

# The truth, the whole damned lies and nothing but statistics



Employment expert **Trevor Gilbert** examines the use of the Annual Survey of Hours and Earnings percentiles, quartiles, median and mean values to link earnings to career progression and concludes that awards for loss of earnings based solely on this cannot reflect the true position.

The Annual Survey of Hours and Earnings (ASHE), which replaced the New Earnings Survey (NES) in October 2004, is provided by the Office for National Statistics (ONS) and is the main source of data on the distribution of earnings in the UK. It is mostly based on a one per cent sample of employees who are members of PAYE income tax schemes. The survey is produced annually and released in October of each year, with the prior 5 April as the reference point.

In order to obtain the data a questionnaire is sent to employers asking for the employee's duration of employment, job title, job description, basic pay received, basic hours worked, overtime, shift premiums, bonus/incentive pay, whether an employee was paid at a reduced rate for reasons of training or age, and other matters relating to pension and benefits.

One of the major changes in 2004, which has had the biggest impact, is the change to focusing on the median figure for earnings.

The first critical question is 'why do some employment experts refer to the mean and others the median?' It is important to repeat the ASHE guidance notes: "The mean and the median measure different things and can both be appropriate measures depending on what the user is trying to measure. The mean measures the average amount earned by individuals within a domain. In a skew distribution, such as earnings, this measure is susceptible to small numbers of very high earners. The median measures the amount earned by the typical individual within a domain. *Since the majority of users seem to be interested in the amount that the typical individual earns, this makes the median a more appropriate measure to focus on than the mean*" (my emphasis).

To illustrate the difference, the mean value for a male hotel and accommodation manager is shown in ASHE 2008, Table 14.1a (male full time employees) as £626.80 gross per week, whereas the median value is actually £487.20 gross per week, a difference of £139.60. Likewise, under the classification of *Solicitors and lawyers, judges and coroners*, the mean is £1,150.20 compared to the median of £958.20, a difference of £192 per week.

Similarly, teaching professionals show a mean pay of £784.70 and median of £728.10, neither of which take into account whether they are qualified or not, or starting points as set out in their national pay agreement. For example, the starting point on the band for inner London is £480.76, and outside London it is £396.67, in both cases significantly below either the mean or the median.

To confuse matters even further, the occupational classification *Male special needs education teaching professionals* show mean pay of £709.80 and a median of £686, yet for females in the same category the mean is £635 and the median is £657. However this is unusual, and probably reflects the size of the sample. On the whole, mean values are higher than median.

The following example sets out with stark clarity the difference between median and mean

values (in this case *Female personnel, training and industrial relations managers*) and the consequences of referring to either (data taken from Table 14.1a 2008 ASHE, updated by the average increase in earnings to reflect 2009 values):

Mean gross weekly pay	Median gross weekly pay
828.00	730.60

There is a difference of £97.40 gross per week, or £5,074.80 per annum. If a multiplier of 15 is applied, for example, reference to the mean value results in an over-statement of £76,000, which distorts the true value of losses as the median is the preferred and more appropriate measure.

Each ASHE occupation is allocated a Standard Occupational Classification (SOC) code, but occupations within each classification are not always obvious. There is no differentiation between employment status and rank.

In terms of calculating loss of earnings this is as important as the difference between mean and median. For example, SOC 5434, *Chefs and cooks*, does not differentiate between a commis (trainee) chef's earnings from that of a head chef, instead showing an all-embracing mean of £361.20 and median of £326.60. That of *Solicitors and lawyers, judges and coroners*, SOC 2411, does not differentiate between a solicitor, junior or leading barrister, or senior High Court judge and coroner.

The median value is not the preferred method of the Office for National Statistics only because the mean skews the distribution as illustrated; it is a more representative and reliable measurement.

Staying with earnings but for the accident, the next and equally contentious issue is the use of percentiles and quartiles to describe career progression, often used with the intention of demonstrating career under or over-achievement, or likely starting or trainee salaries.

Let me say loud and clear, there is absolutely no correlation between competency, experience (or lack of), qualifications, job status, whether

trainee or senior and the published values, as the survey is unable to differentiate or decipher between occupations. Consequently, it is not valid to posit a career on ASHE values alone.

For example the classification of *Solicitors and lawyers, judges and coroners* sets out the lowest percentile as £401.70 and the upper quartile as £1,245.70. Can one really believe it is possible to separate these values and relate them to how many years post qualification experience, whether at partner level or in-house such as within an investment bank, and whether the person works either at a Magic Circle or provincial firm?

I should also point out, with particular regard to trainees, that some employment experts propose a lower decile value as a typical commencing salary, money that a trainee would expect to earn. Question 4P of the survey to employers asks whether the employee was paid at a reduced rate in the pay period for reasons of training or age. If the answer is 'yes', the data is excluded from the survey. Therefore, it is a *non sequitur* to suggest a lower decile value equates to a trainee on entry rates of pay.

In the illustration below I set out a typical proposition that once crossed my desk, designed to describe the pay progression of the claimant in a range of similar occupations. The occupations have been changed to preserve anonymity.

Occupation	Lowest decile	Lower quartile	Median	Upper quartile	Highest decile
Electrical trades	349.00	426.50	517.40	650.30	803.60
Skilled construction trades	290.30	369.50	454.60	567.10	708.00
Elementary goods storage jobs	239.00	278.90	340.70	428.00	534.40

Here, the expert suggested the earnings the claimant would likely expect at the commencement of a career were in the range £239.00 to £278.90 in the first year, improving to a range of £278.90 to £369.50 during the following year and £369.50 to £517.40 the next. It was further

proposed earnings could rise to £650.30-£708 in time.

The remarkable conclusion to be drawn was that earnings were projected to increase 116 per cent over a three-year period, and that in order to achieve this growth the claimant would have hopped between occupations without any consideration to the skills and qualifications required for each job.

In a further example of poor application and even lesser understanding of the statistics, I once came across an expert who proposed the claimant's career commenced at the lower quartile, rising once established to the median, and after a few more years to the mean.

The claimant's case will often set out the disadvantages the claimant will experience upon a return to work and, more often than not, the use of lower percentiles/quartiles is used to demonstrate the poor pay the claimant is likely to expect.

Conversely, it has been known for a defendant's expert to suggest completely the opposite view by electing to use the higher ranges.

In either event, the consequence of accepting the proposition to connect pay values to career progression as a genuine and realistic means of establishing loss of earnings is painfully obvious and fraught with danger for the personal injury lawyer. The use of deciles/quartiles/means and

medians simply does not refer to the hierarchal position in which the employee sits, or where they might progress to.

Let us assume it is proposed that the claimant would have entered the police service and progressed to the rank of sergeant. ASHE 2008 sets out the median

pay (for sergeants and below) as £740.50 gpw (£38,506 pa). However, reference to the police pay scales effective from 1 September 2008 shows that on commencing service an officer would earn £425.07 gpw (£22,104 pa), rising to a maximum on the scale of £667.44 gpw (£34,707 pa), which is then the starting point of the sergeant's pay scale. A sergeant's pay peaks at point four, £750.11 gpw (£39,006 pa) – £9.61 below the ASHE median for all constables and sergeants.

The ASHE value of £740.50 is therefore meaningless in terms of placing where a police officer sits in relation to his pay scale, at what rank and how a career might progress. All that one can say in this instance is that it may, or not, include area weighting, dog handler allowances, competence related payments and overtime.

Similarly, reverting to jobs in the catering industry, ASHE values will not indicate where the worker sits (or stands in this case) in the grand scheme of things in the kitchen. The importance of providing correct labour market research to support any contention of career progression is vital. It is necessary to understand how a person's career is likely to progress, or at least what opportunities are available. For example, a typical career in the kitchen would look like this:

1	<b>Apprentice/kitchen porter</b>
2	<b>Commis chef</b> (trainee cook)
3	<b>Junior chef de partie</b> (junior section head)
4	<b>Demi chef de partie</b> (deputy section head)
5	<b>Chef de partie</b> (section head)
6	<b>Senior chef de partie</b> (senior section head, large establishment)
7	<b>Junior sous chef</b> (junior deputy head chef)
8	<b>Demi sous chef</b> (deputy head chef)
9	<b>Senior sous chef</b> (senior deputy head chef, large establishment)
10	<b>Chef de cuisine</b>

To complicate matters further, let us take the role of pastry chef, a scientific rather than artistic job where exactness and fine attention to detail is essential. A pastry chef, once reasonably established, sits at the level of chef de partie, but who knows that and how does one discover relevant pay data?

Fortunately, accessibility to the worldwide web provides a raft of relevant and detailed information, speedily. For this example, reference to *Caterer.com*, the catering industry's web site, provides

Employer type	Average min for UK	Average max for UK
Conference/business centre	16,000	17,999
Contract catering	21,786	24,045
Cruise ships	30,000	34,999
Hotel	18,883	20,989
Restaurant	22,026	24,405

a comprehensive salary checker facility for all roles within a variety of environments and regions. In this case of a pastry chef:

Limitations of space prevent me from repeating every table for each level, but the rates for commencing as an apprentice/kitchen porter, rising to chef de partie are equally available, including regional variations. Calculating earnings by progression is therefore a straightforward matter, provided sufficient research is carried out.

Extrapolating this career further, the type of work is generally suited to young people. Although there are older chefs, the tough kitchen environment of long working hours, abuse and pressure to deliver on time usually indicates a decline of the older chef working in the kitchen. An illustration of age distribution is provided by People1st, the representative skills organisation for a wide range of organisations in the hospitality industry. The age profile of people working as chefs/cooks in the UK is as follows:

Age	Chefs/cooks
16-24	17%
25-34	23%
35-49	40%
50+	20%

This flags up that around age 50 chefs are likely to step aside from Hell's Kitchen and consider associated chef employment in a less aggressive environment, but one which is equally as rewarding such as a development or banqueting chef.

None of this specific information is contained within ASHE and it is advisable to go directly to the source, in this case to employers of this category of worker as well as *Caterer.com*. Typical companies employing these roles are the Compass Group and Baxter Storey. The following data is captured from *Caterer.com*:

#### Development chefs:

Employer type	Average min for UK	Average max for UK
Contract catering	45,000	49,999
Restaurant	40,592	44,768

#### Conference/banquet managers:

Employer type	Average min for UK	Average max for UK
Conference/business centre	28,937	32,302
Contract catering	28,546	31,382
Hotel	19,590	21,914
Restaurant	32,600	35,199

There are a plethora of salary surveys in which values are normally based on placements made by recruitment agencies or respondents. Therefore further initial research should be carried out to establish rates of pay in the locality of the claimant. Jobcentre Plus is as good a place to start as any, although not necessarily for the higher ranking positions, but it does clarify local entry rates of pay. Local newspapers and websites are other helpful resources.

As is apparent, with some judicious and diligent research it is possible to develop a plausible case for establishing a starting point, then moving forward to consider a realistic career progression supported by salary surveys specific to the occupation, possibly compared against ASHE.

It is difficult to postulate the earnings of a disabled person, especially if the claimant is unable to return to their former occupation, so how does one arrive at a fair residual value which offers a reasonably accurate picture of future earnings without referring to ASHE percentiles and so on? As a starting point, a good indicator is *Enduring economic exclusion: disabled people, income and work* by Tania Burchardt, published by the Joseph Rowntree Foundation in 2000, which found that half of all disabled people have incomes below half the general population. The ONS Labour Force Survey also reports the average gross hourly pay for disabled employees compared to non-disabled employees.

However, notwithstanding my overall view, there is some value in reference to ASHE. It offers a reasonable indicator of residuals under the heading 'Basic pay', also shown in Table 14.1a: figures which do not include overtime, shift premium, or incentive/bonus payments. I am sure even the man on the Clapham omnibus would

consider a disabled person is unlikely to work extra hours above the contracted hours, or piece rate upon returning to work.

Even so, 'Basic pay' is not prescriptive and does relate to people established in the workplace, which means that the process of establishing local entry rates of pay by investigating the claimant's local labour market is essential to set out the fullest possible picture of the potential earnings position.

So what is the value of ASHE? It provides the basis for comparison and comparison only, not as a careers and linked earnings indicator. I do believe ASHE is helpful in pointing out that the earnings of the claimant at the time of the accident had been, say, exceptionally close to median earnings, or indeed a particular percentile. I would also say that in the absence of any pay data from any other source then ASHE will at least provide some guidance, allowing for the caveats discussed.

In my view an employment expert is doing a disservice by advancing an argument purely on the basis of ASHE data, because the very foundation of their postulation refers only to the collection of a small percentage of pay data that may include a raft of occupations within a classified occupational code. The chosen occupation itself may be made up from a very small sample and in any case will include not only the lower paid but those who have worked at the source company for less than a year. Data will not include the pay of trainees.

It is the duty of employment experts to guide their appointer and the court as to the reasonableness of their opinion, which must be founded on their area of expertise and should, in turn, be supported by their

own special knowledge and thorough research. To my mind the expert is obliged to use their best judgement based on their discovery to provide as accurate an opinion as possible.

There are two simple conclusions to be arrived at: (1) the use of median is the ASHE recommended methodology, and (2) whether median, mean, percentile or quartile, none have any bearing on the exact occupation or career expectations.

It could be said that the use of median and mean for claimant or defendant, either earnings potential but for the accident or residuals has resulted in an even outcome. However, the fact of the matter is the interpretation of the values is wrong if the mean has been used and that implies someone somewhere has paid out an awful lot of money they needn't have. Therefore, the overall conclusion of this article is that awards for loss of earnings that rely solely on the expert's proposition that ASHE values describing entry rates of pay, career progression and career and pay aspirations are wholly incorrect and have had the effect of distorting the true picture.

In the certain knowledge that some lawyers refer to the Professional Negligence Bar Association's (PNBA) Facts and Figures for ASHE data, it was somewhat worrying to note that only mean values have been illustrated in the tables provided. I wrote last year to the PNBA to point out the 2008/9 edition was in error and that it would be more appropriate to use the median. My submission was put before the Board of Facts and Figures, who thanked me for drawing this error to their attention and resolved to include the median figures as well as the mean in the next edition, with a full explanation. ■

## Connect

For the latest news on APIL's political campaigns; press and media work; membership news and views; what's coming up in your region and what's on the training and conference agenda

Look out for your email from **APIL Connect**

Or read it on the APIL Information Exchange online: [www.apil.org.uk/members/Connect.aspx](http://www.apil.org.uk/members/Connect.aspx)

