Changes to the picture of the UK economy – impact of the new SIC 2007 industry classification

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Summary

The new Standard Industrial Classification (SIC 2007) which is currently being implemented in the UK, and across Europe as NACE Rev2¹, has resulted in some major classification changes. Some key business surveys are now being collected and reported on the basis of the new SIC 2007 classification, including Workforce Jobs (WFJ) and the Annual Business Inquiry (ABI). This article uses these outputs to give a first quantitative picture for key economic measures to examine the impact of the classification changes across the UK economy.

Introduction

The new SIC 2007 industry classification has been defined as a result of a European consultation, which was part of a wider United Nations (UN) review – see UN (2008). The new classification includes major changes both at the very detailed level and for higher aggregations at section level. Previous *Economic and Labour Market Review* (ELMR) articles have described these changes and the UK timetable for implementation – see Hughes (2008) and Hughes et al (2009).

Workforce Jobs data are now published on a SIC 2007 basis giving full coverage of industries in the UK economy. Industry detail is published for 2-digit divisions and to a more limited extent at a greater 3- or 4-digit detail, but only for Great Britain. Time histories back to 1978 have also been published which gives a first picture of trends for the new classification.

Economic data, including business counts, turnover and gross value added (GVA) which are collected as part of the Annual Business Survey (Inquiry)², have now been published for 2008 and 2009 on a SIC 2007 basis. The coverage of the ABI is limited to the market sector of the economy

but excludes parts of Agriculture, forestry and fishing and most of Financial services. This does not give full coverage of the economy or provide data looking back in time.

These sources will be used to give a first picture of the UK economy on the basis of the new classification and to highlight changes, for example in the share of the manufacturing and service sectors. Users are however advised not to make such comparisons on a routine basis because of the major revisions and fragmentation that has taken place both at a detailed and aggregated level. All ONS surveys and outputs will have been converted to the new SIC 2007 classification by October 2011 and users will then need to fully adopt the new classification.

Workforce Jobs across the whole economy

The business surveys which are used to collect detailed employee jobs data were converted to SIC 2007 in 2010. Implementation for the Labour Force survey (LFS) was completed towards the end of 2009, although initially this only impacted on the release of the micro datasets. Workforce Jobs (WFJ) on a SIC 2007 basis were first published in the Labour Market Statistics bulletin in July 2010 and are given by the sum of the converted Employee Jobs series and self-employment from the converted LFS. In addition there are small contributions from administrative sources for HM Forces and Government supported trainees, but these together only account for less than 1 per cent of all jobs. Quarterly seasonally adjusted Workforce Jobs estimates are published for each SIC 2007 section, which is a major improvement, particularly for services due to an increase in the number of sections. Previously, a number of sections had been combined for publication on the old SIC 2003 basis.

In addition to implementing SIC 2007; the latest Workforce Jobs estimates have been subject to other significant methodological changes, which were also implemented for the July 2010 release. These include a change in the estimation method and benchmarking to the latest Annual Business Inquiry (ABI/1) employment data, which has also been converted to SIC 2007. Details of the changes are discussed in a recent ELMR article (see Barford 2010). Revisions to employee job totals occurred between March 2006 and June 2009 as a result of the methodological changes and these are independent of any classification changes. Correlations given in this article generally exclude this time period so that differences are known to be due to classification revisions, rather than the other methodological changes.

Workforce Jobs data cover the whole economy and backcast time series have also been published, extending back to 1978. A summary of how the backcast series have been derived is given in **Box 1**. The available data on both classifications give a first insight into the impact of the classification changes across the whole economy and looking back in time. A fuller picture including National Accounts measures will be available in late 2011 when National Accounts outputs are first published on a SIC 2007 basis.

Box 1 Producing backcasts of Workforce Jobs data

Historical SIC 2003 based Employee Jobs data have been converted to SIC 2007 at a detailed industry level using conversion matrices based on an apportionment method which has been derived from dual coded employment data on the Inter-Departmental Business Register (IDBR). This is available for April 2009 and the same IDBR proportions have been applied to the series from 1978 to April 2009. This approach is consistent with that adopted by other National Statistics Institutes and in the last major classification revisions in 1992. From 2008 Q3, a micro-method was used for estimates that feed from the Short Term Employee Survey (STES). Individual survey responses given on a SIC 2003 basis were re-weighted and re-aggregated to produce SIC 2007 based estimates. This micro-method is considered to be more reliable than the conversion matrix approach used for the longer term time series. The STES was re-designed and collected on a SIC 2007 basis from 2010 Q1 and there is the possibility that some discontinuities exist relative to 2009 Q4. Further details are given by Barford (2010).

Table 1 gives a comparison of the level and share of Workforce Jobs in December 2009 for each section defined by the new and old classifications. There are considerable improvements to the available section detail within services, since SIC 2003 section K – Real estate and other business services, which accounted for over 17 per cent of UK Workforce Jobs, has been split into a number of new sections. The new SIC 2007 sections J – Information and communication, M – Professional, scientific and technical activities and N – Administrative and support services now account for 3.7, 7.4 and 7.5 per cent of UK Workforce Jobs respectively.

The overall effect of the classification changes has been that the service share of the economy has increased slightly from 81.9 per cent under SIC 2003 to 82.5 under SIC 2007 in December 2009. The effect on the share of manufacturing has been greater with a drop from 9.2 per cent under SIC 2003 to 8.4 per cent under SIC 2007. This is partly due to publishing moving to services and also parts of manufacturing such as recycling moving to section E in production. The longer term impact on the share of services and manufacturing Workforce Jobs is shown in **Figure 1**. As expected, the changes are more pronounced in 1978 when the share of jobs in manufacturing was more than double the current share.

While comparing the two classifications is often not practical at a detailed level there is reasonable correlation in content between groups of SIC 2007 and SIC 2003 sections, with the exception of SIC 2007 section J – Information and communication which has been formed from parts of three SIC 2003 sections. In a number of cases, sections have retained names or SIC 2007 titles are similar to previous SIC 2003 titles. **Figure 2** shows the number of Workforce Jobs in December 2009 using previously published SIC 2003 groupings and best matches for comparable SIC 2007 groupings. The largest difference, an increase of 0.8 million is for Transport and communication which on a SIC 2007 basis includes all of the new Information and communication section. Computer and broadcasting services are now included and this is not covered in the SIC 2003 grouping. All of the other groupings have changed by between 0.1 and 0.3 million with some gains and some losses so that the combined change is zero.

Table 1 **Workforce Jobs on SIC 2003 and SIC 2007, December 2009**

Section	SIC2007 Industry	Thousands	Per cent	Section	SIC2003 Industry	Thousands	Per cent
A	Agriculture, forestry & fishing	391	1.3%	A-B	Agriculture & fishing	480	1.6%
B-E	Production	2,887	9.4%	C-E	Production	3,025	9.8%
B	Mining & quarrying	60	0.2%	C	Mining & quarrying ¹	71	0.2%
C	Manufacturing	2,581	8.4%	D	Manufacturing	2,833	9.2%
D	Electricity, gas, steam & air conditioning	84	0.3%	E	Electricity, gas & water supply ¹	121	0.4%
E	Water supply, sewerage & waste	162	0.5%	<i>Split from section E, sewerage & waste from section O</i>			
F	Construction	2,108	6.9%	F	Construction	2,068	6.7%
G-S	Services	25,367	82.5%	G-O	Services	25,181	81.9%
G	Wholesale & retail trade	4,701	15.3%	G	Distribution ¹	4,862	15.8%
H	Transport & storage	1,460	4.7%	I	Transport & communications	1,803	5.9%
I	Accommodation & food services	1,894	6.2%	H	Hotels & restaurants ¹	1,902	6.2%
J	Information & communication	1,128	3.7%	<i>From parts of sections I, K and O</i>			
K	Financial & insurance activities	1,107	3.6%	J	Financial ¹	1,061	3.4%
L	Real estate activities	430	1.4%	K	Real estate & other business services ¹	5,318	17.3%
M	Professional, scientific & technical activities	2,282	7.4%	<i>Split from section K</i>			
N	Administrative & support services	2,317	7.5%	<i>Split from section K</i>			
O	Public administration & defence	1,760	5.7%	L	Public administration ¹	1,579	5.1%
P	Education	2,706	8.8%	M	Education ¹	2,696	8.8%
Q	Human health & social work activities	3,919	12.7%	N	Health & social work ¹	4,010	13.0%
R	Arts, entertainment & recreation	819	2.7%	O	Other personal services	1,949	6.3%
S	Other service activities	844	2.7%	<i>Split from section O</i>			
A-S	Total UK Workforce Jobs	30,753	100.0%	A-O	Total UK Workforce Jobs	30,753	100.0%

1. SIC 2003 section Workforce Jobs data estimated from published employee jobs and LFS self-employment data, adjusted to aggregations published by ONS for sections C,E; G-H; J-K and L-N.

Source: Workforce Jobs, ONS

Backcast series have been derived and published by ONS on a SIC 2007 basis and **Table 2** shows the level of jobs for these section groupings at ten year intervals back to 1979. As expected, the differences between the two classifications increase for Manufacturing in earlier years and are correspondingly less for the Service industries. Where differences are small between the two classifications, it should be noted that this is a measure of a net effect and the content may be significantly different due to movements in and out of the sections. Users are advised to be cautious about making such comparisons on a routine basis and these results are presented to help in understanding and to document the change in the picture of the economy as a result of the classification changes.

Figure 1 Share of Workforce Jobs in services and manufacturing under old and new classifications, 1978–2009

Source: Workforce Jobs, ONS

Figure 2 Number of Workforce Jobs in comparable section groupings for both classifications, December 2009

Millions, seasonally adjusted

Source: Workforce Jobs, ONS

Table 2 **Number of Workforce Jobs in comparable section groupings for both classifications, 1979–2009**

Millions, seasonally adjusted

SIC2003	Dec–1979	Dec–1989	Dec–1999	Dec–2009
Agriculture & fishing (A-B)	0.6	0.7	0.5	0.5
Energy & water (C, E)	0.7	0.4	0.2	0.2
Manufacturing (D)	7.0	5.3	4.3	2.8
Construction (F)	1.9	2.4	1.8	2.1
Distribution, hotels & restaurants (G-H)	5.6	6.4	6.7	6.8
Transport & communication (I)	1.7	1.7	1.7	1.8
Finance & business services (J-K)	3.0	4.4	5.5	6.4
Public admin, education & health (L-N)	5.7	6.4	6.8	8.3
Other services (O)	1.1	1.5	1.8	1.9
Total	27.4	29.1	29.4	30.8

SIC2007	Dec–1979	Dec–1989	Dec–1999	Dec–2009
Agriculture, forestry & fishing (A)	0.6	0.6	0.4	0.4
Mining, quarrying, electricity, gas, water supply & sewerage (B, D, E)	0.9	0.6	0.3	0.3
Manufacturing (C)	6.6	5.0	4.1	2.6
Construction (F)	2.0	2.5	1.9	2.1
Wholesale & retail trade, accommodation & food services (G, I)	5.6	6.4	6.7	6.6
Transport, information & communication (H, J)	2.3	2.3	2.5	2.6
Financial, real estate, professional & administrative services (K-N)	2.9	4.2	5.2	6.1
Public admin, education & health (O-Q)	5.7	6.4	6.9	8.4
Arts, entertainment & other (R-S)	1.0	1.3	1.6	1.7
Total	27.4	29.1	29.5	30.8

Difference	Dec–1979	Dec–1989	Dec–1999	Dec–2009
Agriculture, forestry & fishing (A)	-0.1	-0.1	-0.1	-0.1
Mining, quarrying, electricity, gas, water supply & sewerage (B, D, E)	0.2	0.1	0.1	0.1
Manufacturing (C)	-0.5	-0.3	-0.2	-0.3
Construction (F)	0.1	0.1	0.1	0.0
Wholesale & retail trade, accommodation & food services (G, I)	0.0	0.0	-0.1	-0.2
Transport, information & communication (H, J)	0.6	0.6	0.7	0.8
Financial, real estate, professional & administrative services (K-N)	-0.1	-0.2	-0.3	-0.2
Public admin, education & health (O-Q)	0.0	0.0	0.1	0.1
Arts, entertainment & other (R-S)	-0.2	-0.2	-0.2	-0.3
Total	0.0	0.0	0.1	0.0

Source: Workforce Jobs, ONS

ABI business economic data

SIC 2007 has been implemented in the Annual Business Inquiry (ABI) from 2008 reference year and final results were published in June 2010 with provisional 2009 estimates being published in November 2010. These give the first estimates of key economic measures such as turnover, gross value added (GVA), labour costs, purchases and business counts, on the basis of the new classification. The ABI covers most of the market sector, except for parts of Agriculture, forestry and fishing and Financial services, although parts of the latter are now being covered. All of the public sector is excluded so that the content of SIC 2007 sections O to S, and correspondingly SIC 2003 sections L to O, have only partial or no coverage.

Table 3 **Comparison between ABI outputs at section level on a SIC 2007 and SIC 2003 basis, 2008 reference year**

SIC2007		No of enterprises Thousand	Turnover £ billion	GVA £ billion	SIC2003		No of enterprises Thousand	Turnover £ billion	GVA £ billion	Provisional NA GVA £ billion
Mining & quarrying	B	1.2	64	36	Mining & quarrying	C	1.2	64	36	38
Manufacturing	C	131.8	503	150	Manufacturing	D	145.8	530	161	150
Electricity & gas etc	D	0.5	86	23	Electricity, gas & water	E	0.6	88	24	21
Water supply & sewerage etc	E	5.6	29	15						
Production	B-E	139.1	681	225	Production	C-E	147.6	681	222	199
Construction	F	292.8	223	85	Construction	F	252.5	205	76	81
Distribution	G	370.9	1,230	157	Distribution	G	377.5	1,232	158	147
Transport	H	72.1	138	60	Transport & Communication	I	84.2	238	93	91
Accommodation & food	I	136.5	68	32	Hotels, Catering & Restaurants	H	136.5	68	32	36
Information & communication	J	151.6	183	89						
Financial Intermediation ¹	K	n/a	n/a	n/a	Financial Intermediation ¹	J	n/a	n/a	n/a	117
Real Estate	L	75.0	44	26	Real estate, Renting & Other Business	K	699.5	443	252	303
Professional services	M	330.4	193	107						
Administrative & support services	N	155.9	153	72						
Public administration	O	n/a	n/a	n/a	Public administration	L	n/a	n/a	n/a	65
Education (part)	P	29.4	26	10	Education (part)	M	26.6	25	10	76
Health & social (part)	Q	51.5	33	21	Health & social (part)	N	54.7	36	22	94
Arts & recreation (part)	R	58.4	88	15	Other personal services (part)	O	171.4	149	39	60
Other services (part)	S	100.0	31	14						
Distribution and services	G-S	1531.7	2,187	604	Distribution and services	G-O	1550.4	2,190	606	990
Market sector (approx ¹)	A-S	1963.5	3,092	913	Market sector (approx ¹)	A-O	1950.5	3,077	904	1,270

1. The ABI survey covers most of the market services but excludes Financial services and parts of Agriculture, forestry & fishing. Total under SIC 2003 and SIC 2007 may differ due to some companies moving in or out of scope.

Source: Annual Business Inquiry, ONS

Limited SIC 2003 based ABI estimates have been produced and published by ONS for 2008 reference year only and these are shown in **Table 3** at section level compared with the new SIC 2007 based outputs. The improvement in the service sector is evident due to section K being split into sections L to N and computer services moving to the new section J Information and communication. Provisional 2008 National Accounts GVA is also included in the table on a SIC 2003 basis, to assist in understanding the ABI coverage. For sections C to I, differences between the ABI and National Accounts measures are mainly due to balancing effects. For the remaining sections, most of the differences are due to ABI not covering the non-market sector or the inclusion of imputed rent in the National Accounts for SIC 2003 section K, which is excluded from the ABI data. It is noted that the ABI totals differ for the two classifications, which is because the classification changes have resulted in some movement of businesses which are in or out of scope for the ABI.

Table 4 gives the share of the ABI market services for both classifications, showing a much reduced share of SIC 2003 section K – Real estate, renting and other business services from 42 per cent to 18 per cent for SIC 2007 section M – Professional services, a welcome improvement. The 2006 Index of Services and whole economy weights are also shown on a SIC 2003 basis to help inform the coverage of the ABI. These weights will be published on a new SIC 2007 basis in late 2011 when National Accounts outputs are first published on the basis of the new classification.

Table 4 Share of ABI market services¹ GVA on basis of SIC 2007 and SIC 2003, 2008 reference year

2006 National Accounts weights

Section	SIC2007	Share of Market Services	Section	SIC2003	Share of Market Services	Share of All Services (IoS)	Share of Whole economy (NA)
G	Distribution	26%	G	Distribution	26%	15%	11%
H	Transport	10%	I	Transport & Communication	15%	9%	7%
I	Accommodation & food	5%	H	Hotels, Catering & Restaurants	5%	4%	3%
J	Information & communication	15%					
K	Financial Intermediation	n/a	J	Financial Intermediation	n/a	10%	8%
L	Real Estate	4%	K	Real estate, Renting & Other Business	42%	31%	23%
M	Professional services	18%					
N	Administrative & support services	12%					
O	Public administration	n/a	L	Public administration	n/a	7%	5%
P	Education (part)	2%	M	Education (part)	2%	8%	6%
Q	Health & social (part)	3%	N	Health & social (part)	4%	10%	7%
R	Arts & recreation (part)	2%	O	Other personal services (part)	6%	6%	5%
S	Other services (part)	2%					
G-S	Distribution and services	100%	G-O	Distribution and services	100%	100%	75%

1. The Annual Business Survey (ABS) covers most of the market services but excludes Financial services and parts of Agriculture, forestry & fishing

Source: Annual Business Inquiry, ONS

From 2009 reference year, only SIC 2007 based data will be available for the ABI and no backcast figures have or are being produced. Extensive backcast series are being produced for the short-term surveys, including turnover from the Monthly Business survey and data will be available from 1998 reference year. SIC 2007 based balanced annual National Account outputs will be published in 2011 or later from 1992 reference year. Constant price series will also be produced, with some at a higher aggregated level being published back to 1948.

Availability of data below Section level

Below section level, only limited estimates have been produced or published for both classifications for the same time periods. Some ABI data have been published for 2008 reference year – see **Box 2**. The industry detail is limited to that used in the National Accounts Supply and Use Tables (SUTs), and due to disclosure issues some cells have been suppressed and cannot be published on a SIC 2003 basis. Detailed ABI/1 employment statistics at a Great Britain level have been produced on the basis of both classifications and this is available to NOMIS users at www.nomisweb.co.uk/Default.asp.

Box 2 Disclosure checking ABI data across two classifications

Methodological challenges exist with publishing outputs on both classifications for the same reference period since disclosure checking across the two classifications needs to be considered. To date no exact method has been developed by any of the National Statistic Institutes across the world, to allow this to be implemented at a very detailed SIC level. ONS has developed a conservative method to allow higher level aggregations to be checked and published.

2003 based ABI data have been estimated for 2008 reference year and this data has been disclosure checked across the two classifications and where it is non-disclosive this has now been published for key outputs including business count, turnover and GVA. See www.statistics.gov.uk/statbase/Product.asp?vlnk=7381

Workforce Jobs statistics are now being published on a SIC 2007 basis with backcast section estimates being available from 1978. Below section level, ONS produce Employee Jobs data for most 2-digit SIC divisions and while these are not published, they are available to users on request. Estimates for some limited industries below 2-digit, are also produced at a GB level. These are available on both classification bases from 1996 reference year and are consistent with the recent methodological changes introduced at the same time as the classification change (see Box 1). Note that due to these methodological changes, users should not compare published SIC 2007 data with any SIC 2003 based data published prior to July 2010.

Using mainly ABI outputs, comparisons of outputs at detailed 2–digit industries or below are included in the next section to demonstrate the level of fragmentation that has occurred and to highlight some improvements arising from the new classification. These include selected industries in the manufacturing sector, the new business services industries and water and sewerage where there have been significant changes.

Selected manufacturing industries

Table 5 gives the ABI output of selected manufacturing industries which are of policy interest to the Department for Business, Innovation and Skills (BIS) on a new SIC 2007 basis, together with the corresponding codes on a SIC 2003 basis where a majority or significant part of the old industry contributes to the new classification. In a number of cases, previous 3–digit industries have now become 2–digit industries under SIC 2007 or vice-versa. As shown in Table 5, an example of this in the manufacturing sector is the Pharmaceutical industry which is now defined as a 2–digit SIC but under SIC 2003 was defined in terms of a 3–digit code. Table 5 shows that due to the classification changes the industry is now smaller on all measures under SIC 2007 than under SIC 2003.

Figure 3 shows the fragmentation that has occurred to SIC 2003 code 24.4 – Manufacture of pharmaceuticals, medicinal chemicals and botanical products. While the majority of businesses with their turnover and employment activity have been retained in the new SIC 2007 Pharmaceutical industry, 12 per cent of businesses have been moved out of this industry into SIC 2007 code 32.5 – Manufacture of medical and dental instruments and supplies. In turnover and employment terms this is about 3 or 4 per cent of SIC 2003 code 24.4. In the case of Pharmaceuticals there has only been a two way split and no additional businesses have been added into the SIC 2007 code from other SIC 2003 codes, which is often the case.

The second example in Table 5, SIC 2007 code 26 – Manufacture of computer, electronic and optical products, illustrates a different fragmentation where the majority of three SIC 2003 2–digit codes, together with part of a fourth have been combined to form a new 2–digit SIC 2007 code.

Figure 4 shows that a small part, less than 1 per cent, also comes from two other SIC 2003 codes 24 and 36. SIC 2003 code 30 – Manufacture of office machinery and computers, has now been fragmented into a number of 3–digit codes under SIC 2007.

For the remaining industries shown in Table 5 between 95 and 100 per cent of the content for the new SIC 2007 industries come from the SIC 2003 industry listed. In the last two cases, Building of ships and Manufacture of aircraft the new SIC 2007 classification gives a split between manufacturing and repair of the equipment. Note that while 100 per cent of the content of the new group or class may come from the listed SIC 2003 group, all of the content of that group may not have moved to the SIC 2007 industries listed. For these cases, less than 1 per cent has moved to other classes.

Table 5 ABI output of selected 2–digit manufacturing industries defined under SIC 2007 with an indication of contributions from corresponding SIC 2003 industries, 2008

SIC Industry			ABI (UK)		ABI (GB)	
			Number of enterprises	Total turnover £ million	GVA £ million	Employee jobs Thousand
SIC 2007	21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	375	15,184	8,643	42.1
<i>Includes majority of</i>						
SIC 2003	24.4	Manufacture of pharmaceuticals, medicinal chemicals and botanical products	464	16,338	9,048	46.7
SIC 2007	26	Manufacture of computer, electronic and optical products	7,099	21,607	8,433	138.7
<i>Includes majority of</i>						
SIC 2003	30	Office machinery & computers	1,047	2,839	1,037	18.8
SIC 2003	32	Manufacture of Radio, Television and Communication Equipment and Apparatus	2,595	9,369	3,443	54.7
SIC 2003	33	Manufacture of Medical, Precision and Optical Instruments, Watches and Clocks	4,776	14,542	6,043	110.9
<i>And part of</i>						
SIC 2003	31	Manufacture of Electrical Machinery and Apparatus n.e.c.	4,876	15,252	5,385	100.5
SIC 2007	29	Manufacture of motor vehicles, trailers and semi-trailers	3,319	50,817	10,366	162.9
<i>Includes majority of</i>						
SIC 2003	34	Motor vehicles	3,012	49,310	9,857	152.0
SIC 2007	30.1	Building of ships and boats	1,089	2,774	927	24.0
SIC 2007	33.15	Repair and maintenance of ships and boats	431	1,167	429	11.0
<i>Includes majority of, split from</i>						
SIC 2003	35.1	Shipbuilding and repair	1,523	3,942	1,357	35.0
SIC 2007	30.3	Manufacture of air and spacecraft and related machinery	379	18,361	6,868	82.6
SIC 2007	33.16	Repair and maintenance of aircraft and spacecraft	239	4,023	1,655	20.5
<i>Includes majority of, split from</i>						
SIC 2003	35.3	Aircraft and spacecraft	580	21,871	8,422	102.0

Source: Annual Business Inquiry, ONS

Figure 3 Fragmentation of SIC 2003 code 24.4 – Manufacture of pharmaceuticals, medicinal chemicals & botanical products, December 2009

Source: IDBR conversion matrices, ONS

Figure 4 Composition of SIC 2007 code 26 – Manufacture of computer, electronic & optical products

Source: IDBR conversion matrices, ONS

Professional and business services

A major improvement in services has been the split of SIC 2003 section K – Real estate, renting and other business activities into four new sections (see Table 1). **Table 6** shows the output within these new sections at a 2-digit division level. The majority of the content for sections L to N has come from the old SIC 2003 section K. However, the new section J – Information and communication includes content from Manufacturing (publishing) and Other services (Film and TV) with Computer services coming from section K. There has been a lot of fragmentation of the old SIC 2003 content and in a number of cases 3-digit groups have now become 2-digit classes, which is a welcome improvement.

Table 6 **Detailed content of new Information & communication and Business services sections, 2008**

SIC2007	Description	No of enterprises	Turnover £ billion	GVA £ billion	Employment Thousand
J	Information and communication	152,000	183	90	1,125
58	Publishing activities	12,000	21	11	172
59	Motion picture & TV programme production etc	15,000	15	2	115
60	Programming and broadcasting activities	2,000	8	4	21
61	Telecommunications	6,000	64	29	215
62	Computer programming & consultancy etc	110,000	68	40	541
63	Information service activities	8,000	8	5	62
L	Real estate activities	75,000	45	n/a	419
M	Professional, scientific and technical activities	330,000	199	111	1,937
69	Legal and accounting services	62,000	44	34	569
70	Activities of head offices; management consultancy	117,000	46	24	435
71	Architectural, engineering & technical testing etc	69,000	47	26	449
72	Scientific research and development	4,000	19	7	108
73	Advertising and market research	17,000	26	11	152
74	Other professional, scientific & technical activities	59,000	16	8	180
75	Veterinary activities	3,000	2	1	45
N	Administrative and support service activities	156,000	152	70	2,240
77	Rental and leasing activities	16,000	25	13	158
78	Employment activities	20,000	37	23	884
79	Travel agency, tour operator & reservation etc	7,000	36	5	101
80	Security and investigation activities	6,000	7	5	181
81	Services to buildings and landscapes activities	30,000	15	8	558
82	Office administrative, office & other support etc	76,000	33	16	358

Source: Annual Business Inquiry

However, because of these changes and the degree of fragmentation, it is not possible to compare the activity for the same reference period for both classifications. Using 2007 SIC 2003 ABI outputs, **Table 7** gives an indication of where a reasonable portion of the new content comes from.

Table 7 SIC 2003 outputs which give reasonable mapping into new SIC 2007 sections J and L–N, 2007

Part or all contributes to SIC 2007 division ¹	SIC 2003			Number of enterprises Thousand	Turnover £ billion	GVA £ billion	Employment Thousand
	Section	Detail	Description				
J Information and communication	<i>Reasonable mapping between SIC 2003 and SIC 2007¹</i>						
58 Publishing activities	D	22.1	Publishing	10	20	9	170
59 Motion picture & TV programme production etc	O	92.1	Motion picture and video activities	9	6	3	51
60 Programming and broadcasting activities	O	92.2	Radio and television activities	6	13	2	78
61 Telecommunications	I	64.2	Telecommunications	5	62	27	217
62 Computer programming & consultancy etc	K	72	Computer and related activities	109	69	42	599
63 Information service activities							
L Real estate activities	K	70	Real estate activities	110	55	n/a	539
M Professional, scientific and technical activities							
69 Legal and accounting services	K	74.11-12	Legal and accounting services	64	43	33	575
70 Activities of head offices; management consultancy	K	74.14	Business and management consultancy	106	35	22	342
71 Architectural, engineering & technical testing etc	K	74.2-3	Architectural, engineering & technical testing	70	45	24	445
72 Scientific research and development	K	73	Research and Development	3	13	6	102
73 Advertising and market research	K	74.13, 74.4	Market research & advertising	17	24	8	153
75 Veterinary activities	N	85.2	Veterinary activities	3	2	1	41
N Administrative and support service activities							
77 Rental and leasing activities	K	71	Renting of machinery and equipment	17	25	14	171
78 Employment activities	K	74.5	Labour recruitment and provision of personnel	18	33	24	828
79 Travel agency, tour operator & reservation etc	I	63.3	Activities of travel agencies etc	7	36	5	107
80 Security and investigation activities	K	74.6	Investigation and security activities	6	6	5	179
81 Services to buildings and landscapes activities	K	74.7	Industrial cleaning	14	8	5	455
Moved or fragmented to various SIC 2007 divisions / sections	<i>Rest of SIC 2003 74</i>						
Moved to K Financial services	K	74.15	Management activities of holding companies	4	3	1	54
74 Other professional, scientific & technical activities	K	74.81	Photographic activities	9	1	1	27
82 Office administrative, office & other support etc	K	74.82,85-86	Packaging, secretarial, translation & call centre	4	5	3	96
Fragmented between 74 & 82	K	74.87	Other business activities nec	135	41	20	431

1. Ordered according to new SIC 2007 divisions, rather than SIC 2003 classification

Source: Annual Business Inquiry

Water and sewerage

There is a significant difference in the treatment of water and sewerage activities under the old and new classifications, which, as shown in **Table 8**, has resulted in a large shift in activity from sewerage to water under SIC 2007. Under SIC 2003; water and sewerage were assigned to different parts of the economy with water in Production and sewerage part of Services. However, the majority of businesses involved in these activities undertook both activities and so on the Inter-departmental business register (IDBR), the companies were coded to a combined dummy division and split using data from the Water Services Regulation Authority (OFWAT). This allowed the activity to be correctly assigned to production or services.

Table 8 ABI outputs for water and sewerage

SIC 2007	Description	2008 Reference year				SIC 2003	Description	2007 Reference year			
		Number of enterprises	Total turnover £ million	GVA £ million	Employment Thousand			Number of enterprises	Total turnover £ million	GVA £ million	Employment Thousand
E	Water supply, sewerage, waste management, and remediation activities	5,581	29,184	15,281	141	Total 41 & 90	Water supply, sewerage, waste management, and remediation activities	3,551	19,485	12,372	111
36	Water collection, treatment and supply	133	10,820	8,018	39	41	Collection, purification and distribution of water	127	5,546	4,510	29
37	Sewerage	948	2,350	1,804	12	90.01	Collection and treatment of sewage	1,048	6,281	4,613	23
38	Waste collection, treatment and disposal activities; materials recovery	4,368	15,906	5,404	89	90.02	Collection and treatment of other waste	2,004	7,015	2,867	51
39	Remediation activities and other waste management services	132	108	56	1	90.03	Sanitation, remediation and similar activities	372	643	382	8

Source: Annual Business Inquiry, ONS

Under SIC 2007, both activities are now part of the Production sector and are combined in the new section E Water supply, sewerage, waste management and remediation activities. The latter have also moved from services but as evidenced by Table 8 these have recorded a large increase in the number of businesses involved in these activities, partly due to register improvements. It is noted that in 2007 under SIC 2003 water and sewerage GVA was split approximately 50/50 whereas in 2008 under SIC 2007 the split is now approximately 80/20. Under SIC 2007 the companies are now assigned correctly using the dominance rule³, which is why there has been a large shift from output under sewerage to water. Under SIC 2003 the treatment of water and sewerage was in some respects inconsistent with the rest of the classification, with the OFWAT split giving more of a product or activity split rather than the industry split which would have been recorded using the standard classification rules.

These differences are also related to whether outputs are recorded on a reporting unit (RU) or local unit (LU) basis. The latter is more than likely to give a split closer to an activity or product split. The estimates shown in Table 8 are based on data collected and reported on a RU basis. However from 2009 the ABI/1 employment data has been collected under the new Business register and

employment survey which is reported on a LU basis. For 2008 and 2009 the new Business Register and Employment Survey (BRES) employment outputs shows 60/40 split between water and sewerage, which is similar to the employment recorded by ABI/1 under SIC 2003, using the OFWAT split. Note that from 2009 users are advised to be cautious in combining ABS financial outputs which are reported on a RU basis and BRES employment outputs which are now reported on a LU basis.

Users need to note that the classification change has had less impact on quarterly workforce employee statistics, because these are reported on a LU basis under both SIC 2003 and SIC 2007. Data are collected on a RU basis but apportioned to LUs using annual LU based ABI/1 or BRES data. The OFWAT apportionment was not used for WFJ SIC 2003. **Table 9** compares the Employee Jobs data for 2007 to 2009 on a SIC 2007 and SIC 2003 basis. The data for water is the same for both classifications for each of the three years. No separate estimates were published for SIC 2003 sewerage so a direct comparison cannot be given.

Table 9 Employee Jobs for water and sewerage

Four quarter average

SIC 2007	Description	2007	2008	2009	SIC 2003	Description	2007	2008	2009
E	Water supply, sewerage, waste management, and remediation activities	145	154	155	Total 41 & 90	Water supply, sewerage, waste management, and remediation activities	140	147	146
36	Water collection, treatment and supply	32	31	31	41	Collection, purification and distribution of water	32	31	31
37-39	Sewerage & Waste etc	113	124	124	90	Sewerage & refuse disposal, sanitation & similar activities	108	116	115
37	Sewerage	17	17	16					
38-39	Waste collection, treatment and disposal activities; materials recovery; Remediation activities and other waste management services	97	106	108					

Source: Workforce Jobs, ONS

Guidance for aggregations and special sector groupings

The European version of the new industrial classification NACE Rev2 does not include any provision or guidance for aggregation above section level, or for intermediate aggregations which are included as a sub-class in the SIC 2003 Production industries. The UN has however, given guidance for both higher level and intermediate aggregations in part 4 of their ISIC report – see UN (2008). **Table 10** and **Table 11** give the recommended guidance for section aggregates and sub-classes; with the latter covering some service industries as well as the production industries.

Where possible, UK users are encouraged to adopt these aggregations which will assist in providing greater coherence across SIC 2007 based outputs, both in the UK and across countries.

Table 10 UN guidance for section aggregations

	Sections	Description
1	A	Agriculture, forestry and fishing
2	B-E	Manufacturing, mining and quarrying and other industrial activities
2a	C	of which: manufacturing
3	F	Construction
4	G-I	Wholesale and retail trade, transportation and storage, accommodation and food service activities
5	J	Information and communication
6	K	Financial and insurance activities
7	L	Real estate activities
7a		of which: Imputed rent
8	M-N	Professional, scientific, technical, administrative and support service activities
9	O-Q	Public administration and defence, education, human health and social work activities
10	R-U	Other service activities

Source: Table 4.1, page 274, Part 4 of UN ISIC report – see UN (2008)

Policy departments such as BIS often need to group a number of SIC industries to define sectors of special policy interest, for example Advanced manufacturing, Knowledge intensive or Information and Communication Technology (ICT) industries. The specification of these sector groupings usually involves a number of industries defined by a mix of 2–, 3–, 4– or even 5–digit SIC industries and often there is no international agreement on content, or this may need to be varied according to availability of detailed outputs. There is however, international agreement for the ICT industries with OECD having defined the content under SIC 2003 (see www.oecd.org/dataoecd/34/37/2771153.pdf) and in collaboration with the UN this has been reviewed for SIC 2007 and published by the UN (2008).

Table 12 gives a comparison of the ICT sector using these definitions based on available ABI 2008 outputs. Since all of the required detail has not been published on both bases due to the challenge of disclosure checking across the two classifications, some of the SIC 2003 detail has been estimated by BIS. There has been considerable change in the content of the ICT sector, which is partly driven by a change in scope but also by the changes in the structure of the new classification. For example SIC 2003 industries 31.3, 33.2, 33.3, 51.43 and 71.33 have now been removed from the scope for SIC 2007 and only about half of the content of SIC 2003 industries 30, 51.84–5 and 51.86–7 are retained in the corresponding SIC 2007 industries.

Table 11 **UN guidance for intermediate aggregations (sub-sections)**

	Sub-section	Description	Classes
1	A	Agriculture, forestry and fishing	1-3
2	B	Mining and quarrying	5-9
3	CA	Manufacture of food products, beverages and tobacco products	10-12
4	CB	Manufacture of textiles, wearing apparel, leather and related products	13-15
5	CC	Manufacture of wood and paper products; printing and reproduction of recorded media	16-18
6	CD	Manufacture of coke and refined petroleum products	19
7	CE	Manufacture of chemicals and chemical products	20
8	CF	Manufacture of basic pharmaceutical products and pharmaceutical preparations	21
9	CG	Manufacture of rubber and plastics products, and other non-metallic mineral products	22-23
10	CH	Manufacture of basic metals and fabricated metal products, except machinery and equipment	24-25
11	CI	Manufacture of computer, electronic and optical products	26
12	CJ	Manufacture of electrical equipment	27
13	CK	Manufacture of machinery and equipment n.e.c.	28
14	CL	Manufacture of transport equipment	29-30
15	CM	Other manufacturing; repair and installation of machinery and equipment	31-33
16	D	Electricity, gas, steam and air conditioning supply	35
17	E	Water supply; sewerage, waste management and remediation	36-39
18	F	Construction	41-43
19	G	Wholesale and retail trade; repair of motor vehicles and motorcycles	45-47
20	H	Transportation and storage	49-53
21	I	Accommodation and food service activities	55-56
22	JA	Publishing, audiovisual and broadcasting activities	58-60
23	JB	Telecommunications	61
24	JC	IT and other information services	62-63
25	K	Financial and insurance activities	64-66
26	L	Real estate activities	68
26a		of which: Imputed rent	
27	MA	Legal, accounting, management, architecture, engineering, technical testing and analysis activities	69-71
28	MB	Scientific research and development	72
29	MC	Other professional, scientific and technical activities	73-75
30	N	Administrative and support service activities	77-82
31	O	Public administration and defence; compulsory social security	84
32	P	Education	85
33	QA	Human health activities	86
34	QB	Residential care and social work activities	87-88
35	R	Arts, entertainment and recreation	90-93
36	S	Other service activities	94-96
37	T	Activities of households as employers; undifferentiated goods and services-producing activities of households for own use	97-98
38	U	Activities of extraterritorial organizations and bodies	99

Source: Table 4.2, page 275, Part 4 of UN ISIC report – see UN (2008)

Table 12 **Changes in specification and content of ICT sector due to classification change, 2008**

SIC 2007		GVA £ million	Employment Thousand	SIC 2003		GVA £ million	Employment ¹ Thousand
New Total (UN ICT + Content & media)		100,089	1,308				
Approximate share of Whole economy²		7.7%	4.1%				
New ICT (UN/OECD specification)		83,281	989	Previous ICT (OECD specification)		98,634	1,220
Approximate share of Whole economy²		6.4%	3.1%	Approximate share of Whole economy²		7.6%	3.9%
26.1	Manufacture of electronic components and boards	1,668	31	32.1	Electronic valves and tubes and other electronic components	1,401	26
				31.3	Insulated wire and cable ³	480	9
26.2	Manufacture of computers and peripheral equipment	597	12	30	Office, accounting and computing machinery	1,037	20
26.3	Manufacture of communication equipment	1,422	27	32.2	Television, radio transmitters and apparatus	1,203	19
26.4	Manufacture of consumer electronics	723	11	32.3	TV and radio receivers, sound or video recording etc	838	14
				33.2	Instruments and appliances for measuring and navigating etc ³	3,085	57
				33.3	Industrial process equipment ³	521	10
26.8	Manufacture of magnetic and optical media	15	0				
				51.43	Wholesale of electrical household appliances ³	3,126	35
46.5	Wholesale of information and communication equipment	5,957	83	51.84-5	Wholesale of computer machinery etc ³	5,036	73
				51.86-7	Wholesale of electronics & machinery used in industry etc ³	8,267	149
58.2	Software publishing	570	12				
61	Telecommunications	28,671	215	64.2	Telecommunications services	28,689	214
				71.33	Renting of office machinery and equipment including computers ³	613	3
62	Computer programming & consultancy etc	39,377	541	72	Computer and related services	44,338	592
63.1	Data processing, hosting and related activities; web portals	3,436	39				
95.1	Repair of computers and communication equipment	845	18				
New Content and Media (UN/OECD specification)		16,808	319				
58.1	Publishing of books, periodicals and other publishing activities	9,345	160				
59	Motion picture & TV programme production etc	2,092	115				
60	Programming and broadcasting activities	3,866	21				
63.9	Other information service activities	1,505	23				

1. BIS estimates from GB estimates – ratios of available UK total

2. Unbalanced ABI GVA as share of balanced National Accounts GVA / share of ABI employment to UK total Workforce Jobs

3. BIS estimates from published 2007 detail – ratios of published 2008 aggregates

Source: BIS estimates supplementing ABI data, ONS

The other industries have a reasonable correlation but in all cases there are changes due to fragmentation of the codes on both a SIC 2003 and SIC 2007 basis. Some new content is also included under SIC 2007 notably 58.2 – software publishing, 63.1 – data processing and 95.1 – repair of computers. The Content and media sector is all new, but in size is only about a fifth of the new ICT sector. The new ICT sector is now about 6.4 per cent of the UK economy, compared with 7.6 per cent on a SIC 2003 basis. This example illustrates the improvements which arise from the new classification, but also the challenges with discontinuities and the lack of available historical time-series for the new SIC 2007 based ICT and Content and media sectors.

Summary of guidance to users

There has been considerable movement of content within most industry codes and users are advised not to compare outputs on the old SIC 2003 and new SIC 2007 basis, even at a very high aggregated level. The examples given in the article serve to illustrate the changes and warn users of the difficulties of making such routine comparisons.

Workforce Jobs estimates (WFJ) are now published on a SIC 2007 basis with Employee Jobs being published down to 2–digit SIC and with backcast series available back to 1978. Some detailed outputs are also published at a GB level for industry detail below 2–digit. From 2008 reference year, Financial and employment outputs from the Annual Business Inquiry are now published on a SIC 2007 basis for all industry details from section level down to 4– and 5– digit, with some limited outputs being published on both bases for 2008. From 2009, employment statistics are being published from the new Business Register and Employment survey (BRES).

Most ONS surveys have now been converted to SIC 2007 – see Hughes (2008) and Hughes et al (2009). It is planned that all ONS outputs will have been converted to the new classification by the autumn of 2011 when National Accounts (NA) are published on the new basis. During 2011 and 2012 it is also planned to publish backcast series of some high–level aggregated NA series back to 1948 and detailed balanced outputs for the new 114 Supply and Use (SU) industries from 1992. After this date no estimates will be published on the old SIC 2003 basis and in time the old classification will no longer be maintained in the IDBR and will become unreliable so that users will need to adopt the new classification.

During this interim period, some users may now need to combine outputs which are published on a different basis, for example Workforce Jobs and NA estimates. During this interim period some outputs which are now published on a SIC 2007 basis, are still produced by ONS on the old SIC 2003 basis. For example, non–seasonally adjusted employee jobs data are still available to users on the old SIC 2003 basis on request from ONS.

SIC 2007 classification is a major revision which has given a number of significant improvements, particularly for service industries and takes account of the changes to the UK and world economy in terms of industries which have experienced high growth or contracted in recent decades. Fragmentation of the old classification has taken place at all levels of SIC detail from sections down to detailed 2–, 3–, 4– and 5–digit codes. Users need to start adopting the new classification taking into account the changes in scope, levels and shares of the economy as illustrated in this article.

Notes

1. The European Union's industrial classification system is Nomenclature Générale des Activités Économiques dans les Communautés Européennes (NACE)
2. Until 2008, the Annual Business Inquiry (ABI) was split into an employment (ABI/1) and financial inquiry (ABI/2). From 2009 these have been replaced respectively by the Business Register and Employment Survey (BRES) and the Annual Business Survey (ABS).
3. Companies may be involved in more than one industrial activity and they are assigned to the SIC code which has the largest or dominant activity using keywords and descriptions of their business

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