

ANNUAL SURVEY OF HOURS & EARNINGS (ASHE) 2008

Background information about ASHE

The Annual Survey of Hours and Earnings (ASHE) provides information about the levels, and range of earnings and hours worked, for employees in all industries and occupations.

The ASHE survey replaced the New Earning Survey (NES) in 2004, with a new version of the ASHE questionnaire introduced in 2005. The Office for National Statistics developed ASHE to improve the methodology and accuracy of earnings data, especially around the collection of data relating to allowances and incentive pay.

The latest data was released in November 2008 and relates to employees who were employed on the 26th April 2008. This excludes employees not paid during the pay period including 26th April 2008 and those who are self-employed. The survey is based on a random 1% sample of employees (using their national insurance number). Once an employee is selected, they will remain on the panel indefinitely to maximise the consistency of the sample - this is true while they stay in the same job, but also if they move employer. Information on earnings and hours is obtained in confidence from employers, via a postal questionnaire.

However, for an area the size of Herefordshire due to the relatively small sample size, caution is required when looking at changes over time periods of less than a 5-year period, and due to the changes in the questionnaire in 2005 we do not have data earlier than 2006 to compare with.

The ASHE survey provides data on earnings for employees: gross annual, weekly and hourly pay (including and excluding overtime) and hours worked (including and excluding overtime). It also provides a breakdown of earnings by gender and full/part-time workers. This information is available down to local authority level and for parliamentary constituencies. Earnings by occupation and industry are available but only at a national level.

There are two sets of figures of earnings data for Herefordshire:

- **Work based** – all people who work in Herefordshire regardless of which county they live in, and
- **Residence based** – people who live in Herefordshire i.e. includes those who work outside the county.

Both of these data sets are useful and provide information for different purposes. Work based earnings are what people earn in Herefordshire, providing information about levels of pay for jobs in the county whereas residence based earnings are what people living in Herefordshire earn so can give us a better view of spending power and the wider economy in Herefordshire.

In order to give a better picture of earnings a 'median' figure has been used rather than the 'mean'. Both are considered averages, but the term 'average' is more generally associated with the mean. The median provides a 'mid-point' figure for earnings such that half of all employees earn less than this amount, and half earn more. The mean can be skewed by a small proportion of high earners. For example the *mean* gross weekly earnings for Herefordshire in 2008 were £475.80 whilst *median* earnings were £389.40. Lower quartile earnings are used to show the lower end of the scale of earnings, the amount that a quarter (25%) of the population earn less than and 75% earn more than.

For the purpose of this article, general analysis and comparative statistics focus on earnings of full-time employees. Data for part-time employees is available but the difference within this category can be very large, as it includes those who work for anything up to 35 hours. The proportions of part-time workers also vary across different authorities, making it difficult to compare earnings in a meaningful way.

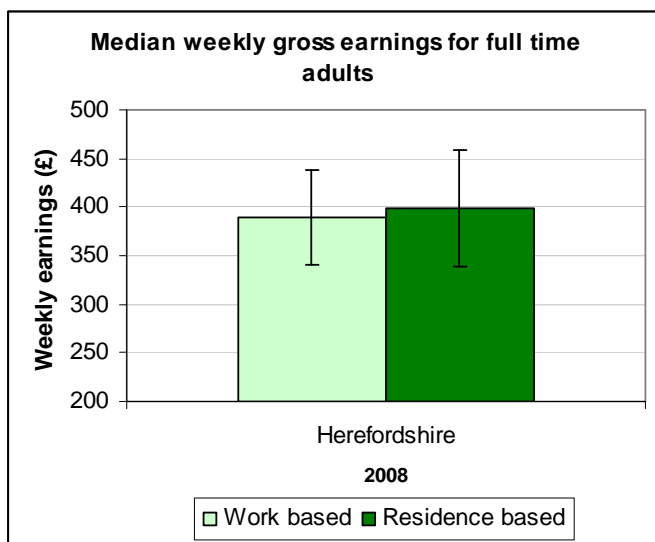
Confidence intervals

Periodically, this article will refer to confidence intervals around earnings values, below is an explanation of what a 'confidence interval' is and what it means for using these figures.

Surveying a large enough sample of employee jobs enables an estimate of the level of earnings in the county to be made; these figures are published along with coefficients of variation which enables the calculation of a confidence interval for each figure. Confidence intervals (C.I.) give an indication of the possible margin of error around these estimates. The smaller the sample size and the greater the degree of variation, the wider the C.I. will be. For example, the 2008 ASHE results states the average earnings¹ in Herefordshire were £389.40 per week and the 95% confidence interval suggests that the average earnings for all those working in Herefordshire could lie within + or - £50 of this figure.

It is important to use confidence intervals when making comparisons using results drawn from sample surveys, as differences seen between the published figures may not be statistically significant. For example, if the ranges of the confidence interval for each of the estimates overlap with each other then it is possible that the 'true values' are actually the same.

Chart 1. Confidence Intervals of 2008 work based and residence based median gross weekly earnings.



In 2008, the published figure for residence based earnings was £398.50 and the figure for work based earnings was £389.40, which suggests that work based earnings were slightly higher than residence based.

However the confidence levels for these figures overlap (see Chart 1) which show that statistically there is no measurable difference between earnings of those who work in Herefordshire and earnings of those who live in Herefordshire but do not necessarily work in the county.

When confidence intervals are referred to they will be shown as \pm £0.00, i.e. plus or minus however many pounds from the published figure.

¹ Work based median weekly gross earnings for full time adult workers

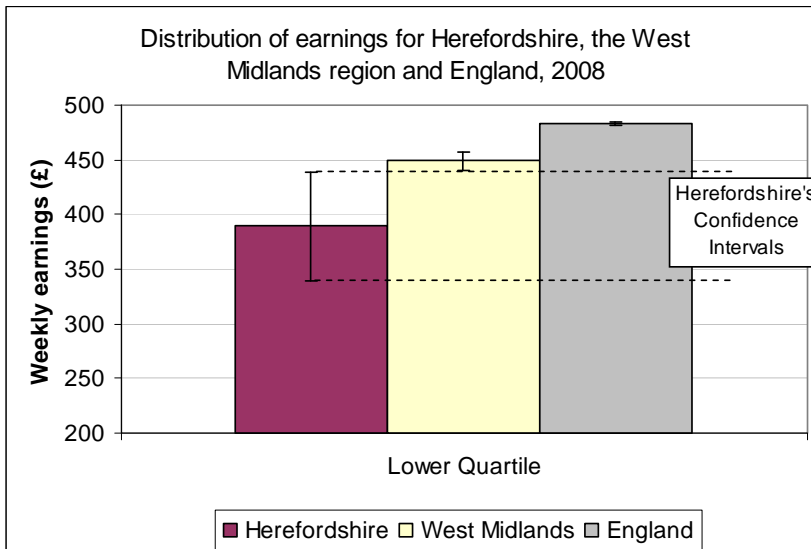
Latest results

Average WORK BASED gross earnings for full-time employees (adults only)

In 2008, the **median weekly earnings** for people who work in Herefordshire were **£389.40** (\pm £49.61).

In 2008 Herefordshire's median weekly gross earnings were statistically lower than those in the West Midlands region and across England.

Chart 2.



In 2008, median weekly gross earnings for the West Midlands region were £448.90 (\pm £7.90) and £483.10 (\pm £1.90) in England.

In 2008, Herefordshire's work based gross **median annualised² earnings** were **£20,304** (\pm £2,587) which is statistically lower than both the West Midlands, £23,407 (\pm £413) and England £25,190 (\pm £99).

The **median hourly earnings** (including overtime) for people working in Herefordshire were **£9.49** (\pm £0.97), statistically lower than those in the West Midlands region £11.09 (\pm £0.24) and in England £12.11 (\pm £0.07).

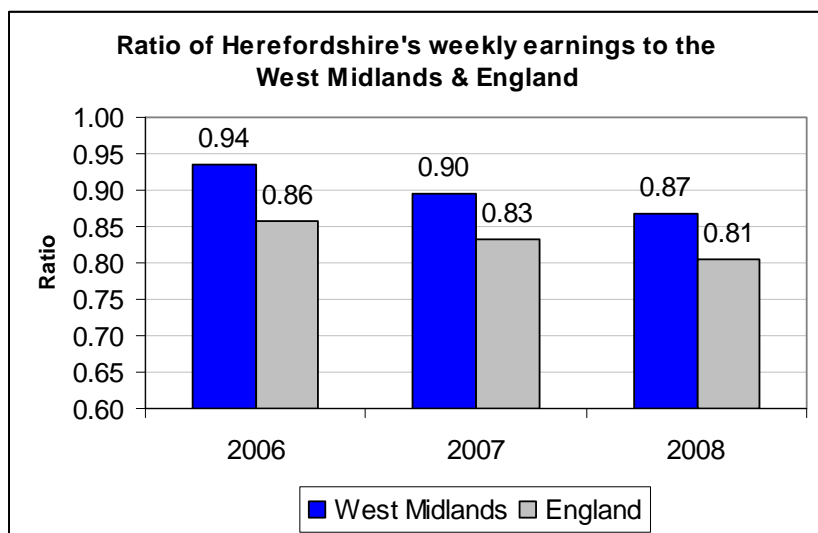
² Annual salaries are provided by ASHE but they only include earnings of those who are employed in the same job for a year whereas weekly earnings include all workers. Therefore annualised salaries were calculated using median weekly earnings, which includes more employees.

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Chart 3 presents the ratio of Herefordshire's weekly earnings compared to regionally and nationally over the past few years, which allows us to monitor whether the gap between earnings in Herefordshire and elsewhere has got larger or smaller. We calculate the ratios by dividing Herefordshire's earnings by those for the comparator area to give one figure that shows the gap e.g. Herefordshire's earnings (£389.40) divided by England's earnings (£483.10) which gives a ratio of 0.81. Therefore Herefordshire's weekly earnings are 81% of those nationally i.e. 19% lower.

The limitation of these ratios is that they do not take into account confidence intervals around the published figures. Also there may be year-on-year fluctuations of local data. However this is still the best method of tracking longer term changes in Herefordshire's earnings relative to those regionally and nationally.

Chart 3.



Herefordshire's weekly work based earnings compared to regionally and nationally appear to be getting worse. The gap between Herefordshire's earnings and those of the West Midlands region and England as a whole is getting wider.

In 2006, Herefordshire's earnings were 6% lower than the West Midlands, whereas in 2008 this gap had widened to 13% lower. The gap between Herefordshire and England earnings is wider but has not increased as much, 14% lower in 2006 increasing to 19% lower in 2008.

Taking into account the confidence intervals around the data, in 2006 and 2007 weekly earnings in Herefordshire were statistically lower than England and lower than both the West Midlands region and England in 2008. Bearing this in mind, it suggests that the trends shown by the ratios are statistically significant, particularly for the ratio of Herefordshire to England's earnings.

Average RESIDENCE BASED gross earnings for full-time employees (adults only)

In 2008, the **median weekly earnings** for people who live in Herefordshire were **£398.50** (\pm £59.36), compared with £450.00 (\pm £8.82) in the West Midlands and £464.00 (\pm £2.73) in England.

Similarly to work based earnings, Herefordshire's earnings are lower than those for England as a whole but the difference with those regionally is not statistically significant.

In 2008, Herefordshire's annualised earnings were **£20,779** (\pm £3,095) which is similar to the West Midlands £23,464 (\pm £460) but lower than England £24,194 (\pm £142).

Median hourly earnings (including overtime) in Herefordshire were **£9.66** (\pm £1.19), which is similar to the West Midlands region £11.11 (\pm £0.26) but lower than those in England £11.61 (\pm £0.07).

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The main focus of this article is to look at what people working in Herefordshire earn compared with other areas, so for the rest of this article work based earnings are used unless otherwise stated.

Comparisons within the region and with Herefordshire's neighbours (Work based)

This section compares earnings of those working in Herefordshire with earnings of those working in each of the other counties/unitary authorities in the West Midlands region. Figures for Gloucestershire, Monmouthshire and Powys are also included to give us an idea of what is happening in our neighbouring authorities. See Table 1.

Table 1. Median gross weekly earnings for full-time employees by County/Unitary Authority in the West Midlands

	2008		2007	2006
	Median earnings (£)	Rank	Rank	Rank
Solihull	525.3	1	1	1
Warwickshire	483.8	2	2	3
Coventry	483.6	3	3	1
Birmingham	470.6	4	4	4
Sandwell	454.4	5	7	7
Telford and Wrekin UA	449.6	6	5	6
Wolverhampton	441.0	7	6	5
Staffordshire	440.4	8	8	8
Worcestershire	419.9	9	10	9
Stoke-on-Trent UA	418.2	10	11	14
Shropshire	410.3	11	9	11
Dudley	399.1	12	12	13
Herefordshire UA	389.4	13	13	10
Walsall	388.9	14	14	12
<i>West Midlands region</i>	<i>488.9</i>			
Gloucestershire	453.2			
Powys	370.8			
Monmouthshire	442.2			

For the past 2 years, Herefordshire has been ranked 13th out of the 14 authorities within the West Midlands region, being higher than only Walsall. Weekly earnings in Herefordshire are 25% lower (£136 less) than in Solihull, which has the highest earnings in the West Midlands region.

Other authorities that have moved rankings are:

- Sandwell, moving up from 7th to 4th highest weekly earnings
- Stoke-on-Trent moving up from 14th to 10th highest
- Wolverhampton moving down from 5th highest earnings to 7th

Distribution of earnings (Work based)

The following section describes the distribution of earnings in Herefordshire compared to elsewhere. In order to describe this spread of earnings, the following three points in the distribution are used:

- LQ (25%): lower level earnings as measured by the lower quartile (i.e. 25% earn less than...),
- Median (50%): the median to show what at least half the population are earning and
- UQ (75%): higher earnings shown by the upper quartile (i.e. the top 25% of earners earn more than...)

Figure 1. Range of gross weekly earnings for full time employees (£), 2008 and rank compared to County/Unitary Authorities in the West Midlands

Area	LQ (25%)	Area	Median (50%)	Area	UQ (75%)
Solihull	383.3	Solihull	525.3	Solihull	725.6
Warwickshire	349.7	Warwickshire	483.8	Coventry	689.9
Coventry	345.0	Coventry	483.6	Warwickshire	682.8
Birmingham	341.2	Birmingham	470.6	Birmingham	649.7
Sandwell	330.1	Sandwell	454.4	Wolverhampton	648.0
West Midlands	322.2	Telford & Wrekin UA	449.6	Telford & Wrekin UA	645.8
Staffordshire	321.1	West Midlands	448.9	West Midlands	630.7
Telford & Wrekin UA	313.7	Wolverhampton	441.0	Worcestershire	613.1
Worcestershire	313.7	Staffordshire	440.4	Staffordshire	609.6
Stoke-on-Trent UA	303.8	Worcestershire	419.9	Sandwell	600.0
Herefordshire UA	301.0	Stoke-on-Trent UA	418.2	Stoke-on-Trent UA	579.6
Shropshire	298.9	Shropshire	410.3	Shropshire	568.1
Wolverhampton	293.5	Dudley	399.1	Herefordshire UA	566.6
Dudley	291.6	Herefordshire UA	389.4	Walsall	548.4
Walsall	274.7	Walsall	388.9	Dudley	546.8

Note: UA - unitary authority

Figure 1 above shows where Herefordshire ranks for lower quartile, median and upper quartile earnings.

In terms of lower quartile earnings, Herefordshire performs slightly better compared to median and upper quartile earnings, ranked 10th out of 14 local authorities (excluding the West Midlands region). Herefordshire's lowest 25% of workers earn on average £301.00 (\pm £19.47) compared to the highest, Solihull, £383.30 (\pm £39.82).

Median earnings, we have already mentioned. Herefordshire's median weekly earnings (£389.40) were nearly £136 lower than those for Solihull. Herefordshire's position for median earnings is 13th out of 14 local authorities, only higher than Walsall.

In terms of upper quartile earnings, (highest earning 25% of workers) Herefordshire's position relative to other West Midlands authorities is slightly more favourable, 12th out of the 14 local authorities. Herefordshire's weekly upper quartile earnings, £566.60 (\pm £122.16), were £159 less than the highest ranked authority in the West Midlands, Solihull (£725.60, \pm £125.15). However, given the large confidence intervals for the upper quartile earnings data, the difference between Herefordshire and Solihull was not statistically significant.

Differences between male and female earnings (Work based)

Across the whole of the West Midlands region and England, median earnings for full-time female workers are lower than those of their male counterparts. The ratio of female to male earnings was 0.79 across England and 0.78 in the West Midlands. If female and male earnings were the same the ratio would be 1.0, if females earned less the ratio would be less than 1 and if females were paid more the ratio would be higher than 1. The further the ratio is from 1 the larger the gender pay gap.

Table 2. Male and female median gross weekly earnings and the female to male ratios (2008)

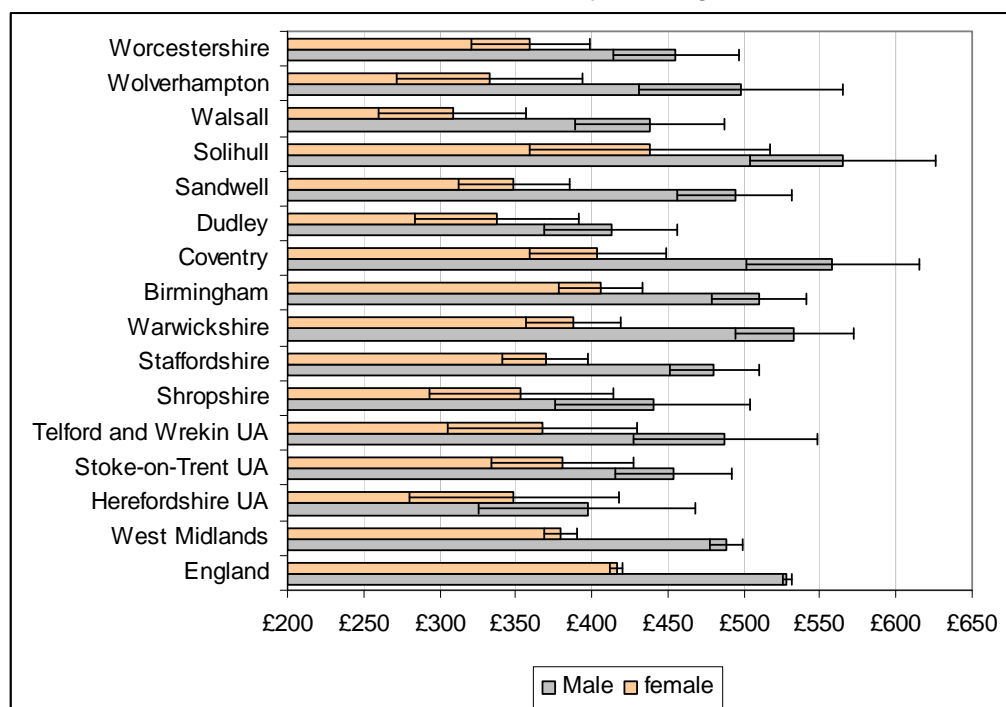
Area	Males	Females	Ratio
Herefordshire UA	397.0	349.0	0.88
Stoke-on-Trent UA	454.0	380.6	0.84
Dudley	412.5	337.4	0.82
Shropshire	440.2	353.4	0.80
Birmingham	510.4	405.8	0.80
Worcestershire	455.2	359.5	0.79
<i>England</i>	<i>528.5</i>	<i>416.4</i>	<i>0.79</i>
<i>West Midlands</i>	<i>488.7</i>	<i>379.4</i>	<i>0.78</i>
Solihull	565.2	438.3	0.78
Staffordshire	480.2	369.7	0.77
Telford and Wrekin UA	487.7	367.6	0.75
Warwickshire	533.1	388.3	0.73
Coventry	558.0	403.8	0.72
Sandwell	494.3	348.8	0.71
Walsall	437.8	308.4	0.70
Wolverhampton	498.0	332.7	0.67

Out of all authorities in the West Midlands region, Herefordshire had the smallest gender pay gap. Female earnings were 0.88 of male earnings, 12% lower, although, this difference is not statistically significant. However, this comparatively high ratio is due to Herefordshire's male workers having relatively low earnings compared to other authorities.

The areas where female earnings are statistically lower than males are:

- England
- West Midlands region
- Staffordshire
- Birmingham
- Coventry
- Sandwell
- Walsall
- Warwickshire
- Wolverhampton
- Worcestershire

Chart 4. Female and male median weekly earnings for Herefordshire and comparator areas



It is worth noting that gender pay gaps may well in part be due to the types work that males and females tend to do and the different level of pay associated with that industry.

Data is available nationally for earnings according to industry, which is discussed further in the next section.

Earnings by industry (Work based)

Although this information is only available at a national level, it gives some insight into the level of earnings in Herefordshire when shown alongside the proportion of Herefordshire residents working in each industry. Table 4 shows UK earnings by industry from ASHE 2008 along with the proportion employed in each type of industry in Herefordshire as obtained from the 2001 Census.

Table 3. Median weekly earnings for the UK by industry and proportion of Herefordshire residents working in those sectors.

	2008 earnings UK³	% of Herefordshire residents working in each industry
Mining & quarrying	£647.80	0.2%
Electricity; gas and water supply	£612.60	0.5%
Financial intermediation	£597.20	1.9%
Public administration and defence	£535.10	5.0%
Education	£525.80	7.4%
Construction	£515.80	7.7%
Real estate; renting and business activities	£515.10	9.5%
Transport storage and communication	£488.70	4.7%
Manufacturing	£487.20	17.4%
Health and social work	£455.70	11.6%
Other	£423.00	4.3%
Wholesale & retail trade; repair of motor vehicles	£380.00	18.4%
Agriculture; hunting; forestry	£351.60	6.7%
Hotels and catering	£297.00	4.8%

The 3 industries with highest earnings are:

- mining & quarrying
- electricity; gas & water supply
- financial intermediation

The 3 industries with lowest earnings are:

- hotels & catering
- agriculture, hunting & forestry
- wholesale & retail trade; repair of motor vehicles

Assuming there is a similar pattern for earnings by industry in Herefordshire to that of the UK will give us an indication of what effect local industry has on wage levels in Herefordshire.

In 2008, the UK industry with the highest median weekly earnings was mining & quarrying at £647.80 per week, 0.2% of Herefordshire's residents were employed in this sector. The largest proportion of Herefordshire's residents were employed in wholesale & retail trade; repair of motor vehicles, at only £380.00 per week nationwide, this is one of the sectors with lowest median earnings.

17.4% of Herefordshire's residents were employed in manufacturing at the time of the 2001 Census (the second largest proportion of workers), median earnings for this industry nationally were £487.20 in 2008.

If earnings by industry in Herefordshire follow national patterns, the local economy is made up of small proportions of residents working in industries where earnings are high and large proportions of the workforce in sectors with lower earnings.

³ Data is only available for UK as a whole, including England, Scotland, Wales and Northern Ireland

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Hours Worked (Work based)

ASHE also publishes information about the number of hours worked by people working in the county⁴ which provides the median figures for the basic hours worked and total hours worked (i.e. including overtime) for full-time adult workers.

When looking at **basic** hours only, the median number of hours worked by people in Herefordshire in 2008 was 38 hours per week. This is similar to the number of basic hours worked by those in the West Midlands, England as a whole and neighbouring counties (both 37.5 hours).

The median of **total** hours worked (including overtime) by those working in Herefordshire was 39 hours per week. Despite this looking higher than Herefordshire's basic hours worked, the difference is not statistically significant. England's total number of hours worked are equal to the basic hours worked (37.5 hours). Herefordshire's median of total hours worked is higher than those in the West Midlands and England as a whole.

Parliamentary Constituencies

There are two parliamentary constituencies in Herefordshire: 'Hereford' and 'Leominster'. 'Hereford' covers Hereford City and south down to Herefordshire's southern border, including Ross-on-Wye. 'Leominster' includes Leominster, Kington and Ledbury but also some of Worcestershire's parishes outside Herefordshire's administrative boundaries.

This data shows earnings for full-time adults employed in these constituencies, i.e. what you can earn working in either Hereford or Leominster constituency.

Table 4. Summary of 2008 median weekly gross earnings and median total hours worked for Herefordshire's parliamentary constituencies

	Median weekly earnings	Total median hours worked
Hereford	£399.40	38.9
Leominster	£360.70	40.0

Statistically, there is no difference between the median earnings or total hours worked for those working in Hereford or Leominster Parliamentary Constituency.

FURTHER DETAILS

The data presented in this article form only part of the statistics produced on earnings.

For further information on the data in this article, please contact the Research Team on 01432 383634 or e-mail researchteam@herefordshire.gov.uk

⁴ This information is also available by residence based i.e. median number of hours worked by people living in the county.