

## Appendix J

### Earnings in Associate Professional and Technical occupations

#### Introduction

The 'Associate professional and technical occupations' major group category within the Standard Occupational Classification (SOC) includes two sub categories of relevance which have large enough samples of employees in the HE sector to support analysis. These are Science and engineering technicians (311) and IT service delivery occupations (313).

All of the statistics used in this section are taken from ASHE. They are derived from specially ordered tables which differentiated between those within and outside the HE sector.

ASHE statisticians provide information about the confidence intervals around estimates. We judge that these intervals for the two groups within the HE sector are too large to support analysis of earnings by gender or of quartiles, and for the same reason we cannot provide information on part-time workers. Elsewhere, if samples are small but we judge them usable with caution, we follow the practice of the ASHE statisticians by shading the relevant estimates and any indices derived from them.

#### Section 1: Associate Professional and Technical occupations in 2008

##### Full-time employees

In 2008 median gross annual earnings for those in associate professional and technical occupations in the HE sector were £25,929, and mean gross annual earnings were £27,645 (see Table 1.1). Average basic earnings were a little lower, the difference being just over £1,000 at the median and £300 at the mean.

**Table 1.1 Annual earnings of full-time staff in technical occupations, April 2008**

	Gross £	Basic £
Mean		
Technical occupations	27,645	27,316
Science and Engineering Technicians	26,623	26,362
IT Service Delivery Occupations	28,865	28,281
Median		
Technical occupations	25,929	25,872
Science and Engineering Technicians	25,116	25,116
IT Service Delivery Occupations	27,509	26,774

Source: ASHE

Science and engineering technicians in the HE sector recorded gross median earnings of £25,116 and gross mean earnings of £26,623. There was little difference between gross and basic earnings. IT service delivery technicians averaged gross earnings of £27,509 (median) or £28,865 (mean), with basic earnings around £600-£700 lower.

Table 1.2 shows gross hourly earnings figures for the group (ASHE also provides hourly estimates net of overtime, but these are little different to the hourly gross figures). Taken as a whole, those in technical occupations in the HE sector averaged £13.79 per hour at the median and £14.61 at the mean. Science and engineering technicians earned £13.37 per hour on average according to the median and £14.10 per hour according to the mean. For IT service delivery technicians hourly earnings at the median were £14.29 and the mean shows an average of £15.13 per hour. The shading indicates that the median estimates for the two groups need to be treated with caution.

**Table 1.2 Gross hourly earnings of full-time staff: Associate professional and technical occupations, April 2008**

	Median £	Mean £
Professional and technical occupations	13.79	14.61
Science and engineering technicians	13.37	14.10
IT service delivery occupations	14.29	15.13

Source: ASHE

### Part-time employees

Hourly earnings provide the only meaningful information for part-time employees, since annual figures will be influenced by the number of hours per year that the part-timer works. Unfortunately the sample size is not large enough for any meaningful analysis to be conducted for part time employees.

## Section 2 2008-based comparisons

### Full-time employees

The figures already discussed for the HE sector are compared here with the same SOC codes in the rest of the economy. Table 2.1 sets out median and mean gross annual earnings for employees in the HE sector and in the rest of the economy, and then indexes the latter against the estimates for the corresponding HE group. The table shows gross earnings inside the sector lagging those outside for technical occupations as a whole, and marginally lagging for science and engineering technicians. For IT service delivery occupations the position is less clear, but the difference is in any case slight.

**Table 2.1 Average annual gross earnings of full-time staff, technical occupations: HE sector and comparators: April 2008**

	Median		Mean	
	£pa	HE sector=100	£pa	HE sector=100
HE sector				
- associate professional and technical occupations	25,929	100	27,645	100
- Science and engineering technicians	25,116	100	26,623	100
- IT service delivery occupations	27,509	100	28,865	100
Rest of economy				
- associate professional and technical occupations	28,150	108.6	31,002	112.1
- Science and engineering technicians	25,444	101.3	27,306	102.6
- IT service delivery occupations	27,483	99.9	30,126	104.4

**Source: ASHE**

Table 2.2 sets out similar information but for basic earnings. On this basis the lag between the HE sector and the rest of the economy is reduced in the case of all occupations. For science and engineering occupations pay within the HE sector is now clearly higher than for the wider economy, and at the median this is also the case for IT technicians.

**Table 2.2 Average annual basic earnings of full-time staff, professional occupations: HE sector and comparators, April 2008**

	Median		Mean	
	£pa	HE sector=100	£pa	HE sector=100
HE sector				
- technical occupations	25,872	100	27,316	100
- Science /engineering technicians	25,116	100	26,362	100
- IT service occupations	26,774	100	28,281	100
Rest of economy				
- technical occupations	26,513	102.5	29,000	106.2
- Science /engineering technicians	23,453	93.4	24,443	92.7
- IT service occupations	26,049	97.3	28,719	101.5

**Source: ASHE**

Table 2.3 provides similar information but on the basis of hourly earnings. As with Table 2.2, HE sector pay is lower for all technical occupations but it is higher on both measures for IT technicians as well as for science and engineering technicians.

**Table 2.3 Average hourly gross earnings of full-time staff, professional occupations: HE sector and comparators**

	Median		Mean	
	£ph	HE sector=100	£ph	HE sector=100
HE sector				
- technical occupations	13.79	100	14.61	100
- Science / engineering technicians	13.37	100	14.10	100
- IT service occupations	14.29	100	15.13	100
Rest of economy				
- technical occupations	14.10	102.2	15.34	105.0
- Science / engineering technicians	12.52	93.6	13.15	93.3
- IT service occupations	13.78	96.4	15.09	99.7

Source: ASHE

### Part-time employees

As previously stated the sample size is not large enough for any analysis of part time employees.

## Section 3: Change in HE sector professionals' earnings over time

### Full-time employees

**Table 3.1 HE Sector median gross annual earnings, April 2001-2008**

	Technical occupations			Science / engineering technicians			IT service occupations			RPI	
	£pa	Index 1	Index 2	£pa	Index 1	Index 2	£pa	Index 1	Index 2	Index 1	Index 2
2001	19,997	29.7		18,713	34.2		22,363			23.6	
2002	20,105	29.0	0.5	19,675	27.7	5.1	21,116	30.3	0.0	21.8	1.5
2003	21,558	20.3	7.8	21,060	19.3	12.5	21,336	28.9	1.0	18.1	4.7
2004	22,949	13.0	14.8	21,523	16.7	15	23,268	18.2	10.2	15.2	7.3
2005	23,271	11.4	16.4	22,597	11.1	20.7	23,325	17.9	10.5	11.7	10.7
2006	23,442	10.6	17.2	22,848	9.9	22.1	23,442	17.3	11.0	8.9	13.5
2007	25,178	3.0	25.9	24,386	3.0	30.3	25,345	8.5	20.0	4.2	18.7
2008	25,929		29.7	25,116		34.2	27,509		30.3		23.6

Source: ASHE

Note: for IT technicians index 2 begins in 2002, not 2001.

Index 2 shows % increase from 2001 to the year shown. Index 1 shows % increase from the year shown to 2008.

Table 3.1 shows the movement in gross median earnings for employees in associate professional and technical occupations, science and engineering technical jobs and IT service delivery occupations, within the HE sector. Price movements (as measured by the Retail Prices Index) are shown for comparison. For associate professional and technical occupations as a whole, earnings rose from £19997 in 2001 to £25929 in 2008, a 29.7% increase. For science and engineering technicians, earnings rose by 34.2% from £18713 in 2001 to £25116 in 2008. For IT service delivery occupations, earnings rose by 30.3% from £21116 in 2001 to £27509 in 2008. We consider the IT group over this shorter period because of a change in the occupational classification between 2001 and 2002. The period 2002-8 provides a more consistent basis for examining change over time. The technical occupations group as a whole was also affected by the definitional changes between 2001 and 2002 (hence the very small increase in earnings 2001-2), and so again the 2002-8 earnings change of 29.0% is a more robust estimate.

**Table 3.2 Mean gross annual earnings, April 2001-2008**

	Technical occupations			Science / engineering technicians			IT service occupations			RPI	
	£pa	Index 1	Index 2	£pa	Index 1	Index 2	£pa	Index 1	Index 2	Index 1	Index 2
2001	20,848	32.6		19,776	34.6		23,929			23.6	
2002	21,151	30.7	1.5	20,124	32.3	1.8	22,185	30.1		21.8	1.5
2003	22,212	24.5	6.5	21,129	26.0	6.8	22,818	26.5	2.9	18.1	4.7
2004	23,211	19.1	11.3	21,977	21.1	11.1	23,311	23.8	5.1	15.2	7.3
2005	23,970	15.3	15.0	22,874	16.4	15.7	25,222	14.4	13.7	11.7	10.7
2006	24,193	14.3	16.0	23,625	12.7	19.5	25,533	13.0	15.1	8.9	13.5
2007	26,315	5.1	26.2	25,423	4.7	28.6	26,555	8.7	19.7	4.2	18.7
2008	27,645		32.6	26,623		34.6	28,865		30.1		23.6

**Source: ASHE**

Note: for IT technicians index 2 begins in 2002, not 2001.

Index 2 shows % increase from 2001 to the year shown. Index 1 shows % increase from the year shown to 2008.

Table 3.2 uses the mean measure rather than the median. It records a slightly larger increase for the major group as a whole – 32.6% over the period from 2001 – 2008 and 30.7% for 2002 - 2008. The figures for Science and engineering technicians show marginally faster growth at 34.6%, and IT service delivery technicians marginally slower growth of 30.1% for 2002-8.

Tables 3.3 and 3.4 show median and mean growth of basic earnings. They are provided for the sake of completeness, without commentary, since the trends closely mirror those for gross earnings.

**Table 3.3 Median basic annual earnings, April 2001-2008**

	Technical occupations			Science/engineering technicians			IT service occupations			RPI	
	£pa	Index 1	Index 2	£pa	Index 1	Index 2	£pa	Index 1	Index 2	Index 1	Index 2
2001	19,044	35.9		18,744	34.0		22,575			23.6	
2002	19,595	32.0	2.9	19,678	27.6	5.0	19,718	35.8		21.8	1.5
2003	20,811	24.3	9.3	20,773	20.9	10.8	21,235	26.1	7.7	18.1	4.7
2004	22,066	17.2	15.9	21,487	16.9	14.6	22,848	17.2	15.9	15.2	7.3
2005	22,678	14.1	19.1	22,139	13.4	18.1	23,479	14.0	19.1	11.7	10.7
2006	23,218	11.4	21.9	22,759	10.4	21.4	23,442	14.2	18.9	8.9	13.5
2007	24,574	5.3	29.0	24,386	3.0	30.1	24,652	8.6	25.0	4.2	18.7
	25,872		35.9	25,116		34.0	26,774		35.8		23.6

Source: ASHE

Note: for IT technicians index 2 begins in 2002, not 2001.

Index 2 shows % increase from 2001 to the year shown. Index 1 shows % increase from the year shown to 2008.

**Table 3.4 Mean basic annual earnings, April 2001-2008**

	Technical occupations			Science / engineering technicians			IT service occupations			RPI	
	£pa	Index 1	Index 2	£pa	Index 1	Index 2	£pa	Index 1	Index 2	Index 1	Index 2
2001	20,388	34.0		19,456	35.5		23,466			23.6	
2002	20,638	32.4	1.2	19,684	25.8	1.2	21,393	32.2		21.8	1.5
2003	21,733	25.7	6.6	20,591	20.3	5.8	22,370	26.4	4.6	18.1	4.7
2004	22,633	20.7	11.0	21,560	14.9	10.8	22,915	23.4	7.1	15.2	7.3
2005	23,438	16.5	15.0	22,478	10.2	15.5	24,926	13.5	16.5	11.7	10.7
2006	23,807	14.7	16.8	23,202	6.8	19.3	25,257	12.0	18.1	8.9	13.5
2007	26,013	5.0	27.6	25,131		29.2	26,190	8.0	22.4	4.2	18.7
2008	27,316		34.0	26,362		35.5	28,281		32.2		23.6

Source: ASHE

Note: for IT technicians index 2 begins in 2002, not 2001.

Index 2 shows % increase from 2001 to the year shown. Index 1 shows % increase from the year shown to 2008.

**Table 3.5 Median gross hourly earnings April 2001-2008**

	Technical occupations			Science / engineering technicians			IT service occupations			RPI	
	£ph	Index 1	Index 2	£ph	Index 1	Index 2	£ph	Index 1	Index 2	Index 1	Index 2
2001	10.27	34.3		9.34	43.1		12.35			23.6	
2002	10.44	32.1	1.7	9.82	36.2	5.1	11.69	22.2		21.8	1.5
2003	11.12	24.0	8.3	10.36	29.1	10.9	11.97	19.4	2.4	18.1	4.7
2004	11.6	18.9	13.0	10.57	26.5	13.2	12.85	11.2	9.9	15.2	7.3
2005	12.08	14.2	17.6	11.22	19.2	20.1	12.9	10.8	10.4	11.7	10.7
2006	12.15	13.5	18.3	11.45	16.8	22.6	13.43	6.4	14.9	8.9	13.5
2007	13.35	3.3	30.0	13.09	2.1	40.1	13.30	7.4	13.8	4.2	18.7
2008	13.79		34.3	13.37		43.1	14.29		22.2		23.6

Source: ASHE

Note: for IT technicians index 2 begins in 2002, not 2001.

Index 2 shows % increase from 2001 to the year shown. Index 1 shows % increase from the year shown to 2008.

Table 3.5 shows a change in median gross hourly earnings for associate professional and technical occupations as a whole at 32.1% between 2002 and 2008 (bearing in mind that the data for change from 2001 are less reliable for the group as a whole), from £10.44 per hour to £13.79 per hour. For science and engineering technicians, the increase between 2001 and 2008 was 43.1%, from £9.34 per hour to £13.37 per hour (and 36.2% from 2002). For IT service delivery occupations the increase between 2002 and 2008 was 22.2% with a rise from £11.69 to £14.29.

Recorded growth at the mean for associate professional and technical occupations as a whole was similar to the median with a rate of 33.4% (2002-8). Mean growth for science and engineering technicians was slightly lower at 40.7% (2001-8) or 30.6% (2002-8). For IT service delivery technicians it stood at 21.9% for 2002-8.

**Table 3.6 Man gross hourly earnings April 2001-2008**

	Technical occupations			Science/engineering technicians			IT service occupations			RPI	
	£pa	Index 1	Index 2	£pa	Index 1	Index 2	£pa	Index 1	Index 2	Index 1	Index 2
2001	10.85	34.7		10.02	40.7		13.62			23.6	
2002	10.95	33.4	0.9	10.16	30.6	1.4	12.41	21.9		21.8	1.5
2003	11.52	26.8	6.2	10.62	25	6.0	12.89	17.4	3.9	18.1	4.7
2004	11.99	21.9	10.5	11.09	19.7	10.7	13.23	14.4	6.6	15.2	7.3
2005	12.56	16.3	15.8	11.69	13.5	16.7	14.47	4.6	16.6	11.7	10.7
2006	12.68	15.2	16.9	12.06	10	20.4	14.59	3.7	17.6	8.9	13.5
2007	13.87	5.3	27.8	13.46		34.3	13.85	9.2	11.6	4.2	18.7
	14.61		34.7	14.10		40.7	15.13		21.9		23.6

**Source: ASHE**

Note: for IT technicians index 2 begins in 2002, not 2001.

Index 2 shows % increase from 2001 to the year shown. Index 1 shows % increase from the year shown to 2008.

#### **Section 4: Comparisons of change for professional occupational groups, 2001-2008**

[Note that the tables for this section are necessarily large, and so each is printed on a separate page: no figures are provided for part-timers, since the samples for were small and therefore unstable]

The comparisons made in this part of the paper are based on what has been referred to in previous tables as 'Index 1', whereby percentage change in earnings is shown for each year to 2008. Because of the change in definition of occupations considered here between the 2001 and 2002 statistics, the comparison is based on change between 2002 and 2008.

Tables 4.1 and 4.2 relate to gross annual earnings. They show that earnings growth within the HE sector was significantly greater than outside. This was particularly the case for IT technicians, where growth within HE of 30.3% compares with growth outside of only 2.7%. For scientific and engineering technicians growth within HE of 27.7% compares with growth outside of 20.6%. For technical occupations as a whole, the comparative figures are 29.0% and 17.3%. The gaps are similar for the mean figures shown in Table 4.2.

Tables 4.3 and 4.4 concern basic earnings. Generally they confirm the findings reported above. For IT technicians and technical occupations as a whole earnings growth within the HE sector is higher than on the gross annual earnings measure, and so the lead over comparators outside the sector are greater (35.8% against 4.3% for IT technicians, 32.0% against 17.8% for all technical occupations, at the median). For scientific and engineering technicians, though, basic earnings growth was 27.6% within the sector and 25.9% outside on the median measure (the difference was more at the mean, as Table 4.4 shows).

Gross hourly earnings are shown in Tables 4.5 and 4.6. Again, the tables show that for each of the three groups, earnings growth within the HE sector was greater than outside the

sector. The figures are not dissimilar to those for the measures already discussed. On the hourly measure growth recorded by IT technicians was lower within the HE sector than on the other measures, but still well ahead of the minimal growth recorded outside the sector. On the other hand, HE scientific and engineering technicians recorded higher growth on this measure (36.2% at the median) than on the other measures.

The unambiguous conclusion is that, for the occupations reviewed here, earnings growth was greater inside the HE sector than outside.