



Department
for Culture
Media & Sport

Creative Industries Economic Estimates Methodology

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Chapter 1 - Introduction

Overview

This document sets out the methodology behind the Creative Industries Economic Estimates series of official statistics published by the Department for Culture, Media and Sport (DCMS). The statistics can be found [here](#).

The Creative Industries Economic Estimates are Official Statistics used to measure the direct economic contribution of the Creative Industries to the UK economy. This includes the contribution made by the Creative Industries to UK Employment, Gross Value Added (GVA) and Exports of Services. The estimates are produced using ONS National Statistics sources.

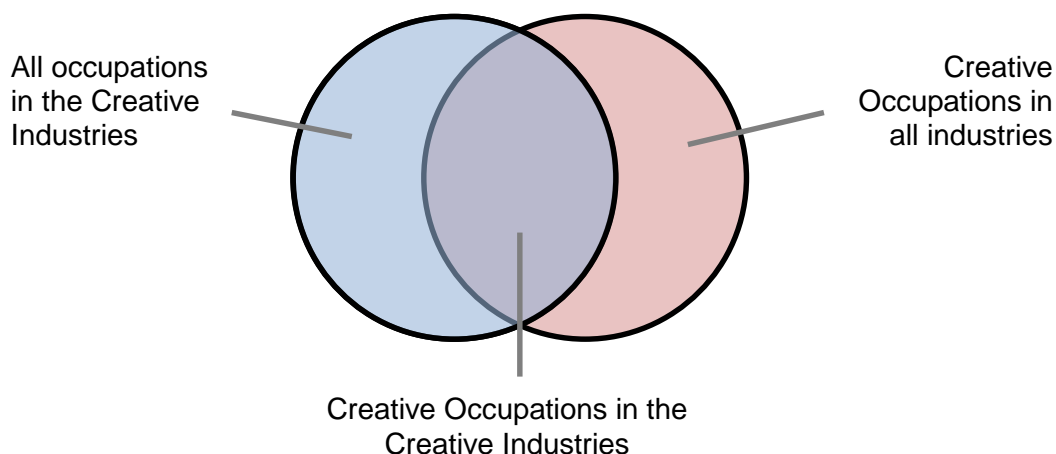
These statistics are produced in accordance with the Code of Practice for Official Statistics throughout. This methodology is used for statistics covering the years 2014 onwards, in other words, those released from January 2015 onwards.

DCMS is currently consulting on a number of developments to the Official Statistics. We aim to continuously improve the quality of estimates and better meet user needs. Feedback on this publication is welcomed via email at evidence@culture.gov.uk.

Terminology

Throughout this note the phrases “Creative Occupations”, “Creative Industries” and “Creative Economy” are used:

- The **Creative Occupations**, which are those identified as being jobs that are creative in nature (see Table 1)
- The **Creative Industries**, which are any industries that are composed of a certain proportion of Creative Occupations, but are inclusive of the non-Creative Occupations in those industries (see Chapter 2 -)
- The **Creative Economy**, which includes both the Creative Industries and all the Creative Occupations outside the Creative Industries:



Official statistics

Three series of data are currently published as official statistics. They are:

- **Creative Industries Economic Estimates** covering the gross value added (GVA) of the Creative Industries. This release has previously included headline employment statistics.
- **Creative Industries Economic Estimates: Focus on Employment** covering headline employment statistics in the Creative Industries and Economy and demographic breakdowns
- **Creative Industries Economic Estimates: Focus on Exports** covering the value of the export of services from the Creative Industries

Users

The users of these statistics broadly fall into five main categories:

- Ministers and other political figures
- Policy and other professionals in DCMS and other Government departments
- The Creative Industries and their representative bodies
- Charitable organisations
- Academia

The primary use of these statistics is to monitor the performance of the industries and of government policy affecting them.

Revisions

The estimates for each publication are calculated using the latest available source data and therefore follow the revisions policy of these (normally ONS) data sources. This usually means that a new annual release of the estimates not only updates the series with data for a new reference year from ONS, but also incorporates any revisions to the data from the previous year.

Any changes to the classification of Creative Occupations and Creative Industries will be undertaken with consideration of the changes to the Standard Industrial Classification (SIC) structure, and changes in the industries employing those in Creative Occupations.

The revisions policy of DCMS including for Creative Industries estimates can be found in the [DCMS Statement of Compliance](#) (PDF, 742KB).

Experimental statistics and development

In an effort to improve the quality and range of these estimates, some statistics published by DCMS on the Creative Industries and Creative Economy are experimental. This means the methodology is still under development as is subject to consultation with users. Experimental Official Statistics are defined in the Code of Practice for Official Statistics as “new official statistics undergoing evaluation. They are published in order to involve users and stakeholders in their development and as a means to build in quality at an early stage.”

All portions of this methodology note pertaining to experimental statistics, or other matters DCMS would like to collect user opinions on, are displayed adjacent to a blue bar such as this. While all methodologies in official statistics are subject to change, experimental statistics

are further prone to do so as they are developed. Feedback on these elements of the methodology is particularly welcomed by DCMS, and can be sent to evidence@culture.gov.uk.

We are currently [running a consultation](#) on developments to these statistics that closes on 26 August 2016.

Summary of data sources

- Occupation data is obtained from the Annual Population Survey (APS), which is itself a derivative of the [Labour Force Survey](#) (LFS). Methodological information about the LFS can be found [here](#). These are defined by the latest Standard Occupational Classifications (SOC2010) which was introduced in the 2011 data.
- Gross value added data is obtained from the [Annual Business Survey](#) (ABS), a survey of businesses listed on the [Inter-departmental Business Register](#) (IDBR). These businesses are classified by industry under the Standard Industrial Classifications (SIC207) which was introduced in the 2008 data.
- Exports of services statistics are derived from the [International Trade in Services](#) (ITIS) survey, a survey of business looking at their overseas trade, also based on definitions set out by SIC2007, which was introduced in the 2009 data.
- Exports of goods are taken from [ONS trade in goods by classification of product by activity \(CPA\) statistics](#).

Acknowledgements

DCMS would like to acknowledge contributions from Gary Brown and the ONS Methodology Advisory Service, and Hasan Bakhshi and Nesta, as well as those in the Creative Industries and otherwise who have contributed towards the development of this methodology.

Chapter 2 - Defining the creative Industries

Overview

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 has 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.

Creative occupations

The foundation of the Creative Industries is the Creative Occupations. The Creative Occupations were defined by DCMS through [a consultation in 2013](#). The list is drawn from the [Standard Occupation Classifications](#) (SOC), shown in Table 1.

Table 1: The Creative Occupations

Creative Occupations Group	SOC (2010)	Description
Advertising and marketing	1132	Marketing and sales directors
	1134	Advertising and public relations directors
	2472	Public relations professionals
	2473	Advertising accounts managers and creative directors
	3543	Marketing associate professionals
Architecture	2431	Architects
	2432	Town planning officers
	2435	Chartered architectural technologists
	3121	Architectural and town planning technicians
Crafts	5211	Smiths and forge workers
	5411	Weavers and knitters
	5441	Glass and ceramics makers, decorators and finishers
	5442	Furniture makers and other craft woodworkers
	5449	Other skilled trades not elsewhere classified
Design: product, graphic and fashion design	3421	Graphic designers
	3422	Product, clothing and related designers
Film, TV, video, radio and photography	3416	Arts officers, producers and directors
	3417	Photographers, audio-visual and broadcasting equipment operators
IT, software and computer services	1136	Information technology and telecommunications directors
	2135	IT business analysts, architects and systems designers
	2136	Programmers and software development professionals
	2137	Web design and development professionals
Publishing	2471	Journalists, newspaper and periodical editors
	3412	Authors, writers and translators
Museums, galleries and libraries	2451	Librarians
	2452	Archivists and curators
Music, performing and visual arts	3411	Artists
	3413	Actors, entertainers and presenters
	3414	Dancers and choreographers
	3415	Musicians

The Nesta paper [A Dynamic Mapping of the UK's Creative Industries](#) does provide a replicable method of determining whether an occupation is creative, although this paper uses an older addition of the SOC. The current list is an approximation of that as defined in the Nesta paper.

The SOC codes are subject to review by the ONS, and therefore the Creative Occupations are subject to change over time as the SOC codes change. The current standard is SOC2010. The next review is impending and will determine changes to be made in preparation for SOC2020, and ONS is consulting on the changes. The consultation will close on 17 April 2016. You can respond using the [online survey](#). DCMS will respond to this consultation. If you would like DCMS to consider any points in our response, please email DCMS by 4 April 2016 at evidence@culture.gov.uk.

The APS data are used to determine number of jobs. Employees and self-employed as well as main and second jobs are included in the dataset. First, the data are restricted to those who are employees or self-employed (main job - INECAC05 = 1 or 2; second job – SECJMBR = 1, 2 or 3). Next, both main jobs (SOC10M) and second jobs (SOC10S) are counted, and weighted according to the person weighting (PWTA11). The number of jobs in each occupation, in each industry (main job - INDC07M; second job – INDC07S) is then counted. Confidence intervals can be constructed at the 95% confidence level according to guidance in the LFS user manual.

More information on the APS can be found [here](#).

The Creative Intensities

In order to define the Creative Industries, the Creative Intensities of each industry are calculated. The current industries are determined on the basis of APS data from 2011 and 2012 (two years were combined to avoid unusual survey results in any single year influencing the industries included).

The number of creative jobs in each industry is divided by the total number of jobs in that industry. Industries (SIC07) which have more than 6,000 jobs and a “creative intensity” of more than 30 per cent are considered as candidates for inclusion. Industries on the threshold of either criterion were carefully considered through the consultation.

The resulting list of Creative Industries and their accompanying Creative Intensities is show in Table 2.

Table 2: The Creative Intensities of the Creative Industries

SIC	Description	Creative Intensity (%)
90.03	Artistic creation	91.5
74.30	Translation and interpretation activities	82.2
90.01	Performing arts	78.8
74.20	Photographic activities	77.8
60.10	Radio broadcasting	62.7
74.10	Specialised design activities	62.1
71.11	Architectural activities	61.5
70.21	Public relations and communication activities	59.3
58.14	Publishing of journals and periodicals	58.3
90.02	Support activities to performing arts	56.8
59.1	Motion picture, video and television programme activities	56.4
32.12	Manufacture of jewellery and related articles	56.2
62.01	Computer programming activities	55.8
59.20	Sound recording and music publishing activities	54.1
60.20	Television programming and broadcasting activities	53.5
73.11	Advertising agencies	50.5
58.11	Book publishing	49.9
58.13	Publishing of newspapers	48.8
73.12	Media representation	48.3
58.21	Publishing of computer games	43.1
58.29	Other software publishing	40.8
90.04	Operation of arts facilities	38.4
58.19	Other publishing activities	37.8
85.52	Cultural education	34.6
62.02	Computer consultancy activities	32.8
58.12	Publishing of directories and mailing lists	31.0
91.01	Library and archive activities	23.8
91.02	Museum activities	22.5

Notes:

1. Creative intensity for SIC 59.1 is calculated at 3-digit level in order to capture the whole industry, as data at the 4-digit level are not statistically robust (due to low levels of employment of the 4-digit codes).
2. SIC codes 91.01 and 91.02 have been included after consultation, despite having creative intensities below the 30 per cent threshold. One reason they may have a lower creative intensity is due to large numbers employed in facilities maintenance in Museums, galleries and libraries.
3. SIC code 32.12 Manufacture of jewellery and related articles is included to represent the Crafts industry, although due to limitations in the underlying SIC codes (which are agreed internationally) this does not fully capture the crafts sector.
4. Some SIC codes with Creative Intensities greater than 30% were not included because they were based on very small sample sizes before weighting, and therefore could not reliably be considered Creative.

As noted in Table 2, there are some caveats around the resulting SIC codes. In addition to these, additional analysis is presented in the Creative Industries Economic Estimates statistical release for Computer Games, which combines the 4-digit SIC code 58.21 (Publishing of Computer Games) with the 5-digit code 62.01/1 (Ready-made interactive leisure and entertainment software development). This is the best possible approximation for this industry available through the SIC system but it has limitations in its scope, and in its quality due to the volatility in statistics resulting from small sample sizes in the APS and ABS.

The definition of the Creative Industries is subject to change under four scenarios:

- The Creative Intensity of an industry changes, either increasing so it is over the threshold, justifying its inclusion in the Creative Industries, or decreasing so it is below the threshold, justifying its exclusion from the Creative Industries.
- The SOC codes change, meaning the Creative Intensities must be recalculated with the new occupational codes.
- The SIC codes change, meaning the Creative Intensities must be recalculated for the new industry codes.
- A sufficiently strong case is made by a user of the statistics for the inclusion or exclusion of a particular SIC or SOC code from the definition.

Any change to the definition of the Creative Industries would be conducted in consultation with users of the statistics wherever possible. The ONS is currently consulting on reviews to the SOC system that may affect the definition of the Creative Industries. The consultation will close on 17 April 2016. You can respond using the [online survey](#). DCMS will respond to this consultation. If you would like DCMS to consider any points in our response, please email DCMS by 4 April 2016 at evidence@culture.gov.uk.

Creative Industries

The Creative Intensities approach yields a list of SIC codes identifying which industries should be included in the analysis. These are grouped in the same manner as the Creative Occupations, as in

Table 3.

Table 3: The Creative Industries Groups

Creative Industries Group	SIC (2007)	Description
Advertising and marketing	70.21	Public relations and communication activities
	73.11	Advertising agencies
	73.12	Media representation
Architecture	71.11	Architectural activities
Crafts	32.12	Manufacture of jewellery and related articles
Design: product, graphic and fashion design	74.10	Specialised design activities
Film, TV, video, radio and photography	59.11	Motion picture, video and television programme production activities
	59.12	Motion picture, video and television programme post-production
	59.13	Motion picture, video and television programme distribution
	59.14	Motion picture projection activities
	60.10	Radio broadcasting
	60.20	Television programming and broadcasting activities
	74.20	Photographic activities
IT, software and computer services	58.21	Publishing of computer games
	58.29	Other software publishing
	62.01	Computer programming activities
	62.02	Computer consultancy activities
Publishing	58.11	Book publishing
	58.12	Publishing of directories and mailing lists
	58.13	Publishing of newspapers
	58.14	Publishing of journals and periodicals
	58.19	Other publishing activities
	74.30	Translation and interpretation activities
Museums, galleries and libraries	91.01	Library and archive activities
	91.02	Museum activities
Music, performing and visual arts	59.20	Sound recording and music publishing activities
	85.52	Cultural education
	90.01	Performing arts
	90.02	Support activities to performing arts
	90.03	Artistic creation
	90.04	Operation of arts facilities

Summary

The selection of Creative Occupations and of Creative Industries through the Creative Intensity method allows a clear and measurable definition for the industries. It should be noted that the resulting definition is an approximation based on the SIC and SOC system.

The occupations and industries are summarised by group in Table 4.

As the SIC and SOC code systems have changed over time, time series using the current systems can only extend as far back as 2008. ONS was commissioned to do some research

into a mapping exercise with the old SIC and SOC standards in order to establish a time series as far back as 1997. The details of this methodology are in Annex A - and the time series is published in the latest Creative Industries Economic Estimates publication.

Table 4: The Creative Occupations (4-digital SOC2007) and Creative Industries (4-digit SIC2010)

Creative Occupations Group	SOC (2010)	Description	SIC (2007)	Description
Advertising and marketing	1132	Marketing and sales directors	70.21	Public relations and communication activities
	1134	Advertising and public relations directors	73.11	Advertising agencies
	2472	Public relations professionals	73.12	Media representation
	2473	Advertising accounts managers and creative directors		
	3543	Marketing associate professionals		
Architecture	2431	Architects	71.11	Architectural activities
	2432	Town planning officers		
	2435	Chartered architectural technologists		
	3121	Architectural and town planning technicians		
Crafts	5211	Smiths and forge workers	32.12	Manufacture of jewellery and related articles
	5411	Weavers and knitters		
	5441	Glass and ceramics makers, decorators and finishers		
	5442	Furniture makers and other craft woodworkers		
	5449	Other skilled trades not elsewhere classified		
Design: product, graphic and fashion design	3421	Graphic designers	74.10	Specialised design activities
	3422	Product, clothing and related designers		
Film, TV, video, radio and photography	3416	Arts officers, producers and directors	59.11	Motion picture, video and television programme production activities
	3417	Photographers, audio-visual and broadcasting equipment operators	59.12	Motion picture, video and television programme post-production
			59.13	Motion picture, video and television programme distribution
			59.14	Motion picture projection activities
			60.10	Radio broadcasting
			60.20	Television programming and broadcasting activities
			74.20	Photographic activities
IT, software and computer services	1136	Information technology and telecommunications directors	58.21	Publishing of computer games
	2135	IT business analysts, architects and systems designers	58.29	Other software publishing
	2136	Programmers and software development professionals	62.01	Computer programming activities
	2137	Web design and development professionals	62.02	Computer consultancy activities
Publishing	2471	Journalists, newspaper and periodical editors	58.11	Book publishing
	3412	Authors, writers and translators	58.12	Publishing of directories and mailing lists
			58.13	Publishing of newspapers
			58.14	Publishing of journals and periodicals
			58.19	Other publishing activities
			74.30	Translation and interpretation activities
Museums, galleries and libraries	2451	Librarians	91.01	Library and archive activities
	2452	Archivists and curators	91.02	Museum activities
Music, performing and visual arts	3411	Artists	59.20	Sound recording and music publishing activities
	3413	Actors, entertainers and presenters	85.52	Cultural education
	3414	Dancers and choreographers	90.01	Performing arts
	3415	Musicians	90.02	Support activities to performing arts
			90.03	Artistic creation
		90.04	Operation of arts facilities	

Chapter 3 - Employment

Creative Industries

Employment in the Creative Industries constitutes all first and second occupations in the Creative Industries regardless of whether they are Creative Occupations or not.

In order to count the occupations in the Creative Industries, the data are first restricted to those who are employees or self-employed (main job - INECAC05 = 1 or 2; second job – SECJMBR = 1, 2 or 3). They are then restricted only to those who work in the Creative Industries (main job - INDC07M; second job – INDC07S). Finally, data is weighted according to the person weighting (PWTA11). Confidence intervals can be constructed at the 95% confidence level according to guidance in the LFS user manual.

Creative Economy

The Creative Economy constitutes all occupations in the Creative Industries, plus all Creative Occupations outside the Creative Industries.

First, the data are been restricted to those who are employees or self-employed (main job - INECAC05 = 1 or 2; second job – SECJMBR = 1, 2 or 3). Second, all those with main Creative Occupations (SOC10M) but in a non-Creative Industry (INDC07M) are counted after weighting (PWTA11). Then, all those with second Creative Occupations (SOC10S) but in non-Creative Industry (INDC07S) are counted after weighting (PWTA11). These two counts can be summed together to get the total number of Creative Occupations outside of the Creative Industries.

Finally, this number and the total occupations in the Creative Industries can be summed to give the total number of occupations in the Creative Economy.

Demographics

The occupations in the Creative Industries and Economy are split by various demographic groups. These (and the APS variables used) are:

- Ethnicity (ETHUK11)
- Sex (Sex)
- Socio-economic group (NSECMJ10)
- Region (first job GORWKR, second job GORWK2R)
- Highest level of qualification (HIQUL11D)

The methodology for counting jobs per demographic category are as above, with results tabulated by the above categories in each case.

Disclosure

All figures under 6,000 are suppressed in order to prevent any disclosure of personal data in the statistics in accordance with APS guidance. The mean value for weights in the APS data set is around 200 (199 in 2014 and 196 in 2013), although the maximum can take values of 3,000 or more. Therefore a figure of 6,000 could typically be based on a sample of 30 individuals, but may in some cases refer to fewer.

Chapter 4 - GVA

Creative Industries

Gross Value Added (GVA), calculated in current prices (i.e. not adjusted for inflation) has been estimated for businesses within the Creative Industries using approximate GVA (aGVA) from the Annual Business Survey (ABS). This refers to GVA that is directly attributable to the Creative Industries.

ONS provide DCMS with a standard extract of the ABS data at 5-digit SIC code level. SPSS is used to extract the GVA per SIC code per year into a database. The data pertaining to the Creative Industries SIC codes can then be output, and summed to give the GVA of the Creative Industries groups and the total value over time.

GVA for “Museums, galleries and libraries” is usually found to be negative. This is indicative of inputs into the industry being greater than outputs, which is plausible for a heavily subsidised sector. Additionally, the ABS does not fully account for this group, and the data can be somewhat volatile. As such, data is suppressed for this sector as it is potentially misleading to users.

“Crafts” data is formed of a single SIC code. This estimate is therefore based on a small sample size and is subject to volatility over time as a consequence. As such, percentage changes in the GVA of “Crafts” over time are suppressed in the main tables. Further information on these limitations and others in the statistics can be found in Chapter 6 -.

Estimates for the Computer Games Industry are included in an annex of the main statistical release. These are based on two SIC codes: The estimates for the computer games industry have been calculated for the SIC codes:

- 58.21 Publishing of Computer Games.
- 62.01/1 Ready-made interactive leisure and entertainment software development.

As with crafts, these figures are based on a small sample size and are therefore subject to volatility, and should be treated with caution.

Under-coverage of microbusinesses

The ABS is based on the Inter-Departmental Business Register (IDBR), which has known under-coverage of microbusinesses not registered for VAT or PAYE schemes. DCMS commissioned research, conducted by the ONS’s Methodology Advisory Service, to determine the extent to which microbusiness are not covered by the statistics and how to account for it.

The Business Population Estimates (BPE) provides a complementary source to adjust for the under-coverage of IDBR, as it includes the micro-businesses that IDBR misses. The BPE consists of information from IDBR on registered businesses, and from the Labour Force Survey (LFS) on unregistered businesses.

The LFS variable used, self-employment, includes some registered sole proprietorships and partnerships already on IDBR, so to avoid double-counting these self-employed are removed and an estimate is made of the number of unregistered businesses represented by the remaining self-employed. Based on this method, the BPE estimate was that IDBR missed 2.65 million unregistered businesses in 2012.

Using the undercount of businesses to make an adjustment to GVA is not sensible – as these businesses are by definition small, and are not representative of businesses on IDBR. Neither is using the direct undercount of the self-employed sensible, as contributions to GVA are at business not person level – and even the composition of the workforce (in terms of the proportion of creative employees) does not have a differential effect on GVA.

However, BPE also estimates the total turnover for all unregistered businesses. Comparing BPE turnover to IDBR turnover quantifies the impact of the IDBR undercount. While turnover is not the same as GVA, given the strong association it is assumed that the ratio of BPE to IDBR, turnover can be used to uplift GVA for Creative Industries. As the source of BPE turnover is the IDBR, the ratio of BPE to IDBR turnover is used.

This approach was tested at the 2-digit SIC level associated with each CI, as BPE is only classified to this level of detail, and also at the total economy level for comparison. The average uplift factor across Creative Industries was identical to the overall economy uplift factor. There was no need to repeat the analysis by employment size band, as there is no differential impact of the number of creative employees on the GVA of Creative or non-Creative Industries. Therefore, even if the size bands missing from IDBR had higher concentrations of creative employees, there is no impact.

The average uplift over the years 2008 to 2012 was 1.1, with little variation between years. Given the approximate nature of data from BPE, and the stability of the uplift estimate, it was decided that combining estimates over years and using the overall average was appropriate.

Creative Economy

A further recommendation from the aforementioned research by ONS suggests allocating the GVA of non-Creative Industries to the proportion of their constituent occupations that are creative. This, summed with the GVA of the Creative Industries, gives the GVA of the Creative Economy.

This method assumes that the productivity of the Creative Industries is comparable to that of the non-Creative Industries, although this is an assumption. DCMS is looking to do further work on determining the productivity of the Creative Industries and, as part of this, will be updating the Creative Economy methodology.

The GVA of the non-Creative Economy used in this method by subtracting the GVA of the Creative Industries from the [ONS Blue Book](#) total GVA (series AMBL).

If you have any thoughts on how DCMS should approach this methodology, please contact us via evidence@culture.gov.uk.

Chapter 5 - Exports

Services

The value of exports of services from the Creative Industries is derived from the receipts data obtained from the International Trade In Services (ITIS) survey. This data is first limited to organisations that are listed as belonging to a Creative Industries SIC code.

Next, checks are made to the output tables by market to ensure that the statistics published do not disclose any potentially sensitive information relating to any identifiable business.

Export data is found per SIC code and then aggregated up to the Creative Industries groups. The data is split into continents: Africa, the Americas, Asia, Australasia, and Europe. These geographies are selected so as to break down the data into Creative Industries groups while maintaining aggregation levels that prevent disclosure for as many groups as possible.

DCMS is looking to provide additional breakdowns of data to particular countries where data is sufficient, in particular, to countries comprising markets of interest to DCMS and UKTI.

Goods

DCMS will publish estimates of exports of goods for the Creative Industries based on ONS data from UK trade in goods by classification of product by activity (CPA 2008). The list of proposed categories for inclusion in a Creative Industries estimate are outlined below in Table 5.

Table 5: Proposed categories for exports of goods for Creative Industries, current prices (i.e. not adjusted for inflation), not seasonally adjusted

Category	CPA (08)	Group
Architectural Plans & Drawing	P2YH	Group 71.1
Jewellery, Bijouterie & Related Articles	P2XP	Group 32.1
Films & Videos	P2CH	Group 59.1
Exposed Photographic Film	P2CN	Group 74.2
Packaged Computer Software	P2CF	Group 58.2
Printed Matter	P2CE	Group 58.1
Antiques & Collections	P2CS	Group 91.0
Audio Recordings & Printed Music	P2CI	Group 59.2
Paintings & Sculptures	P2CQ	Group 90.0
Musical Instruments	P2XQ	Group 32.2

The major limitation with the categories for measurement of exports of goods is that it is not possible to value the design element for goods not included in the definition above, for example for products such as textiles and furniture. In addition, the system does not align perfectly with the SIC standards.

The value of services and goods exported from the Creative Industries can be combined to give the total value of Creative Exports from the UK.

Chapter 6 - Limitations

DCMS is aware of a number of limitations in the statistics, the most significant of these are outlined below.

International standards - industry (SIC) and occupation (SOC) classifications

These estimates have been constructed from ONS Official Statistics which use international classifications, this is an important element of the methodology due to availability of data and to enable international comparability. However, as a result there are substantial limitations to the underlying classifications. As the balance and make up of the economy changes the international classifications are less able to provide the necessary detail for important elements of the UK economy.

Industry classifications

Revisions to standard industrial classifications (SICs) are made following international agreement at the United Nations (UN) level. If it is agreed changes will be made by the UN at the 2-digit level then there is an opportunity to change the more detailed classifications at the European and UK level.

An update to the International Standard Industrial Classification (ISIC) Rev 4 was discussed, at the UN Expert Group Meeting on International Classifications in May 2015. However, the decision was taken not to update the ISIC Rev 4 and therefore at this stage there will be no revisions at EU or UK level either.

The UK will continue to make the case for revisions to SICs and DCMS will collate views from the sector on how the SIC system should be changed to allow better measurement of the Creative Industries groups.

Occupation classifications

The ONS Classifications and Harmonisation Unit (CHU) will identify possible options in terms of scale of a revision to the Standard Occupational Classification 2010 (SOC2010). A preliminary recommendation will be made and stakeholders will be consulted. Currently it is anticipated that this work will commence in mid-2016.

Although changes to the SOC structure cannot be made at this time, ongoing research on occupation titles has revealed new entries to be added to the first published index from June 2010. For example, on 26 November 2014 an update to SOC Volume 2 - the coding index was made to include 324 new job titles, including the 6 listed below, to unit group 3421 Graphic Designers.

- Artist, 3D
- Artist, digital
- Artist, effects, visual
- Artist, VFX
- Designer, 3D
- Designer, digital

The coding index and full details can be found [here](#)

Impact on industries

Crafts: Five SOC codes have been included in the estimates to represent occupations in the Crafts sector (Annex B). SIC code 32.12 “Manufacture of jewellery and related articles” (Annex C) has been included to represent the Crafts industry, though this is likely to be a significant under-estimate of the scale of the true Crafts industry. [Research](#) commissioned by the Crafts council seeks to more fully account for the economic contribution of Crafts by building on the more DCMS approach. This expands the estimates to a wider definition and to include the contribution of micro-businesses and the contribution of crafts workers who work outside the creative industries, “embedded” workers.

Music: While a good part of the music industry is implicitly included in the codes making up the Creative Industries Economic Estimates, the industry and occupational codes do not allow the contribution of music to be satisfactorily identified as a separate category. Even at the highest resolution of detail available in the ONS data we use, live music is counted alongside theatre in a single “Performing arts” category. There are also challenges related to capture of micro-businesses and the inaccurate classification of music businesses in the ONS Business Register that underpins the Annual Business Survey on which GVA estimates in this release are produced. UK Music is currently working with the ONS and DCMS on these areas. They publish their own research on the value of music which can be found on their website [here](#).

Museums, galleries and libraries: Museums, galleries and libraries have been fully included and separately identified as categories in these estimates. While curation has always been included as a creative occupation, prior to 2014 museums, galleries and libraries were not included as industries in their own right. However, it is notoriously difficult to measure the value of their output. The Annual Business Survey data used in these estimates are likely to substantially under value the sector and have not been shown separately. (For consistency with other sectors, the estimates have been included in overall totals for the Creative Industries GVA estimates.)

Fashion: The estimates in this release are intended to measure the design element of the fashion industry. Ideally, fashion design category would be separately identified in the estimates. However, it is not possible to separate design associated with fashion from the category 74.10 “Specialised design activities” with any degree of confidence. Nor is it possible to identify in official data the full range of fashion occupations across industries. The fashion industry has taken a broader approach to measuring its activities, going beyond the design element, for example, including relevant retail activities, published in the report [Value of the UK Fashion Industry](#).

Computer Games: GVA estimates in this release are based on the ONS Annual Business Survey and therefore do not include micro-businesses. The current SIC structure and the level of detail needed to produce the estimates from the ABS (combining one 4- and one 5-digit SIC code) mean that they are volatile and, as they are dependent on survey data, should be treated with caution. In particular, single years of data can be misleading. Estimates from the ABS also rely on businesses being correctly classified on the ONS Business Register. [Research](#) by Nesta and UKIE taking a big data approach seeks to include the broader contribution of micro-businesses, which when combined with official estimates, suggests that the contribution of the computer games industry could be substantially higher with the sector generating GVA of up to £1.7bn. UKIE is working with DCMS, ONS and the Computer Games industry to improve classification.

Annex A - Time series

Summary

Data using only the current SIC and SOC systems only allow for analysis as far back as 2008, and DCMS was consequently lacking in a longer-term view of the economic performance of the Creative Industries. In 2013 DCMS commissioned research conducted by the Methodology Advisory Service of the Office for National Statistics into building a longer-term time series for the Creative Industries Economic Estimates.

The report made a number of recommendations for developments to the statistics that were adopted, and provided a methodology for producing estimates back to 1997. The methodology here only applies to historic estimates.

Methodology

Problems arise when constructing historic estimates because over the period 1997 to 2013 the data underlying the Creative Industries Economic Estimates were reported over three revisions (each) of two different classifications.

- Standard Industrial Classifications: 1992 (SIC92), 2003 (SIC 03) and 2007 (SIC07)
- Standard Occupational Classifications: 1990 (SOC90), 2000 (SOC2000) and 2010 (SOC2010)

This means that the 4-digit SIC07 defining Creative Industries and the 4-digit SOC10 codes defining Creative Occupations needs to be converted (and sometimes double-converted):

- from SIC92 to SIC03 *the minor differences between SIC92 and SIC03 had no impact*,
- from SIC03 to SIC07
- from SOC90 to SOC2000
- from SOC2000 to SOC2010

Factors for converting between SIC03 (ignoring the conversion from 1992) and SIC07 were sourced from the [ONS website](#). These factors were based on dual coding counts, employment and turnover – the basis that was used depended on the values being converted:

- for GVA – turnover
- for Export of Services – turnover
- for Creative Employment – employment

Factors for converting between [SOC90 and SOC2000](#), and [SOC2000 and SOC2010](#) were also sourced from the ONS website. The factors were calculated based on the two Labour Force Survey (LFS) samples and a 1% sample of the nearest Census:

- SOC90 – SOC2000 factors were based on Census 1991, LFS 1996/97, and LFS 2000; and
- SOC2000 – SOC2010 factors were based on LFS 1996/97, Census 2001, and LFS January-March 2007.

As the data being converted were from the LFS, the Classifications and Harmonisation (CHU) team in ONS recommended using LFS-based factors. They also advised that dual-coding of the earlier data was less reliable, due to the changes in terminology and now out-dated job market job titles, so the factors based on the most recent LFS data were used.

The other difference between the SIC and SOC conversion factors was that the SOC factors were provided by sex. However, the LFS data being converted were counts – and not broken down by sex – so the male and female conversion factors needed to be combined. To do this, the factors were weighted by the male/female LFS sample sizes used to estimate them (provided alongside the conversion factors on the ONS website) as the sex distribution of these samples was assumed to also be representative of the sample underlying the LFS data being converted.

Data

GVA

The data for GVA came from the variable “Approximate gross value added at basic prices (aGVA)” collected by the ONS ABS:

- [data from 1997 to 2007](#)
- [data from 2008 to 2011](#)

All data were at 4-digit SIC level.

Export of Services

The data for Export of Services came from the variable “Adjusted value” for “Receipt total” collected by the ITIS survey. All data were at 5-digit SIC level.

Employment

The data for Creative Employment came from two different sources:

- data (April-June only) from 1997 to 2010, and 2013¹ came from the LFS variables “main jobs (SOC10M)” and “second jobs (SOC10S)” and were provided internally within ONS; and
- data (January-December) from 2006 to 2012, and July 2012-June 2013 for 2013 came from the APS² variables “main jobs (SOC10M)” and “second jobs (SOC10S)” and were provided internally within ONS.

Data from the LFS and the APS were at 4-digit SIC and SOC level.

As the ABS data prior to 2008 were on an SIC03 basis, the SIC07 codes defining the creative industries needed to be converted to SIC03 codes. The conversion process from SIC07 to SIC03 was not straightforward: subjective choices were needed. Conversions are listed at the end of this Annex.

¹ Data issues with LFS data for 2011 and 2012 mean these were not used for estimation.

² The APS combines waves 1 and 5 from the four quarters of the LFS along with boosts in both England and Wales designed to ensure adequate coverage of local authorities – which also leads to better coverage of small businesses than the LFS.

Results

GVA

After conversion, the “IT, software and computer services” group showed an increase of nearly 3,000% between 2002 and 2003. This was mainly due to GVA values for SIC03 code 72.22 “Other software consultancy and support” not being available until 2003, but also to a 100% increase in GVA values for SIC03 code 72.1 “Hardware consultancy” between 2002 and 2003.

Rather than adjust the component series, a more holistic approach was taken to adjust the group total – taking advantage of the steady increase from 2003 onwards to fit a simple linear regression. The original 2002 GVA value was then replaced by the constant parameter from the regression, and the ratio between this constant parameter and the original GVA value for 2002 was used to adjust 1997 to 2001.

The time series for the “Museums, galleries and libraries” group was more problematic. GVA values collected under SIC07 are negative, implying outputs (sales, turnstile receipts etc.) were less than inputs. These types of institutions have high security, cleaning and running costs but entry is often free, and sales (in small gift shops and restaurants) are unlikely to defray these costs, and this is implicit in the dependence of these institutions on public subsidies and private donations.

Counter-intuitively, when SIC07 codes are converted to SIC03 codes, GVA values from 1997 to 2007 are positive (but of similar magnitude). A simple adjustment would be to make GVA values from 1997 to 2007 negative. This actually leads to a time series showing a sensible upward trend in GVA.

Exports

As the ITIS data prior to 2009 were on an SIC03 basis, the SIC07 codes defining the creative industries needed to be converted to SIC03 codes. The conversion process from SIC07 to SIC03 was not straightforward: subjective choices were needed.

After conversion, the “Film, TV, video, radio and photography” group showed an increase of 1,000% between 2008 and 2009. This was driven by increases of 30,000% in SIC07 code 59.1 and 400% in SIC07 code 60. All reporting units with 2009 exports over £100m in 59.1 and 60 were investigated: none were sampled in 2008, and their size explains the increase.

The reason for the change in sample design was that the Film and Television (FTV) survey was incorporated into ITIS in 2009. As the FTV was a one industry survey, it would have fully enumerated all the important businesses, which means they would not have been available for sampling in ITIS.

Instead of adjusting the 59.1 and 60 series separately to account for the increase in 2009, which would amplify noise in each series, a more holistic approach was taken to adjust the group total, taking advantage of the steady increase from 2009 onwards to fit a simple linear regression. The original 2008 Export of Services value was then replaced by the constant parameter from the regression, and the ratio between this constant parameter and the original Export of Services value for 2008 was used to adjust 1997 to 2008.

Employment

The LFS-based estimates use the same quarter of LFS data (May to July) as DCMS used until 2010. From 2011, APS data is used in preference to LFS data, as APS provides a

larger, more robust, annually representative sample. Therefore APS-based estimates should be used from 2006, except for 2013, as explained below.

APS data calendar years were used to provide consistency with DCMS estimates from 2011 onwards. However, the 2013 APS dataset, which was incomplete at the time that this methodology was developed, covered July 2012 to June 2013. For 2013 therefore, LFS estimates were used.

For the employment time series, double conversion was required for LFS and APS data, as they varied by SIC and SOC:

- from 1997 to 2000 they were on an SOC90 basis
- from 2001 to 2010 they were on an SOC2000 basis
- from 2011 to 2013 they were on an SOC2010 basis
- from 1997 to 2008 they were on an SIC03 basis
- from 2009 to 2013 they were on an SIC07 basis

Hence both the SIC07 and SOC2010 codes defining the creative industries needed to be converted many times. The conversion process from SOC90 to SOC2000 to SOC2010 was straightforward, as factors were provided for matching at three digits (SOC90) and four digits (SOC2000 and SOC2010). However the conversion process from SIC07 to SIC03 was not straightforward; subjective choices were needed as outlined at the end of this Annex.

After conversion, the “Architecture” group showed an increase of over 200% between 2008 and 2009. The conversion between SIC07 in 2009 and SIC03 in 2008 was straightforward – a single SIC07 code (71.11) converted to a single SIC03 code (15.13% of 74.20). However, the conversion factor was based on occupations, not just the creative ones.

Comparing APS employment for SIC03 code 74.20 in 2008 and SIC07 code 71.11 in 2009 shows that for the majority of SOC2010 codes, the factor of 15.13% seems about right. However, for the four SOC2010 codes which comprise the “Architecture” creative occupations group, the conversion seems to be one-to-one, so the factor should be 1. As over 90% of the creative employment for the “Architecture” creative industries group is accounted for by the “Architecture” creative occupations group, taking 15.13% of this group prior to 2009 leads to underestimation. Rather than trying to create different conversion factors for Architecture and non-Architecture occupations, estimates prior to 2009 were adjusted, taking advantage of the steady increase from 2009 onwards to fit a simple linear regression.

The original 2008 APS value was then replaced by the constant parameter from the regression, and the ratio between this constant parameter and the original APS value for 2008 was used to adjust 1997 to 2008. Table 3a shows the adjusted employment values in brackets for the “Architecture” group, where APS and LFS values are both present (for comparison), and adjustments are only shown for APS.

After conversion, the “Design: product, graphic and fashion design” group also showed a large increase between 2008 and 2009. The cause was the same as for “Architecture” – conversion between a single SIC07 code (74.1) and a single SIC03 code (8.273% of 74.8), leading to a conversion factor calculated over all occupations which is not suitable for the “Design: product, graphic and fashion design” creative occupations group.

As over 80% of the 2009 estimation of creative employment for the “Design: product, graphic and fashion design” creative industries group is accounted for by the “Design: product, graphic and fashion design” creative occupations group, taking 8.273% of this leads to underestimation prior to 2009. Rather than trying to create different conversion factors for

Design and non-Design occupations, estimates prior to 2008 were adjusted, taking advantage of the steady increase from 2009 onwards to fit a simple linear regression.

The original 2008 APS value was then replaced by the constant parameter from the regression, and the ratio between this constant parameter and the original APS value for 2008 was used to adjust 1997 to 2008.

After conversion, total creative employment showed a large increase between 2000 and 2001. This increase was not due to any specific industry, many showing large increases, and so was assumed to be an artefact of the conversion from SOC90 to SOC2000. As such, estimates prior to 2001 were adjusted, taking advantage of the steady increase from 2001 onwards to fit a simple linear regression. The original 2000 LFS value was then replaced by the constant parameter from the regression, and the ratio between this constant parameter and the original LFS value for 2000 was used to adjust 1997 to 1999.

Detailed notes of conversion from SIC07 to SIC03 for GVA

1. The “Crafts” group consists of the SIC07 code 32.12 – this converts directly to the SIC03 code 36.22. However, GVA values were only available for 36.22 from 1997 to 2001 – only GVA values for 36.2 were available from 2002 to 2007. To estimate the missing values, a 3x1 moving average of the ratio of GVA values from 36.22 and 36.2 was rolled forwards from 2002 to 2007. These ratios were applied to the GVA values for 36.2.
2. The “Design: product, graphic and fashion design” group consists of the SIC07 code 74.10 – in the consultation document this was also referred to as 74.1. These equivalent SIC07 codes convert to different SIC03 codes – 74.1 to 74.8, and 74.10 to 74.87. The differences between GVA values based on 74.8 and 74.87 were small except in 2007, when the value for 74.87 stood out as a clear error (it was too small by a factor of 10). Hence SIC07 code 74.1 was used for accuracy.
3. The “Film, TV, video, radio and photography” group includes SIC07 codes 59.11, 59.12, 59.13 and 59.14 – in the consultation document these were also combined as 59.1. These equivalent SIC07 codes convert to different SIC03 codes – 59.1 to 92.1 and 92.2, and 59.11-59.14 to four SIC03 codes. The differences between GVA values based on these alternative SIC03 codes were very small – this was assumed to be due to rounding. Hence SIC07 code 59.1 was used for robustness.
4. The “Film, TV, video, radio and photography” group includes SIC07 codes 60.1 and 60.2 – in the consultation document these were also combined as 60. These equivalent SIC07 codes convert to different SIC03 codes – 60 to 64 and 92, 60.1 and 60.2 to 64.2 and 92.2. The different SIC03 codes made a large difference to GVA values. GVA values based on 64 and 92 increased smoothly over time, except for a slight downturn in 2006 and 2007, but were too small compared with GVA values for 2008 to 2011. GVA values based on 64.2 and 92.2 were more volatile over time, and showed a larger drop in 2006 and 2007, but were of a similar size (and volatility) to GVA values from 2008 to 2012. Hence SIC07 codes 60.1 and 60.2 were used for consistency.
5. The “Film, TV, video, radio and photography” group includes SIC07 code 74.20 – in the consultation document this was also referred to as 74.2. These equivalent SIC07 codes convert to different SIC03 codes – 74.2 to 74.8 and 92.4, and 74.20 to 74.81 and 92.40. The different SIC03 codes made a large difference to GVA levels – with 74.8 and 92.4 leading to smaller GVA values: too small compared with GVA values from 2008 to 2011, whereas GVA values based on 74.81 and 92.40 were of a similar size to GVA values from 2008 to 2012. Hence SIC07 code 74.20 was used for consistency.
6. The “IT, software and computer services” group includes SIC07 codes 58.21 and 58.29 – in the consultation document these were also combined as 58.2. These equivalent SIC07 codes convert to different SIC03 codes – 58.2 to 72.2 and 72.4, 58.21 and 58.29 to 72.21

and 72.40. As GVA values were not available for 72.21 until 2003, SIC07 code 58.2 was used from 1997 to 2002 for practicality. From 2003 to 2007 the different SIC03 codes made a large difference to GVA values. GVA values based on 72.2 and 72.4 were steadily increasing, but were too small compared with GVA values from 2008 to 2012. GVA values based on 72.21 and 72.40 were more volatile, but were of a similar size to GVA values from 2008 to 2001. Hence SIC07 codes 58.21 and 58.29 were used from 2003 to 2007 for consistency (this caused a small discontinuity between 2002 and 2003).

7. The “Publishing” group includes SIC07 codes 58.11, 58.12, 58.13, 58.14 and 58.19 – in the consultation document these were also combined as 58.1. These equivalent SIC07 codes convert to different SIC03 codes: 58.1 to 22.1, 22.2 and 72.4; 58.11-58.14 and 58.19 to 22.11-22.13, 22.15, 22.22 and 72.40. The different SIC03 codes made a small but consistent difference to GVA values. GVA values based on 22.1 and 22.2 and 72.4 were always smaller, and were too small compared with GVA values from 2008 to 2011. GVA values based on 22.11-22.13 and 22.15 and 22.22 and 72.40 were of a more similar size to GVA values from 2008 to 2012. Hence SIC07 codes 58.11-58.14 and 58.19 were used for consistency.
8. The “Publishing” group includes the SIC07 code 74.3 – in the consultation document this was also referred to as 74.30. These equivalent SIC07 codes convert to different SIC03 codes – 74.3 to 74.8, and 74.30 to 74.85. The different SIC03 codes made a small but consistent difference to GVA values. GVA values based on 74.85 were larger and more volatile, and GVA values based on 74.8 were of a more similar size to GVA values from 2008 to 2012. Hence SIC07 code 74.3 was used for consistency.
9. The “Museums, galleries and libraries” group consists of the SIC07 codes 91.01 and 91.02 – these convert to the SIC03 codes 75.14, 92.51 and 92.52. However, GVA values were missing for 92.51 and 92.52 from 1999 to 2002 and in 2004. To estimate the missing values, in 1999 an average of the 1997 and 1998 ratios of GVA values from 92.51 and 92.52 was used, and a 3x1 moving average was then rolled forwards from 2000 to 2002. For 2004 an average of the 2003 and 2005 ratios was used. These ratios were applied to the GVA values for 92.5 (minus the GVA values for 92.53) – however, the GVA value for 92.5 was also missing for 2002: this was estimated by fitting a linear regression to the GVA values for 92.5 from 2003 to 2007.
10. The “Music, performing and visual arts” group includes SIC07 code 59.20 – in the consultation document this was also referred to as 59.2. These equivalent SIC07 codes convert to different SIC03 codes – five different codes each. The different SIC03 codes made a large difference to GVA values. GVA values based on the SIC03 codes converting to 59.20 were of a more similar size and volatility to GVA values from 2008 to 2012. GVA values based on the SIC03 codes converting to 59.2 smoothly increased over time, but were too large compared with GVA values for 2008 to 2012. Hence SIC07 code 59.20 was used for consistency.
11. The “Music, performing and visual arts” group includes SIC07 codes 90.01, 90.02, 90.03, and 90.04 – in the consultation document these were also combined as 90. These equivalent SIC07 codes converted to different SIC03 codes: 90 to 92; and 90.01-90.04 to 92.31-32, 92.34 and 92.40. The different SIC03 codes made a large difference to GVA values. GVA values based on 92 were smaller (by a factor of two), and too small compared with GVA values from 2008 to 2012. GVA values based on 92.31-32 and 92.34 and 92.40 were of a more similar size to GVA values from 2008 to 2012. Hence SIC07 codes 90.01, 90.02, 90.03, and 90.04 were used for consistency.

Detailed notes of conversion from SIC07 to SIC03 for Export of Services (EoS)

1. The “Architecture” group consists of the SIC07 code 71.11 – which can be disaggregated into 71.111 and 71.112. These equivalent SIC07 codes convert to different SIC03 codes

– 71.11 to 74.20, and 71.11/1 and 71.11/2 to SIC03 codes 74.201 and 74.202³. The different SIC03 codes made a large difference to EoS values. EoS values based on 74.20 showed a gradual and consistent increase over time, but were far too large compared with EoS values from 2009 to 2011. EoS values based on 74.201 and 74.202 led to smaller values, and far less of a discontinuity with EoS values from 2009 to 2012. Hence SIC07 codes 71.111 and 71.112 were used for consistency.

2. The “Design: product, graphic and fashion design” group consists of the SIC07 code 74.10 – in the consultation document this was also referred to as 74.1. These equivalent SIC07 codes convert to different SIC03 codes – 74.1 to 74.8, and 74.10 to 74.87⁴. As EoS values were not available for 74.87 until 2003, SIC07 code 74.1 was used from 1997 to 2002 for practicality. From 2003 to 2008 the different SIC03 codes made a large difference to EoS values. EoS values based on 74.8 led to fairly stable values, but were (£85M) too large compared with EoS values from 2009 to 2012. EoS values based on 74.87 were very volatile, and were (£65M) too large compared with EoS values from 2009 to 2011. Given 2009 marked the start of the recession, and a drop would be expected, SIC07 code 74.1 was also used from 2003 to 2008 for accuracy.
3. The “Film, TV, video, radio and photography” group includes SIC07 codes 59.11, 59.12, 59.13, and 59.14 – in the consultation document these were also combined as 59.1. These equivalent SIC07 codes convert to different SIC03 codes – 59.1 to 92.1 and 92.2, and 59.11-59.14 to four SIC03 codes. The different SIC03 codes made very little or no difference to values – this was assumed to be due to rounding. Hence SIC07 code 59.1 was used for robustness.
4. The “Film, TV, video, radio and photography” group includes SIC07 codes 60.1 and 60.2 – in the consultation document these were also combined as 60. These equivalent SIC07 codes convert to different SIC03 codes – 60 to 64 and 92, 60.1 and 60.2 to 64.2 and 92.2. The different SIC03 codes made a large difference – EoS values on 64 and 92 were larger, far more stable, and of a more similar size to EoS values from 2009 to 2011. Hence SIC07 code 60 was used for accuracy and consistency.
5. The “Film, TV, video, radio and photography” group includes SIC07 code 74.2 – in the consultation document this was also referred to as 74.20. These equivalent SIC07 codes convert to different SIC 03 codes – 74.2 to 74.8 and 92.4, and 74.20 to 74.81 and 92.40. The different SIC03 codes made a large difference to EoS values. EoS values based on 74.8 and 92.4 were larger and of a more similar size to EoS values from 2010 to 2012. EoS values based on 74.81 and 92.40 were more volatile and of a more similar size to the 2009 EoS value. Given 2009 marked the start of the recession, and a drop would be expected, SIC07 code 74.2 was used for accuracy and continuity.
6. The “IT, software and computer services” group includes 58.21 and 58.29 – in the consultation document these were also combined as 58.2. These equivalent SIC07 codes convert to different SIC03 codes – 58.2 to 72.2 and 72.4, 58.21 and 58.29 to 72.21⁵ and 72.40. As EoS values were not available for 72.21 until 2003, SIC07 code 58.2 was used from 1997 to 2002 for practicality. From 2003 to 2008 the different SIC03 codes made a large difference to EoS values – with 72.21 and 72.40 leading to larger and more volatile EoS values: too large compared to EoS values from 2009 to 2012. Hence SIC07 code 58.2 was also used from 2003 to 2008 for accuracy and consistency.

³ Values for GVA, LFS and APS were not available for SIC03 codes 74.201 and 74.202, so this conversion was not considered elsewhere.

⁴ Values for LFS and APS were not available for SIC03 code 74.87, so this conversion was not considered elsewhere.

⁵ Values for LFS and APS were not available for SIC03 code 72.21, so this conversion was not considered elsewhere.

7. The “Publishing” group includes SIC07 codes 58.11, 58.12, 58.13, 58.14 and 58.19 – in the consultation document these were also combined as 58.1. These equivalent SIC07 codes match to different SIC03 codes: 58.1 to 22.1, 22.2 and 72.4; 58.11-58.14 and 58.19 to 22.11-22.13, 22.15, 22.22 and 72.40. The different SIC03 codes made a small but consistent difference – EoS values based on 22.1, 22.2 and 72.4 were larger and of a more similar size to EoS values from 2009 to 2012. Hence SIC07 code 58.1 was used for consistency.
8. The “Publishing” group includes SIC07 code 74.30 – in the consultation document this was also referred to as 74.3. These equivalent SIC07 codes match to different SIC03 codes – 74.3 to 74.8, and 74.30 to 74.85⁶. As EoS values were not available for 74.85 until 2003, SIC07 code 74.3 was used from 1997 to 2002 for practicality. From 2003 to 2008 the different SIC03 codes made a large difference – EoS values based on 74.85 were larger and of a more similar size to EoS values from 2009 to 2012. Hence SIC07 code 74.30 was used from 2003 to 2008 for consistency.
9. The “Music, performing and visual arts” group includes SIC07 code 59.20 – in the consultation document this was also referred to as 59.2. These equivalent SIC07 codes convert to different SIC03 codes – five different codes each⁷. The different SIC03 codes made a large difference – EoS values based on codes matching to 59.20 were larger, more volatile, and more similar to EoS values from 2009 to 2012. Hence SIC07 code 59.20 was used for consistency.
10. The “Music, performing and visual arts” group includes SIC07 codes 90.01, 90.02, 90.03 and 90.04 – in the consultation document these were also combined as 90. These equivalent SIC07 codes convert to different SIC03 codes: 90 to 92; and 90.01-04 to 92.31-92.32, 92.34 and 92.40. The different SIC03 codes made a large difference to EoS values. EoS values based on 92 showed a steady increase over time and were of a more similar size to EoS values from 2009 to 2012. EoS values based on 92.31-92.32, 92.34 and 92.40 were larger until 2004, but were much more volatile and were too small compared to EoS values from 2009 to 2012. Hence SIC07 code 90 was used for accuracy and consistency.

Detailed notes of conversion from SIC07 to SIC03 for Employment

1. The “Film, TV, video, radio and photography” group includes SIC07 codes 59.11, 59.12, 59.13, and 59.14 – in the consultation document these were also combined as 59.1. These equivalent SIC07 codes convert to different SIC03 codes – 59.1 to 92.1 and 92.2, and 59.11-59.14 to four SIC03 codes. The different SIC03 codes made very little or no difference to values – this was assumed to be due to rounding. Hence SIC07 code 59.1 was used for robustness.
2. The “Film, TV, video, radio and photography” group includes SIC07 codes 60.1 and 60.2 – in the consultation document these were also combined as 60. These equivalent SIC07 codes convert to different SIC03 codes – 60 to 64 and 92, 60.1 and 60.2 to 64.2 and 92.2. The different SIC03 codes made a large and consistent difference – LFS and APS values based on 64.2 and 92.2 were far larger, and of a more similar size to LFS and APS values from 2009 onwards. Hence SIC07 codes 60.1 and 60.2 was used for consistency.
3. The “Film, TV, video, radio and photography” group includes SIC07 code 74.2 – in the consultation document this was also referred to as 74.20. These equivalent SIC07 codes convert to different SIC 03 codes – 74.2 to 74.8 and 92.4, and 74.20 to 74.81 and 92.40.

⁶ Values for LFS and APS were not available for SIC03 code 74.85, so this conversion was not considered elsewhere.

⁷ Values for LFS and APS were not available for one of these codes – 74.87 – so this conversion was not considered elsewhere.

The different SIC03 codes made a huge difference. LFS and APS values based on 74.81 and 92.40 were far larger (by a factor of almost 10) and of a more similar size to LFS and APS values from 2009 onwards. Hence SIC07 code 74.20 was used for consistency.

4. The “IT, software and computer services” group includes SIC07 codes 62.01 and 62.02, which match to SIC03 codes 72.10, 72.22 and 72.40. Although values for LFS and APS were not available for SIC03 code 72.22, values were available for 72.2. As 72.2 consists of 72.21 and 72.22, LFS and APS values for 72.22 were obviously between 0 and the value for 72.2. Using these extremes in the conversion gave minimum and maximum LFS and APS values for the whole group – the maxima was still smaller than LFS and APS values from 2009 onwards, but of a more similar size. Hence SIC03 code 72.2 was used to replace 72.22 for consistency.
5. The “Publishing” group includes SIC07 codes 58.11, 58.12, 58.13, 58.14 and 58.19 – in the consultation document these were also combined as 58.1. These equivalent SIC07 codes match to different SIC03 codes: 58.1 to 22.1, 22.2 and 72.4; 58.11-58.14 and 58.19 to 22.11-22.13, 22.15, 22.22 and 72.40. The different SIC03 codes made a small but consistent difference – LFS and APS values based on 22.1, 22.2 and 72.4 were smaller and of a more similar size to LFS and APS values from 2009 onwards. Hence SIC07 code 58.1 was used for consistency.
6. The “Music, performing and visual arts” group includes SIC07 codes 90.01, 90.02, 90.03 and 90.04 – in the consultation document these were also combined as 90. These equivalent SIC07 codes convert to different SIC03 codes: 90 to 92; and 90.01-04 to 92.31-92.32, 92.34 and 92.40. The different SIC03 codes made a huge difference to LFS and APS values. LFS and APS values based on 92.31-92.32, 92.34 and 92.40 were larger (by a factor of almost five), were monotonically increasing and were of a more similar size to LFS and APS values from 2009 onwards. Hence SIC07 codes 90.01, 90.02, 90.03 and 90.04 were used for consistency and robustness.

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