardens and nature reserves activities). The first is included in the list of CCS, while the second is added to the rest of sector 91 (Libraries, archives, museums, and other cultural activities) and is to be separated.

The problem here is that the SBS does not cover these codes, and therefore there are no data in the official statistics that allow the separation to be made, not even through the procedure of applying percentages.

To offer a first approximation to the value of these activities, micro-data from company registries have been used. For both codes together, the EU-27 countries, and the period 2008-2021, around 52,000 companies have been detected for these two codes, of which around 95% correspond to 85.52 and around 5% to 91.04.

As explained above, the main problem is the actual coverage of the data:

- About 45% of the companies have employment data for some of the years.
- Only between 2% and 5% of companies have enough data to elaborate the added value, depending on how we define it.

Seeking an approximation as close as possible to the definition of value added in national accounting, but subject to the restrictions of homogeneous balance sheet data, we can calculate value added as:

$$VA = profit + cost\ of\ employees + depreciation + taxation + interests\ paid$$

or alternatively

$$VA = sales - material\ costs$$

Once the added values of the sample have been evaluated, if they are considered to be representative, the average productivities of work by country and year can be obtained and multiplied by the number of persons employed (more complete data) to generate a first conservative approximation of the added value of these sub-sectors, and add or subtract them, respectively, from the total CCS.

Likewise, we can provide a second value for the persons employed and the added value, that is slightly less restrictive, considering that 55% of companies without occupancy data have at least 1 real employee. This does not imply much change in the values, but it is a little less conservative than the initial value for the sample since there is no other stratification that allows a more precise inference. In either case, the values would be only first approximations that should be measured more precisely in the future.

6.11.4 Exports and Imports of CCS Goods

The updated figures on exports and imports are based on the data of international trade in goods extracted from Eurostat's database. To this end, the values of international

trade in goods of the current scope of CCS Statistics[151] have been revised according to the new scope of the CCS statistical framework as proposed in this Project, i.e., the figures of internationally traded cultural goods, classified in cultural aggregates by CN[152], were updated considering the figures of traded goods corresponding to any of the NACE Rev. 2 codes added to or excluded from the current scope (Table 6.5). Of the ten NACE Rev. 2 codes added to the current scope (see Table 4.4), only 58, 58.1 (in particular, 58,11, 58.13, and 58.14), 58.19 and 74 (in particular, 74.20) contain goods with CN codes included in the applicable cultural aggregates (Table 6.5). The figures of international trade of these NACE Rev. 2 codes[153] were added to the figures of the corresponding cultural aggregate (of note, the figures of 58.11 were added solely to BOOK). On the other hand, none on the six codes excluded from the current scope (see Table .5) contain goods with CN codes included in the applicable cultural aggregates, and thus no adjustment (subtraction of any of these six codes to current figures) was made.

For each country, the estimates of exports and imports were performed for the total value of cultural goods (new scope) traded between EU Member States (intra-EU trade) and between Member States and non-EU countries (extra-EU trade). For the global value of EU-27 only the extra-EU trade was considered for the estimates of exports and imports. Annual estimates were obtained for the period between 2008 and 2020. Missing values in the time series of a country in the database were estimated using different methods, depending on the trend of the data in the available time points. This imputation was performed only for the time series of the added NACE Rev. 2 codes, but not for the time series of the CN cultural aggregates.

Table 6.5: NACE Rev. 2 codes added to the current scope (58, 58.1, 58.19, and 74) that contain goods with CN codes included in the 16 cultural aggregates

CN cultural aggregate	NACE Rev. 2 Code
ANTQ - Antiques; postage or revenue stamps; collections and collector's pieces	91.02 - Museums activities
ART - Works of arts (paintings, engravings, sculpture, designs etc.)	58.19 - Other publishing activities 90.03 - Artistic creation
BOOK - Books MAP - Maps and hydrographical or similar charts	58.11 - Book publishing
JEWLR - Articles of jewellery (of precious and semi-precious metals and stones)	32.12 - Manufacture of jewellery and related articles
MUSI - Musical instruments; parts and accessories thereof	32.2 - Manufacture of musical instruments
NWPR - Newspapers, journals, and periodicals	58.13 - Publishing of newspapers 58.14 - Publishing of journals and periodicals
PHOT - Photographic plates and film, exposed and developed	74.2 - Photographic activities
PLAN - Plans and drawings for architectural or other similar purposes	71.11 - Architectural activities
RECMED_FILMVG_XVC - Music in manuscript, gramophone records, recorded magnetic tapes and optical media (CDs); audio-visual and interactive media (films, videos, and videogames excluding videogame consoles)	59.11 - Motion picture, video, and television programme production activities 59.2 - Sound recording and music publishing activities

Source: Authors.

[151] European Commission, EUROSTAT (n.d.): EU Cultural Statistics
[152] European Commission, EUROSTAT (2019) International trade in cultural goods – revised scope, Annex 2 – Detailed list of cultural goods
[153] European Commission, EUROSTAT (n.d.): International Trade in Goods Statistics (ITGS)

Cultural services were not considered for estimating the updated figures on exports and imports because the statistical data are not available at a level of detail necessary for this purpose. The data on cultural services are derived from the Balance of Payments database[154], and the services are classified according to the methodology of the Balance of Payments and International Investment Position Manual - Sixth edition from the International Monetary Fund (BPM6) and further by the Extended Balance of Payments Service Classification (EBOPS 2010)[155]. The figures on imports and exports are presented in service items of the BPM6/ EBOPS 2010 classification, but they can include several divisions of NACE Rev. 2 classification (Table 6.6). Without more data disaggregated by NACE Rev. 2 activities, we are unable to estimate the trade values of the NACE Rev. 2 codes to be added to or excluded from the current scope of CCS Statistics.

Table 6.6: Correspondence between NACE Rev. 2 codes (added to or excluded from the current scope) and BPM6/ EBOPS 2010 classification of activities referred to in the statistics of international trade of services

NACE Rev. 2 code	EBOPS 2010 code	BPM6/ EBOPS 2010 items (list of included NACE Rev. 2 divisions)
Codes added to the current scope of CCS Statistics		
47.6	N/A	N/A
58	8.3	SH3: Licenses to reproduce and/or distribute computer software (58)
	8.4.2	SH42: Licenses to reproduce and/or distribute other products (58, 77)
	9.2.1	SI2: Computer services - Computer software (58, 62)
	9.3.2	SI32: Information services - Other information services (58, 63, 91)
	10.2.2	SJ22: Advertising; market research; and public opinion polling (58, 59, 60, 63, 73, 74, 82)
	10.3.5	SJ35: Other business services n.i.e. (18, 33, 35, 36, 58, 62, 63, 68, 74, 78, 79, 80, 81, 82)
	11.1.1	SK11: Audiovisual services (58, 59, 63, 73)
	11.1.2	SK12: Artistic related services (58, 90)
58.1	8.3	SH3: Licenses to reproduce and/or distribute computer software (58)
	8.4.2	SH42: Licenses to reproduce and/or distribute other products (58, 77)
	9.3.2	SI32: Information services - Other information services (58, 63, 91)
	10.2.2	SJ22: Advertising; market research; and public opinion polling (58, 59, 60, 63, 73, 74, 82)
	10.3.5	SJ35: Other business services n.i.e. (18, 33, 35, 36, 58, 62, 63, 68, 74, 78, 79, 80, 81, 82)
	11.1.1	SK11: Audiovisual services (58, 59, 63, 73)
	11.1.2	SK12: Artistic related services (58, 90)
58.19	8.4.2	SH42: Licenses to reproduce and/or distribute other products (58, 77)

[154] European Commission, EUROSTAT (n.d.): Balance of Payments (BOP)
[155] European Commission, EUROSTAT (n.d.): EU Cultural Statistics

NACE Rev. 2 code	EBOPS 2010 code	BPM6/ EBOPS 2010 items (list of included NACE Rev. 2 divisions)
	9.3.2	SI32: Information services - Other information services (58, 63, 91)
58.2	8.3	SH3: Licenses to reproduce and/or distribute computer software (58)
	9.2.1	SI2: Computer services - Computer software (58, 62)
	11.1.1	SK11: Audiovisual services (58, 59, 63, 73)
73	10.2.2	SJ22: Advertising; market research; and public opinion polling (58, 59, 60, 63, 73, 74, 82)
73.1	10.2.2	SJ22: Advertising; market research; and public opinion polling (58, 59, 60, 63, 73, 74, 82)
73.11	10.2.2	SJ22: Advertising; market research; and public opinion polling (58, 59, 60, 63, 73, 74, 82)
73.12	10.2.2	SJ22: Advertising; market research; and public opinion polling (58, 59, 60, 63, 73, 74, 82)
74	10.1.1.1	SJ111: Provision of customised and non-customised research and development services (72, 74)
	10.1.1.2	SJ112: Sale of proprietary rights arising from research and development (72, 74)
	10.2.2	SJ22: Advertising; market research; and public opinion polling (58, 59, 60, 63, 73, 74, 82)
	10.3.1.3	SJ313: Scientific and other technical services (71, 74)
	10.3.5	SJ35: Other business services n.i.e. (18, 33, 35, 36, 58, 62, 63, 68, 74, 78, 79, 80, 81, 82)
Codes excluded from the current scope of CCS Statistics		
18	10.3.5	SJ35: Other business services n.i.e. (18, 33, 35, 36, 58, 62, 63, 68, 74, 78, 79, 80, 81, 82)
18.1	10.3.5	SJ35: Other business services n.i.e. (18, 33, 35, 36, 58, 62, 63, 68, 74, 78, 79, 80, 81, 82)
18.11	10.3.5	SJ35: Other business services n.i.e. (18, 33, 35, 36, 58, 62, 63, 68, 74, 78, 79, 80, 81, 82)
18.12	10.3.5	SJ35: Other business services n.i.e. (18, 33, 35, 36, 58, 62, 63, 68, 74, 78, 79, 80, 81, 82)
18.13	10.3.5	SJ35: Other business services n.i.e. (18, 33, 35, 36, 58, 62, 63, 68, 74, 78, 79, 80, 81, 82)
18.14	10.3.5	SJ35: Other business services n.i.e. (18, 33, 35, 36, 58, 62, 63, 68, 74, 78, 79, 80, 81, 82)

N/A: Not available
Source: Authors.

6.12 Methodological approach for the estimation of the total effects on the labour productivity.

To obtain the total effects of the CCS on the labour productivity, an econometric estimate of an equation for GDP per capita has been used. Boix & Soler (2017) measured the impact of CCS on productivity using an adjusted version of a semi-endogenous growth model adapted from Jones (1995, 2001).

The model departs from a multiplicative production function $Y = K^{\propto}(AL_Y)^{1-\propto}$, where *Y* is the output, *A* is labour-augmenting technology (knowledge stock), *K* is capital, and *a* is output elasticity of capital. Working people (*L*), the source of creativity, can be dedicated to producing ideas (L_A) in the creative sector or to producing goods and services in other sectors (L_Y), so that $L = L_A + L_y$. The ideas and designs produced by the creative sector are used by an intermediate sector to transform creative capital into intermediate goods, and then the final sector uses the intermediate goods and labour to produce final goods. The increase in product variety raises productivity by allowing the spread of intermediate production more thinly across a larger number of activities, each being subject to diminishing returns and, hence, yielding an increased average product when operated at a lower intensity.

The general solution of Jones (2001) for the simplest version of the model for a path of balanced growth and a moment of time *t* can be written as a log-linear equation for the steady state:

$$\ln(\frac{GDP}{L}) = b\ ln\delta + b\lambda\ lns_R + lns_y + a\ln s_k - a\ln(n + g_A + d) + b\lambda\ lnL - b\ lng_A$$

in which the labour productivity (GDP/L) for a year *t* depends on the rate at which new ideas are created (δ), the share of persons employed in the creative sector (s_R), the share of persons employed in the rest of the economy (s_Y), the intensity of capital per worker (s_K), the population growth rate (*n*), and the rate of depreciation of capital (*d*).
In the equation, λ measures the existence of scale economies, $a = \propto/(1-\propto)$, and $b = 1/(1-\phi)$, where α is the output elasticity of capital, and ϕ measures productivity (returns) in the production of ideas. The term g_A represents the growth rate of the ideas (See Boix & Soler (2017) for more detail about the derivation of the model).[156]

[156] The data for the variables in the model are all from official sources, in particular, the ARDECO and AMECO databases, and Eurostat.
Total gross value added (GVA) data are obtained from the ARDECO database, and divided by total employment in the national accounts to obtain productivity per worker (GVA/L).
The employment figures for the CCS (*L*) are the result of the estimates explained in previous sections of the report. Those for the rest of the sectors (sY) are derived from ARDECO database excluding, from total employment, both agriculture and construction (to avoid collinearity) as well as CCS.
The population growth rate (*n*) is calculated for the working-age population (15-64 years) and refers to the previous 10 years, using the following formula: $n_t = \ln\left(\frac{Population_t}{Population_{t-10}}\right)/10$ Data come from Eurostat.
The capital depreciation rate (d) is obtained through AMECO. The formula for calculating the growth rate is the same as for the population, taking the previous 10 years.
The growth rate of ideas (δ) is the average of the growth rates of the stock of production of EPO patents and of EUIPO trademarks. The sources of the data are Eurostat, EPO, and EUIPO. The growth rates are calculated in a similar way to the population growth rate, using a 10 year period to maximize the availability of data:

- $g_t = 0.5 * \left[\frac{\ln\left(\frac{Stock\ Patents_t}{Stock\ Patents_{t-10}}\right)}{10} + \frac{\ln\left(\frac{Stock\ Trademarks_t}{Stock\ Trademarks_{t-10}}\right)}{10}\right]$

It is more common to calculate these rates using flow rather than stock data because it is simpler and requires fewer data. However, the stock data are preferable as they are less sensitive to annual fluctuations and more realistically reflect the living production of knowledge. For the calculation of the stock of patents, it is considered that the patents of one year are still alive and without depreciation during the following 20 years, and as of year 21 their value is set to zero. Therefore, the stock for a year t is the sum of the patents of that year plus the previous 19. For the

Although the model is initially linear, tests on the data reveal non-normality, heteroscedasticity, and non-linearity. In addition, we are interested not only in the estimates of the effects of the CCS on labour productivity for the EU-27 mean but also in the individual estimates for each country. We use LLLS non-parametric estimates, which allows us to better capture the nature of the data and produce both global and local (country specific) estimates (Henderson and Parmeter, 2015). LLLS have been used previously to estimate the effects of CCS on labour productivity and GDP per capita for countries, regions, and cities (Boix-Domènech, De-Miguel-Molina, & Rausell-Köster, 2021; Boix-Domènech & Soler-i-Marco, 2017).

To account for annual variability, LLLS with fixed effects introduced through a mixed kernel are used (Henderson, Li, Parmeter, & Yao, 2015). For continuous variables, a Gaussian kernel is used and for the discrete variable, the Racine and Li kernel with ordered variables (Henderson et al., 2015)[157].

calculation of the brand stock, we are forced to use a 10-year period due to the limitations of the time series.

[157] For the estimation, the R software is used with the routines of Henderson and Parmeter (2015) available at https://www.the-smooth-operators.com/.

7 Summary of Recommendations

This Report, and indeed this whole Project, is essentially oriented toward producing a series of recommendations to improve the current way of measuring the cultural and creative services. The production of recommendations has thus been a basic effort throughout, and it has resulted in suggestions and proposals of different importance and nature. These have been included and duly justified in the corresponding section of the report, according to their respective subject matter. Below is a summary of all of the recommendations.

7.1 Updated framework for cultural and creative sector statistics

In section 4.1 we presented and justified a number of recommendations addressing an updated framework for cultural and creative sector statistics. These recommendations can be aggregated in 12 topics.

1. **Recommended reclassification for codes currently classified as fully cultural and not cultural**: these reclassifications cover 8 codes and are based on the general criteria presented and justified in section 4.1.1.1. We recommend that 6 of these codes be reclassified as non-cultural and creative codes and the other 2 be reclassified as cultural and creative codes.

2. **Recommended reclassification for codes currently classified as partly cultural**. These reclassifications cover 14 codes currently classified as partly cultural codes and are based on criteria specifically addressed to partly cultural activities that were presented in section 4.1.1.2. We recommend that 6 of these codes be reclassified as cultural and creative codes and the other 8 be reclassified as not cultural and creative codes.

3. **Recommended reclassification for codes through qualitative analysis** These reclassifications cover 5 codes that were submitted to qualitative analysis since the adopted criteria (either the general criteria or the criteria to reclassify the partly cultural activities) were not able to reclassify these codes (see Table 4.3, section 4.1.1.3). We recommend the outputs of this qualitative analysis that took place during a Stakeholder Input Session (see note 81). This analysis reclassified 2 codes that are currently classified as fully cultural as cultural and creative codes, 2 codes that are currently classified as not cultural as not cultural and creative codes, and 1 code that is currently classified as partly cultural as cultural and creative code.

4. **Recommended codes to add to and exclude from the current scope of the cultural and creative sector statistics**. If we integrate the outputs of the three first recommendations in the current scope adopted by Eurostat, we obtain the 10 codes that are recommended to add and also the 6 codes that are recommended to exclude from this current scope (see Tables 4.4 and 4.5, section 4.1.1.3).

5. **Recommended list of codes that integrate the updated scope of the cultural and creative sector statistics**. If we integrate the codes that are added and excluded in the current framework, we obtain the statistical definition of Cultural and Creative Sectors (CCS), i.e., the list of codes that integrate the recommended updated scope of the CCS statistics. The great majority of these codes (37 out of 47) come from the current framework, thereby ensuring the desired stability of the framework (see Table 4.6, section 4.1.1.3).

6. **Recommended denomination for cultural and creative sectors**. We recommend maintaining the denomination: CCS - Cultural and Creative Sectors. It is a neutral and comprehensive denomination and despite being the last to be used (since 2015), CCS has been the most used in the EU context in recent years. A more complete justification for this recommendation is given in section 4.1.1.3.

7. **Recommended the publication of an EU Regulation with the denomination CCS - Cultural and Creative Sectors and with the definition adopted for CCS. The definition recommended is the one that includes the list of codes of Table 4.6, section 4.1.1.3, with the adjustments resulting from the approval of NACE Rev. 2.1.** As a second-best option, we recommend that the denomination and definition of CCS should be the object of a gentlemen's agreement between the members of the Working Group on Culture Statistics.

8. **Recommended customisation by the Member States of the EU definition of CCS.** We recommend the adoption in this customisation of an approach similar to the one adopted for the customisation of NACE to the national statistical classification of economic activities. Thus, considering the different situations of the Member States and to guarantee the comparability of data across Member States, we recommend (see section 4.1.1.3) that the customisation should be conducted by disaggregation of the codes of the definition adopted at European level.

9. **Recommended use of administrative sources as the primary source to produce statistics on cultural and creative enterprises**. More specifically, we recommend that the Simplified Business Information (IES) complemented with tax declarations replace Structural Business Statistics (SBS) as the main source of business statistics. The justification for this recommendation is given in section 4.1.2.4.

10. **Recommended use of administrative sources as the secondary and complementary source to produce two other types of statistics: cultural and creative employment and international trade in cultural and creative goods and services.** Despite the highly positive aspects, administrative sources (and, in particular, IES) cannot be used as the primary source for these two types of statistics. Therefore, we recommend the use of this administrative source as a second and complementary source for producing these statistics (see section 4.1.2.4).

11. **Recommended adoption of a module of questions on cultural participation at the EU level either as a stand-alone survey or, as a second best, together with another module that covers sports or social and civic participation**. The main objective of this recommendation is to produce harmonised and comparable data at EU level on cultural participation, which currently does not happen (see section 4.1.3.3).

12. **Proposal**, as a transitional process, of **a modular, flexible scheme that concerns and refers to the way of grouping the activities**, allowing readings that satisfy the whole spectrum of sensibilities that we have been perceiving throughout the development of this work, and attending to one specific ESSnet-Culture recommendation: "when speaking about creative and cultural industries clearly mention the sectors that are covered". ESSnet -Culture (2012, p. 59).

7.2 Measuring online culture and bringing the digital economy within the CCS statistical framework

With respect to the work strand on digital cultural services and the onboarding of the digital economy in the Cultural and Creative Statistics Framework, the findings from the research team throughout the Project – along with consultations with key stakeholders and the experience from the data analytics demonstrator – allowed us to elicit the following set of recommendations:

1. **Make the necessary updates to the current EU Cultural Statistics Framework to onboard the digital economy,** which includes (i) the validation of existing indicators to be integrated in the framework, (ii) the addition of new indicators on the digital economy, and the (iii) updating of of the statistical tools to collect data more frequently and at more granular level.

2. **Prepare the ground for the use of innovative and alternative methods to measure digital cultural services,** by (i) performing an analysis on the coherence, relevance, and effectiveness of the proposed methods, (ii) carrying out a specific study on the design for the implementation of the approach, and (iii) investing in adequate technological infrastructure and acquisition of proper expertise.

3. **Up-scale data analytics capabilities,** to (i) collect data for longer and more regular periods of time and (ii) extend the number of platforms to be queried to obtain a broader view of the phenomenon of online production, consumption, and exchange of content.

4. **Further develop the targeted approach,** by (i) expanding the scope of the approach in terms of platforms, sectors, and indicators, (ii) setting up mechanisms to identify relevant digital economy actors at Member State level, and (iii) collecting first-hand information on digital actors' revenues, employment, and users' characteristics

7.3 Europe needs stronger, evidence based, and smarter policies oriented to the CCS

The research and data presented in Section 6 of this report have led us to another set of recommendations of a different nature.

The lack of momentum and the relative loss of weight shown by the CCSs, in particular as affected by the Covid-19 pandemic, justify much more active and more committed policies. If we truly believe in what is stated in a multitude of EU documents and reports, defining these as strategic sectors, then the natural consequence should be smart and informed actions to overcome the bottlenecks faced by cultural and creative activities.

We believe that the figures we provide throughout this report, and the possibilities for a dynamic analysis and cross-country comparison, can be useful tools for such a necessary development of more effective CCS-oriented policies.

In the research undertaken in this Project we have found that there is a great quantity of information and data available at national, regional, and city levels on the cultural and creative sectors, notwithstanding the considerable dispersion, heterogeneity, and diversity of sources.

Consequently, we recommend facilitating access and better disseminating all those sources that can be employed for better decision-making in this field. We are fully aware and we fully understand the need for standardisation and homogenisation of official data, but it is also important to pay attention and be reactive to the real demands of the stakeholders who are the ultimate recipients of that information. A balance must be achieved between very reliable but in fact useless data, and dubious or less accurate but relevant and useful data.

It is necessary to look more deeply into all those relationships that connect CCS with other aspects of economic and social dynamics as a result of their effects on productivity, innovation, competitiveness, or the flexibility and resilience of the economic structure. But there is also a long way to go in the analysis of the measurement of the social impacts of culture and its causal effects on the well-being of citizens and social cohesion. Information systems should strive to provide data that make it possible to explore these relationships.

8 Concluding Remarks

The original Call to which this Research Project responded formulated an ambitious list of features regarding what the Project's result should contain. Our Project required the combination of different research skills, which can be summarised essentially in three areas of research and specialisation: the science of official and non-official statistics, duly combined with the understanding of the actual implementation of the framework of Cultural and Creative Sector (CCS) statistics in the European Union and its Member States; the economics and economical measurement of the Culture and Creative Sectors; and a profound understanding of the digital and online economy, as it applies to the CCS.

A consortium of several entities combining such a diverse expertise put together a Proposal to confront the ambitious Call, and that Proposal was selected and approved by the European Commission.

This Final Report concludes that complex interdisciplinary investigation, involving and combining those three areas of specialisation - research project that has resulted in a number of different documents and outputs, which together make a complete answer to what was proposed in our research offer.

It is the purpose of these concluding remarks to briefly cross what was then anticipated as the content of our future work, with its actual results, composed of a number of documents that have been delivered at different moments throughout the Project, and by this Final Report, which offers a summary of most of those contributions, together with its Recommendations.

We describe below the content originally anticipated by the Proposal, together with each document addressing that content, in addition to the corresponding section of this Final Report.

A. Preliminary phase: preparation of sources within the defined scope

This research proceeded to an exhaustive inventory of sources of cultural statistics encompassing all the 27 Member States and benefiting from the close collaboration of those States. The inventory allowed, in particular, to identify the main data gaps of the current situation as well as several good practices in some Member States or organisations that can be recommended to the other Member States. The main outputs of this preliminary phase are in the document *Report on Inventory of Sources*, which was completed and delivered to the European Commission. A summary of its main content can be found in Chapter 3 of this Final Report.

B. An updated framework of cultural and creative sector statistics

The research has produced a Methodological proposal for a new statistical framework, consisting of a revision of all data sources feeding the current statistical framework; an analysis of the complementary data sources identified, focused on the administrative sources that are especially useful for the production of Cultural and Creative Sector (CCS) statistics; a proposal for updating the concepts and definitions that are adopted in the current framework and, in particular, the definition of Cultural and Creative Sectors; a proposal for a redesign and update of the tools used in the current statistical framework with an emphasis on measuring the cultural participation; a detailed identification of new needs of CCS statistics, namely those associated to measuring online services and the formulation of recommendations that are presented in sections 4.1.1.3, 4.1.2.4, 4.1.3.3, and summarised in Chapter 7 of this Final Report.

This has resulted in the document: *Analysis Report - A new Framework for Cultural and Creative Sector Statistics*. A summary of its main content is in Chapters 4 and 7 of this Final Report.

C. A new methodology for capturing on-line services

This research included a number of tasks leading to the proposed "onboarding" of on-line services (referred to in this document as digital cultural services) into the statistical framework of the CCS.

These tasks included, as a first block, a deep review of the existing tools used to collect the inputs to the Cultural Statistics Framework; the co-definition of digital cultural services with key stakeholders of the CCS; a mapping between the different CCS sub-sectors and the economic activities of the NACE classification; an analysis of relevant sources of digital economy indicators at European and international level; an updating of the statistical tools, with a proposal for new indicators to be integrated within the framework; and the formulation of a set of recommendations.

In a second block, the research explored alternative methods of data collection to complement the updates proposed as part of the first set of activities. This second phase focused on designing an approach based on data analysis technologies to monitor the use and consumption of digital cultural goods and services in specific sectors: music and audio-visual. Data on these sectors were collected, analysed, and duly presented and commented on. In addition, the research explored the design of targeted surveys directed at actors of the cultural and creative sectors, to collect complementary information. This second block of tasks also led to a set of recommendations.

The research presented in this sub-section has resulted in the following documents:

- *Analysis Report – Volume 2 "Measuring digital cultural services in the EU: current state-of-play"*.
- *Analysis Report – Volume 3 "How to measure digital cultural services in the EU, a proposal for a new methodology"*.
- The document "*The use of altmetrics to measure digital cultural services in the EU – Results of a pilot analysis in the music and audiovisual sectors*".

A summary of the main content of these documents is provided in sections 4.2 and Chapter 5 and 7 of this Final Report.

D. An updated estimate of the contribution of CCS to the global EU economics

This research work has been duly combined with those previously described under B and C. It has allowed a profound review of the context and understanding of the current situation, including a review of the economic model and the different cultural and creative sectors impacted. It has been put together with the review of the national statistical system as far as the CCS is concerned. This part of the research has carefully examined relevant sources, and has resulted in a reviewed, improved, and updated estimate of the dimension of the macro-aggregates related to the CCS and impact of CCS on productivity, the multiplier effects of some cultural and creative sectors, and an exploratory approach to the connections between CCS and well-being.

The content of this research, together with a set of recommendations, has resulted in the *Factsheets of countries,* and the content of Chapter 6 of this Final Report.

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