

ANNUAL SURVEY OF HOURS & EARNINGS (ASHE) 2009

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. Unless otherwise stated, earnings are gross weekly earnings by workplace i.e. the earnings of employees who work in Herefordshire, but who do not necessarily live in the county.

Key points

- In 2009 work-based weekly earnings were £383.30 (\pm £37.56), significantly lower than the West Midlands region £456.40 (\pm £7.16) and England £495.20 (\pm £2.91).
 - Although not statistically significant, this was 1.7% lower than in 2008.
 - Herefordshire's weekly work-based earnings, compared to regionally and nationally, appear to be getting worse. In 2006, Herefordshire's earnings were 6% lower than the West Midlands, whereas in 2009 this gap had widened to 16% lower. The gap between Herefordshire's and England's earnings is wider, 14% lower in 2006 increasing to 23% lower in 2009.
 - There was no significant difference between workplace earnings (£383.30 \pm £37.56) and Residence-based earnings (£426.80 \pm £48.52).
 - Herefordshire had the lowest median earnings of all 14 West Midlands authorities, and was also lower than Monmouthshire, Gloucestershire and Powys.
 - Herefordshire had the second smallest gender pay gap (female earnings were 13% lower than male earnings) out of all its neighbouring authorities after Powys, largely due to Herefordshire's male workers having relatively low earnings compared to other authorities.
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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 latest data was released in November 2009 and relates to employees who were employed on the 22nd April 2009. This excludes employees not paid during the pay period including 22nd April 2009 and those who are self-employed. The survey is based on a random 1% sample of employees registered for PAYE (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.

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.

Because Herefordshire has a relatively low population and hence a relatively small sample size compared with other areas, caution is required when looking at changes in earnings over time periods of less than a 5-years. Due to the changes in the questionnaire in 2005 we do not have data earlier than 2006 to compare with.

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 median is used because the mean can be skewed by a small proportion of high earners. For example the *mean* gross weekly earnings for Herefordshire in 2009 were £470.00 whilst *median* earnings were £383.30. 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.

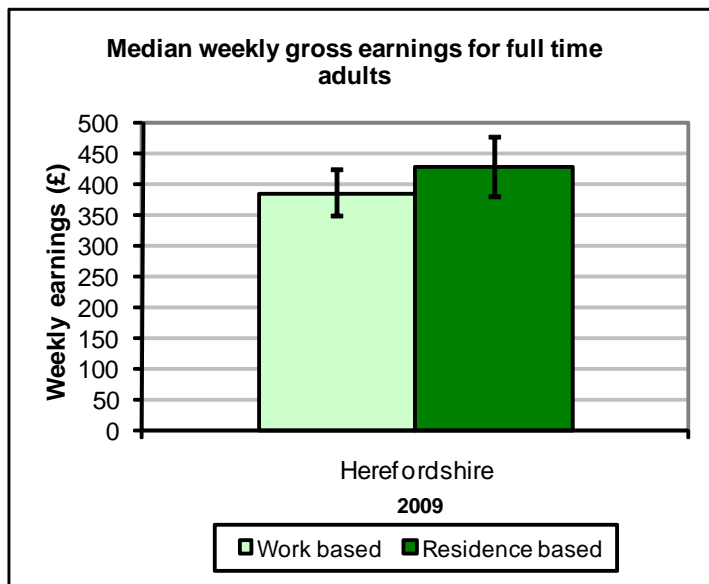
Confidence intervals

Periodically, this article will refer to confidence intervals associated with earnings values; below is an explanation of what a 'confidence interval' is and what it means for the use of 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 earnings 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, in 2009 ASHE results give the average earnings¹ in Herefordshire as £383.30 per week and the 95% confidence interval suggests that the average earnings for all those working in Herefordshire could lie within £37.56 of this figure i.e. plus or minus (\pm) £37.56.

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 2009 work-based and residence-based median gross weekly earnings.



In 2009, the published figure for residence-based earnings was £426.80 and the figure for work-based earnings was £383.30, which suggests that work-based earnings were slightly higher than residence-based.

However the confidence intervals for these figures overlap (see Chart 1), meaning that statistically there is no measurable difference between earnings of those who work in Herefordshire and 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

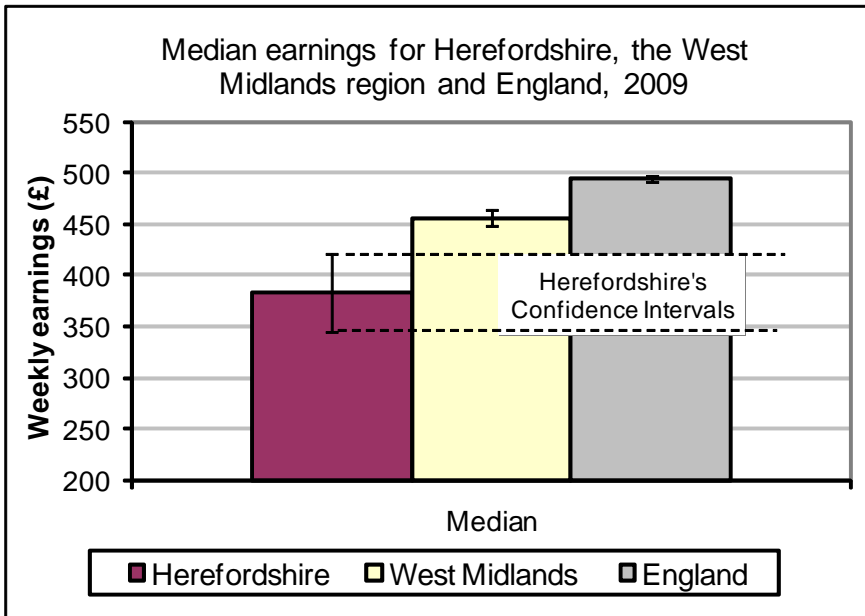
Latest results

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

In 2009, the **median weekly earnings** for people who work in Herefordshire were **£383.30** (\pm £37.56). Although not statistically significant, this was 1.7% lower than in 2008.

In 2009 Herefordshire's median weekly gross earnings were statistically lower than those in the West Midlands region and across England.

Chart 2.



In 2009, median weekly gross earnings for the West Midlands region were £456.40 (\pm £7.16) and £495.20 (\pm £2.91) in England.

In 2009, Herefordshire's work-based gross **median annualised² earnings** were **£19,986** (\pm £1,958) which is statistically lower than both the West Midlands, £23,798 (\pm £373) and England £25,821 (\pm £151).

The **median hourly earnings** (including

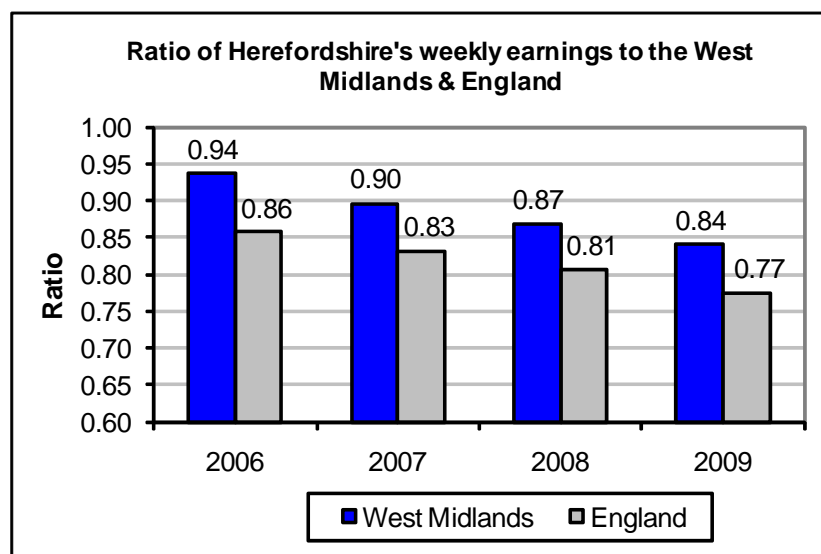
overtime) for people working in Herefordshire were **£9.41** (\pm £0.72), statistically lower than those in the West Midlands region £11.57 (\pm £0.23) and in England £12.56 (\pm £0.07).

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.

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 (£383.30) divided by England's earnings (£495.20) which gives a ratio of 0.77. Therefore Herefordshire's weekly earnings are 77% of those nationally i.e. 23% 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 2009 this gap had widened to 16% lower. The gap between Herefordshire and England earnings is wider, 14% lower in 2006 increasing to 23% lower in 2009.

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 and 2009. Bearing this in mind, it suggests that the trends shown by the ratios reflect a real change, particularly for the ratio of Herefordshire to England's earnings.

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

In 2009, the **median weekly earnings** for people who live in Herefordshire were **£426.80** (\pm £48.52), compared with £457.40 (\pm £7.17) in the West Midlands and £496.00 (\pm £1.94) 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 2009, Herefordshire's median annualised earnings were **£22,255** (\pm £2,530) which is similar to the West Midlands £23,850 (\pm £374) but lower than England £25,863 (\pm £101).

Median hourly earnings (including overtime) in Herefordshire were **£9.98** (\pm £0.98), which is slightly lower than the West Midlands region £11.56 (\pm £0.23) and England £12.58 (\pm £0.07).

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 and rank for full-time employees by County/Unitary Authority in the West Midlands

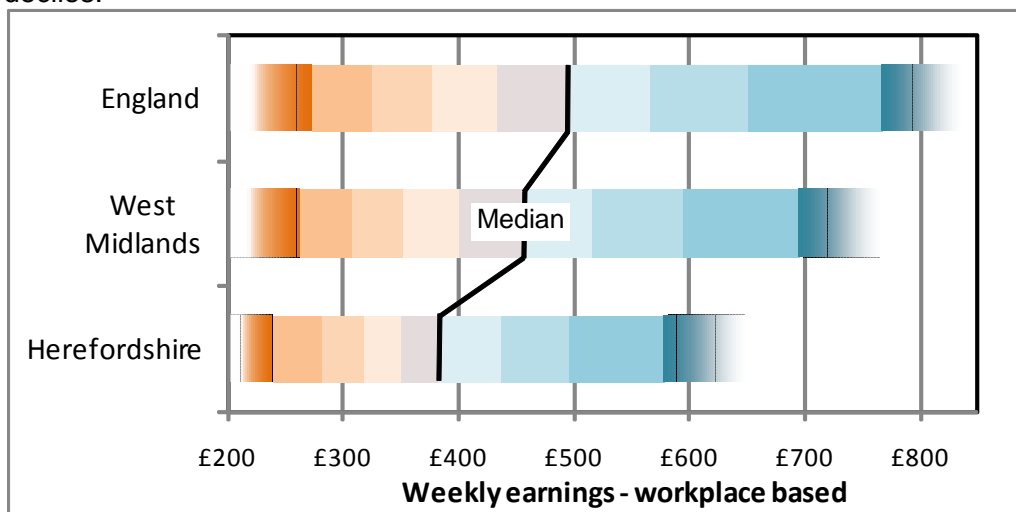
	2006	2007	2008	2009	
	Rank	Rank	Rank	Rank	Median earnings (£)
Solihull	1	1	1	1	511.1
Warwickshire	3	2	2	2	495.7
Birmingham	4	4	4	3 ↑	487.9
Coventry	1	3	3	4 ↓	486.1
Wolverhampton	5	6	7	5 ↑	447.2
Staffordshire	8	8	8	6 ↑	442.6
Stoke-on-Trent	14	11	10	7 ↑	442.3
Sandwell	7	7	5	8 ↓	439.3
Worcestershire	9	10	9	9	432.3
Telford and Wrekin	6	5	6	10 ↓	430.0
Dudley	13	12	12	11 ↑	409.8
Shropshire	11	9	11	12 ↓	406.4
Walsall	12	14	14	13 ↑	397.5
Herefordshire	10	13	13	14 ↓	383.3
<i>West Midlands region</i>					<i>456.4</i>
Gloucestershire					468.3
Powys					398.2
Monmouthshire					403.9

In 2009 Herefordshire was ranked 14th (lowest) out of all West Midlands Authorities. This is slightly worse than for 2007 and 2008 when Herefordshire was ranked 13th out of 14 in the West Midlands region. In 2009 weekly earnings in Herefordshire are 33% lower (£128 less) than in Solihull, which has the highest earnings in the West Midlands region.

Distribution of earnings (work-based)

The following section describes the distribution of earnings in Herefordshire compared to elsewhere using deciles. A decile is any of the nine values that divide the sorted data into ten equal parts, so that each part represents 1/10 of the sample or population. The highest (9th) decile is omitted here because the data for Herefordshire is unreliable.

Chart 4. Range of weekly earnings for Herefordshire, the West Midlands and England, broken down by deciles.



Looking at the range of earnings between the 2nd and 8th deciles³ Herefordshire had the lowest range of earnings out of any of the West Midlands authorities. The chart above clearly demonstrates this difference compared to the West Midlands, but also highlights the difference compared to England as a whole. As well as having a reduced range of earnings compared to the West Midlands and England, Herefordshire's lower earnings e.g. the 1st decile are significantly lower. In 2009 people earning the lowest 10% of earnings in Herefordshire were earning less than £240.0 (\pm £2.7) per week, compared to £262.6 (\pm £0.7) in the West Midlands and £273.1 (\pm £0.3) in England.

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 are the same then the ratio is 1.0; if females earn less the ratio is less than 1 and if females are paid more the ratio is 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 (2009)

	Male	Female	Ratio
Powys	£402.7	£381.9	0.95
Herefordshire	£404.1	£350.2	0.87
Worcestershire	£459.5	£379.5	0.83
<i>England</i>	<i>£538.2</i>	<i>£431.2</i>	<i>0.80</i>
Shropshire	£453.1	£362.9	0.80
<i>West Midlands</i>	<i>£493.9</i>	<i>£393.1</i>	<i>0.80</i>
Monmouthshire	£462.9	£355.0	0.77
Gloucestershire	£523.3	£383.3	0.73

³ Note: The highest decile is omitted because the data for Herefordshire is unreliable

Herefordshire had the second smallest gender pay gap out of all its neighbouring authorities after Powys. Female earnings were 0.87 of male earnings, 13% lower, although, this difference is not statistically significant. This comparatively high ratio is largely due to Herefordshire's male workers having relatively low earnings compared to other authorities. The ratio in 2009 actually saw a decrease on 2008 (0.88), a result of male earnings increasing in 2009.

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 2009 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. Both use SIC 2007 codes⁴.

Industrial Sector	Median (£)	Percentage change 08-09	% employees in industry (ABI, 2008)	
			Herefordshire	England
Mining and quarrying	697.7	0.1% ↑	0.1%	0.1%
Information and communication	643.5	1.4% ↑	1.5%	4.0%
Financial and insurance activities	626.1	4.8% ↑	1.1%	4.1%
Professional, scientific and technical activities	597.8	3.1% ↑	3.9%	7.1%
Electricity, gas, steam and air conditioning supply	585.8	-11.4% ↓	0.0%	0.3%
Public administration and defence; compulsory social security	547.9	2.7% ↑	2.9%	5.2%
Education	541.6	3.0% ↑	8.7%	9.5%
Construction	529.3	2.4% ↑	5.7%	4.9%
Water supply; sewerage, waste management and remediation activities	528.4	5.7% ↑	0.6%	0.6%
Manufacturing	484.9	-0.3% ↓	14.5%	9.4%
Transportation and storage	479.1	1.8% ↑	2.7%	4.8%
Human health and social work activities	473.0	3.2% ↑	12.3%	11.7%
Real estate activities	462.7	2.4% ↑	1.2%	1.4%
Administrative and support service activities	391.0	1.9% ↑	5.9%	8.4%
Wholesale and retail trade; repair of motor vehicles and motorcycles	388.3	2.2% ↑	19.4%	16.7%
Arts, entertainment and recreation	387.8	1.9% ↑	2.1%	2.4%
Agriculture, forestry and fishing	387.0	8.5% ↑	8.3%	0.7%
Accommodation and food service activities	298.7	0.7% ↑	6.7%	6.7%

Source: ASHE 2009 and the Annual Business Inquiry 2008

The 3 industries with highest earnings are:

- Mining and quarrying
- Information and communication
- Financial and insurance activities

The 3 industries with lowest earnings are:

- Arts, entertainment and recreation
- Agriculture, forestry and fishing
- Accommodation and food service activities

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

⁴ UK Standard Industrial Classification of Economic Activities 2007

In 2009, the UK industry with the highest median weekly earnings was mining & quarrying at £697.70 per week; only 0.21% 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 £388.30 per week nationwide, this is one of the sectors with lowest median earnings.

The next largest sector in Herefordshire is manufacturing, accounting for 14.5% of Herefordshire's employees. Median earnings for this industry nationally were £484.90 in 2009. This was a slight decrease on 2008 when earnings were £487.20, more significant if compared to the general inflation of earnings seen in other industries.

Human health and social work, in which 12.3% of Herefordshire employees work, earned £473.00 nationally, an increase of 3.2% on the previous year.

Agriculture, an important sector for the county employing 8.3% of employees, saw the largest increase (8.5%) in earnings nationally although this is starting from a low base. In 2009 median weekly earnings were £387.00 for the UK.

If we assume that earnings by industry in Herefordshire follow national patterns, then in general 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.

Hours Worked (work-based)

ASHE also publishes information about the number of hours worked by people working in the county⁵ 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 37.5 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, higher than the number of basic hours. England's total number of hours worked are equal to the basic hours worked (37.5 hours). Herefordshire's median of total hours worked are higher than those in the West Midlands and England as a whole.

⁵ This information is also available by residence-based i.e. median number of hours worked by people living in the county.

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 boundaries⁶.

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	395.60	37.5
Leominster	379.60	40.0

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

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 260893 or e-mail researchteam@herefordshire.gov.uk

⁶ These are the parliamentary that are in use currently, but that will change at the coming general election.