A Living Wage?

The hourly wages of employees in 2014 at two food outlets are shown below.

- At which food outlet were the employees better off on average?
- Justify your answer and explain your reasoning.

At The Red Herring health food café:
- the manager earned £11.35
- two cooks each earned £9.35
- four assistants each earned £8.60
- two trainees each earned £7.60

At the Chicken King take-away:
- the manager earned £15.70
- the production manager earned £12.60
- two supervisors each earned £9.75
- three senior assistants each earned £7.95
- four junior assistants each earned £6.70

The National Minimum Wage applies to all employees in the UK aged 21 and over. The Low Pay Commission is a body selected and appointed by the government. It makes a recommendation each year for setting the National Minimum Wage based on what it feels the market can bear. In 2014 the government set the National Minimum Wage at £6.50.

The UK Living Wage was introduced in 2011 and is based on the cost of living. Its aim is to reduce poverty and improve the productivity of workers. It is set each year by the Living Wage Foundation, which is an independent organisation that provides advice to employers on implementing the Living Wage and accredits those who do so. The London Living Wage was introduced in 2003 and recognises the higher cost of living in London. In 2014 the UK Living Wage was set at £7.85.

- What effect would implementing the UK Living Wage have on the wages of the employees at The Red Herring and Chicken King?
- What would happen to average wages at the two food outlets?

The Low Pay Unit and the Trade Union Congress campaigned for the introduction of a minimum wage in the UK based initially on half male median earnings. After a National Minimum Wage of £3.60 was introduced in 1999, they campaigned for this to be increased to 68% of median earnings of all employees. This figure was based on the European Decency Threshold, defined as the minimum level of pay considered to be ‘adequate’, and which applied to all members of the European Community from 1999. However, in 2004, this threshold was changed to 60% of net median earnings, resulting in a lower monetary value.

Teaching mathematics for social justice: Meaningful projects for the secondary mathematics classroom

This activity is taken from a new ATM publication written by Pete Wright.

Meaningful projects for the secondary mathematics classroom

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When discussing minimum and adequate pay levels, why is the median used to represent average earnings rather than the mean? Relate your ideas to the activity above.

Do you think that minimum wage levels should be based on median pay or on the cost of living? Why? Who would agree and disagree with you?

Why do we have a minimum wage?

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**Notes and rich questions**

- **What is the difference between the Consumer Price Index and the Retail Price Index?** Which one is most appropriate to use in different contexts? Why?
- **The CPI figures in the table take 2005 as the baseline value (100.0%).** What does it mean to say the CPI for 2015 was 128.0%?
- **How could you recalculate the figures using 2015 as the baseline value?** What difference would this make?
- **What does it mean to say ‘Average wages increased by £13 per week in real terms between 2000 and 2015’?** Explain how this figure is calculated.
- **Is the statement ‘Average wages increased by £13 per week in real terms between 2000 and 2015’ based on 2000 values or 2015 values?** What would the increase be based on 2000 values? Which measure would be most useful? Why?
- Encourage students to explore the increase in earnings in real terms over a number of years, i.e. by generating further time series data. This would be an appropriate task for a spreadsheet given the number of calculations that need to be performed. This data could then be displayed in a line graph.
- The following line graph represents Average Weekly Earnings (AWE) adjusted for the Retail Price Index (RPI) based on the 2015 figure.

- As well as the three initial suggestions, you could encourage students to explore:
  - National Minimum Wage adjusted for inflation (CPI or RPI);
  - Difference between the Median Female Wage and Median Male Wage as a percentage of the Median Full-Time Wage;
  - Applied UK Living Wage as a percentage of Reference UK Living Wage.
  - **Which measures would you use to explore whether low paid workers are getting better off in real terms?** … better off compared to other employees?
  - **Why do you think the male median wage is higher than the female median wage? Is this fair?**
  - This might be an opportunity to consider how average earnings might hide inequality within groups, e.g. whilst on average men earn more than women, there are some women who may earn a lot more than other women and a lot more than many men.
  - **How do changes in the National Minimum Wage compare to the pre-2004 definition of the European Decency Threshold (see Living Wage 1), i.e. 68% of median earnings, or the Low Pay Unit’s original measure of half median male earnings?**

  ![Line graph](image)

  - **What do your figures show? What does your line graph show?**

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