Understanding distorted averages

Sometimes the mean value may give a false impression of the figures. The mean value is said to be **distorted** in such cases.

Example

The mean salary earned in a company in 2001 was **£42,200**. This might sound reasonable but let's look at the figures:

Employee 1 earned £8,000
Employee 2 earned £12,000
Employee 3 earned £8,000
Employee 4 earned £8,000
The **director** of the company earned **£175,000**

Because the director earned much more than the employees his/her salary raised the mean salary. Let's do the sum:

To work out the mean, first find the total of the wages:

8,000 + 12,000 + 8,000 + 8,000 + 175,000 = 211,000

Then divide by 5, the number of people:
211,000 ÷ 5 = 42,200

The mean salary was **£42,200**. But the employees earned a lot less than the mean salary. For this reason we say that the **mean is distorted.**

Example

The average price of a house in an area seems reasonable.

But be careful, the average could be **distorted.**

The mean price could be distorted if one or two houses are selling for much less than the others (perhaps because they need work doing to them). It may seem like a cheap area in which to buy a house. But if you look at all the prices individually they may be more expensive than the mean (or 'average') price suggested!

People sometimes refer to the 'average' price of houses when often what they're talking about is the mean price.