

# Methodology note – H1 table

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The following document provides details on the methodology used to calculate the series on the H1 table.

## CPI inflation and house price expectations:

### Outlier exclusion:

When calculating mean and median expectations outliers are excluded from the calculation to reduce the effect of very large or very small estimates. We use the IQR (interquartile range) method to identify the outliers. The outliers are determined by the following method:

$$1) IQR = Q_3 - Q_1$$

$$2) Lower\ limit = Q_1 - 1.5 \times IQR$$

$$3) Upper\ limit = Q_3 + 1.5 \times IQR$$

Where  $Q_1$  refers to the 25<sup>th</sup> percentile,  $Q_3$  refers to the 75<sup>th</sup> percentile and IQR is the difference between the 25th percentile ( $Q_1$ ) and the 75th percentile ( $Q_3$ ) in a data series. Any observations that are 1.5 times the IQR greater than  $Q_3$  or 1.5 times the IQR less than  $Q_1$  are considered outliers i.e. any value that is smaller than the value in equation 2 is excluded, as well as any value that is larger than the value in equation 3.

### Median calculations:

The median estimates are calculated by taking the middle value of the sorted numerical responses. If the sample size is even, then the average of the two middle values is taken.

### Mean calculations:

The mean estimates are the weighted average, obtained using the positive weights  $w_i$  associated with the responses  $x_i$ .

The weighted mean  $\bar{X}_w$  is calculated as:

$$\bar{X}_w = \frac{\sum_i w_i x_i}{\sum_i w_i}$$

where  $x_i$  and  $w_i$  are the response and weight, respectively, of respondent  $i$ .

## Net % series calculation:

### Calculation for 'net % expecting higher inflation - derived':

This is calculated by finding the weighted percentage of respondents who gave a 1-year ahead inflation estimate that is greater than their current inflation estimate, and subtracting the weighted percentage of respondents who gave a 1-year ahead inflation estimate that is less than their current inflation estimate. Non responses are excluded from the calculation.

That is: net % expecting higher inflation =

$$\frac{\text{weighted no. expecting 1 year ahead inflation to be higher} - \text{weighted no. expecting 1 year ahead inflation to be lower}}{\text{weighted no. of responses where there was an estimate for both current and 1 year ahead inflation}} \times 100$$

### Calculation for 'net % expecting inflation':

This is calculated by finding the weighted percentage of respondents who said there will be inflation in 12 months' time and subtracting the weighted percentage of respondents who said there will be deflation in 12 months' time. Non responses are excluded from the calculation.

That is: net % expecting inflation =

$$\frac{\text{weighted no. expecting inflation 1 year ahead} - \text{weighted no. expecting deflation 1 year ahead}}{\text{total no. of weighted responses}} \times 100$$

### Calculation for 'net % expecting higher house prices':

The 'net % expecting higher house prices' series is calculated by finding the weighted percentage of respondents who expect that house prices will increase overall in 1 years' time and subtracting the weighted percentage of respondents who expect that house prices will decrease overall in 1 years' time. Non responses are excluded from the calculation.

That is: net % expecting higher house prices =

$$\frac{\text{weighted no. expecting house prices to increase overall} - \text{weighted no. expecting house prices to decrease overall}}{\text{total no. weighted of responses}} \times 100$$

### How to interpret net % series:

The "net % expecting higher inflation – derived", "net % expecting inflation" and "net % expecting higher house prices" series published have a range of possible values of (-100, 100).

An example of how to interpret these numbers is:

- If the "net % expecting higher house prices" series has a value of 0 this indicates the same amount of the population expects that house prices will be higher 1 year ahead as expects that house prices will be lower 1 year ahead.
- If a large positive percentage was recorded this would indicate more of the population expects that house prices 1 year ahead will be higher than expects house prices will be lower 1 year ahead.
- If a large negative number was recorded this would indicate more of the population expects that house prices will be lower 1 year ahead than expects house prices will be higher 1 year ahead.