How to calculate standard deviation and what does it mean?

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Managing My Investments

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1. Obtain the average (or mean) of all the (daily) share prices over the period in question. To do this, add up all the daily recordings of the share price and divide by the number of those daily recordings.
2. For each share price, work out its difference from this mean and then square this difference. So if the difference is 4 pence, the square would be 16 and so on.
3. Once you have done the second step for all the share prices, add up all these 'squares'.
4. Divide the total you get in the third step by the total number of share prices. So if the total of the 'squares' is 10000 and the number of share price recordings is 100, you end up with 10000/100 = 100.
5. Find the square root of the outcome from the fourth step. So if the outcome from the fourth step is 100, then the square root of this is 10 pence. This is the Standard deviation and it can either be expressed as an absolute number (i.e. 10 pence) or as a % of the mean share price.

The statistical meaning of a (i.e. one) standard deviation is that it captures 68% of the individual recorded prices. So if the standard deviation in the example above is 10 pence, then 68% of the share prices are within 10 pence of the average (or mean) share price (either higher or lower).

Note that this methodology applies when measuring the standard deviation of the entire population of a statistical series (e.g. the price level of a share for each day since it was issued). If a sample is being used from an entire series the number divided into the total of the squares in step 4 of the calculation above would be 1 less than the sample size i.e. 'n – 1' where n is the number is the total number of price observations.