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Official Statistics

# Skills gaps and shortages in the creative industries: Employer perceptions and actions, UK, 2022 – technical and quality assurance report

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This document covers the following topics:

1. an overview of the content covered in the statistical release ‘Skills gaps and shortages in the creative industries: Employer perceptions and actions, UK, 2022’

2. an overview of how the creative industries are defined, and how it overlaps with other DCMS sectors
3. the methodology underlying the statistical release, including data sources
4. the processes used to check that the estimates have been produced correctly
5. other sources of information for the DCMS sectors
6. further information, including contact details for DCMS statisticians.

## Overview of release

This is the technical and quality assurance report for the statistical release 'Skills gaps and shortages in the creative industries: Employer perceptions and actions, UK, 2022'.

This statistical release is based on data from the Department for Education (DfE) Employer Skills Survey, which runs every two years (biennially) and [whose most recently available year is 2022](#). This is the third publication in this Collection. A previous statistical release published in May 2024 and based on the same data source provided an overview of the level of skills gaps and shortages in DCMS sectors, compared to All Sectors. In this ad-hoc statistical release we are publishing further breakdowns from the same data source, with a specific focus on the creative industries. The following statistics are published:

- types of skills gaps and shortages, distinguishing between technical/practical skills, IT-related skills and soft skills
- employer perceptions of the causes and impacts of skills gaps and shortages
- employer actions/responses to skills gaps and shortages
- profile of skills gaps and shortages by occupation
- list of occupations in highest demand by creative industries businesses.

This statistical release is published in statistical tables as Official Statistics in Development, and is accompanied by a short research report.

Estimates are published for the creative industries, and, when sample sizes allow it, for creative industries subsectors. The methodology used to produce the estimates in this publication is consistent with national (UK) estimates, published by the Department for Education (DfE).

# Code of Practice for Statistics

'Skills Gaps and Shortages in the Creative Industries: Employer Perceptions and Actions, UK 2022' is an ad-hoc official statistic in development and has been produced to the standards set out in the Code of Practice for Statistics. In the future, and following user feedback, DCMS will seek to develop these into regular official statistics.

## Users

The users of these statistics fall into five broad categories:

- ministers and other political figures
- policy and other professionals in DCMS and other government departments
- industries and their representative bodies
- charitable organisations
- academics

The primary use of these statistics is to better understand the creative industries skills needs, support the opportunity and growth missions, helping to understand how current and future policy interventions can be most effective.

## Creative Industries sector definition

In order to measure the economic impact of a sector it is important to be able to define it. DCMS uses a range of definitions based on International or UK agreed definitions. All definitions are based on the Standard Industrial Classification 2007 (SIC) codes. This means nationally consistent sources of data can be used and enables international comparisons.

This statistical release focuses on the creative industries, which is one of the sectors for which DCMS has responsibility, which are:

- civil society
- creative industries
- cultural sector
- gambling
- sport
- tourism

Individual sector definitions were developed in isolation as the department's remit expanded. This has led to overlap between DCMS sectors. For example, the cultural sector is defined using SIC codes that are nearly all within the creative industries.

Figure 1 (below) shows the overlap between DCMS Sectors in terms of SIC codes. Users should note that this does not give an indication of the magnitude of the overlap.

### **Figure 1: Overlap of SIC codes within DCMS Sectors**

The creative industries were defined in the Government's 2001 [Creative Industries Mapping Document](#) as "those industries which have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property".

To allow the creative industries to be measured, DCMS worked with others to develop a statistical definition of the creative industries which reflects this definition.

DCMS uses a “Creative Intensity” to determine which industries (at 4 digit SIC) are creative. The Creative Intensity is the proportion of occupations in an industry that are creative and, if the intensity is above a set threshold, that industry is typically defined as creative. More information can be found in [this 2016 methodology document](#).

This statistical release presents comparisons between the creative industries and All Sectors, i.e. the UK economy as a whole.

# Methodology

## Method

The ‘Skills Gaps and Shortages in the Creative Industries: Employer Perceptions and Actions, UK 2022’ estimates are calculated using the Department for Education (DfE) Employer Skills Survey (ESS). The latest iteration, Employer Skills Survey 2022 (ESS 2022), gathered labour market intelligence (LMI) on employer skills needs and training activity among employers in the UK.

The publication of ESS 2022 follows a longstanding UK-wide ESS series which was conducted biennially from 2011 to 2017. It ran in alternate years with its sister survey, the Employer Perspectives Survey (EPS). ESS traditionally had a more inward-looking focus assessing the current skills position and skills needs of employers, while the Employer Perspectives Survey was primarily outward looking, covering engagement with the wider skills system. Since 2019, the EPS has been incorporated into ESS as one survey. ESS 2019 only covered England, Northern Ireland and Wales. Scotland was covered separately in its own national ESS in 2020 and national EPS in 2019 and 2021. For this reason, when making UK-wide comparisons to 2022, the last comparable data point for the ESS is 2017.

As in previous years, the 2022 Employer Skills Survey included three data files:

- the main UK data: covering such topics as recruitment, skills gaps, training and workforce development, upskilling needs, vocational qualifications, apprenticeships and traineeships
- the Investment in Training data: covering the investment establishments make in

training their staff

- the Occupational data, where each row represents one occupation for which an establishment had at least one vacancy, at the time of the survey

For this work we have used the main UK data, and the occupational data. The statistics we are publishing are the following:

- types of skills gaps and shortages, distinguishing between technical/practical skills, IT-related skills and soft skills
- employer perceptions of the causes and impacts of skills gaps and shortages
- employer actions/responses to skills gaps and shortages
- profile of skills gaps and shortages by occupation
- list of occupations in highest demand by creative industries businesses

The 4-digit SIC industry is recorded for responding businesses – which are surveyed at the establishment level, not the organisation level – and we therefore estimate our statistics across these SIC codes to get the relevant sector (and sub-sector) estimates. Weights are applied in the analysis, as set out in Section 4 of the [Employer Skills Survey 2022 Methodology Report](#), published by DfE. Two sets of weights are used: a ‘unit-based’ weight and an ‘employment-based’ weight. The unit-based weight is used for analyses by the number or proportion of establishments; the employment-based weight is used when analysing by number or proportion of employees (including volume measures of vacancies or skills gaps). More information on the weighting is set out in Annex J of DfE’s [Employer Skills Survey 2022 Methodology Report](#).

As part of the aggregation process we also apply disclosure control measures to reduce the risk of identification of any respondents. Where the number of respondents for a cell is below a set threshold the value is suppressed. The threshold number is that at minimum 30 businesses must contribute to the answer.

It should also be noted that:

- where respondent numbers are between 30 and 49, findings should be interpreted with caution
- results greater than 0% but smaller than 0.5% are reported in the tables as <0.5%
- the Employer Skills Survey is not representative at 4-digit SIC code level. As DCMS sectors are defined at this level, our results should be treated as indicative

## Summary of data sources

In summary, the data presented in this release:

- are based on official statistics data sources
- are based on internationally-harmonised codes
- are based on survey data and, as with all data from surveys, there will be an associated error margin surrounding these estimates[footnote]

This means the estimates are:

- comparable at both a national and international level
- comparable over time, allowing trends to be measured and monitored

However, this also means the estimates are subject to limitations of the underlying classifications of the make-up of the UK economy. For example, the standard industrial classification (SIC) codes were developed in 2007 and have not been revised since. Emerging sectors, such as Artificial Intelligence, are therefore hard to capture and may be excluded or mis-coded.

## Quality assurance processes

This section summarises the quality assurance processes applied during the production of these statistics by our data providers, the Department for Education (DfE), as well as those applied by DCMS.

### Quality assurance processes at DfE

Quality assurance at DfE takes place at a number of stages. The various stages and the processes in place to ensure quality for the data sources are outlined below. It is worth noting that information presented here on the data sources are taken from the [Employer Skills Survey 2022 Methodology Report](#) and should be credited to the DfE and appropriate suppliers.

# DfE Employer Skills Survey

The Employer Skills Survey 2022 (ESS 2022) gathered labour market intelligence (LMI) on employer skills needs and training activity among employers in the UK. It is the sixth in the biennial series of Employer Skills Surveys dating back to 2011. Each of these surveys covers employers across the UK, with exception of the previous study in 2019 which did not include Scotland.

DfE's [Employer Skills Survey 2022 Methodology Report](#) sets out the sampling, data collection, validation and quality assurance processes.

## Quality assurance processes at DCMS

The majority of quality assurance of the data underpinning the 'Skills Gaps and Shortages in the Creative Industries: Employer Perceptions and Actions, UK 2022' release takes place at DfE. However, further quality assurance checks are carried out within DCMS at various stages.

Production of the report is typically carried out by one member of staff, whilst quality assurance is completed by at least one other, to ensure an independent evaluation of the work.

## Data requirements

For the ESS data, DCMS discusses its data requirements with DfE and these are formalised in a Data Access Agreement (DAA). The DAA covers which data are required, the purpose of the data, and the conditions under which DfE provide the data. Discussions of requirements and purpose with DfE improve the understanding of the data at DCMS, helping us to ensure we receive the correct data and use it appropriately.

### Checking of the data delivery

For the ESS data, DCMS checks that the data delivered by DfE matches what is listed in the Data Access Agreement (DAA). For this particular release we check that:



- we have received all data, with particular focus on all data at the 4 digit SIC code level from the core survey, which is required for us to aggregate up to produce estimates for our sectors and subsectors

## Data analysis

At the analysis stage, data are aggregated up to produce information about DCMS sectors and sub-sectors (creative industries sector and sub-sector for this release). For these estimates, table production was carried out in the programming language R as part of the automation work being undertaken in DCMS.

Once tables were produced the statistics lead also completed the following checks:

- “Sense checks” of the data. E.g.:
  - do the UK totals match the ESS published figures?
  - looking at any large differences between the data and possible causes of these

## Quality assurance of data analysis

Once analysis is complete, DCMS document the checks needed for quality assurers to carry out. The checks cover:

- ensuring the correct data are used for the analysis
- checking that the correct SIC codes have been aggregated together to form DCMS sector (and subsector) estimates. Are all SIC codes we require included? Are there any non-DCMS SIC codes that have been included by accident?
- making sure it is not possible to derive disclosive data from the figures that will be published
- making sure the correct data has been pasted to the final tables for publication, are accessible, formatted correctly, and have appropriate documentation

## Dissemination

Finalised figures are disseminated within Excel tables published on GOV.UK, with summary text on the webpage, and an accompanying research report. These are produced by the statistics lead who, beforehand, checks with DfE colleagues on details of how to interpret the statistics. Before publishing, a quality assurer checks the figures match between the tables and the Gov.UK page summary. The quality assurer also makes sure any statements made about the figures are correct according to the analysis and checks for spelling or grammar errors.

# External data sources

It is recognised that there are always different ways to define sectors, but their relevance depends on what they are needed for. Government generally favours classification systems which are:

- rigorously measured
- internationally comparable
- nationally consistent
- ideally applicable to specific policy interventions

These are the main reasons for DCMS constructing sector classifications from Standard Industrial Classification (SIC) codes. However, DCMS accepts that there are limitations with this approach and alternative definitions can be useful where a policy-relevant grouping of businesses crosses existing Standard Industrial Classification (SIC) codes. DCMS is aware of other estimates relevant to DCMS Sectors. These estimates use various methods and data sources, and can be useful for serving several purposes, e.g. monitoring progress under specific policy themes such as community health or the environment, or measuring activities subsumed across a range of SICs.

It is recognised that there will be other sources of evidence from industry bodies, for example, which have not been included above. We encourage statistics producers within DCMS sectors who have not been referenced to contact the economic estimates team at [evidence@dcms.gov.uk](mailto:evidence@dcms.gov.uk).

## Further information

For enquiries on this release, please email [evidence@dcms.gov.uk](mailto:evidence@dcms.gov.uk).

For general enquiries contact:

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DCMS statisticians can be followed on Twitter via [@DCMSInsight](#).

This release is an Official Statistics in Development publication and has been produced to the standards set out in the [Code of Practice for Statistics](#).

1. Sampling error is the error caused by observing a sample (as in a survey) instead of the whole population (as in a census). While each sample is designed to produce the “best” estimate of the true population value, a number of equal-sized samples covering the population would generally produce varying population estimates. This means we cannot say an estimate of, for example, 20% is very accurate for the whole population. Our best estimates, from the survey sample, suggest that the figure is 20%, but due to the degree of error, the true population figure could perhaps be 18% or 22%. This is not an issue with the quality of the data or analysis; rather it is an inherent principle when using survey data to inform estimates.

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