

Re: "Regression" average VS the "Arithmetic" Average

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- *From:* "The Last Danish Pastry" <clivet@xxxxxxxx>
 - *Date:* Mon, 19 Feb 2007 09:55:40 -0000
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"Brablo" <gestureofrespect@xxxxxxxx> wrote in message
news:1171855401.344234.270730@xx

Here is the data (all ~487 or so points of the S&P 500).

You totally misunderstood what I'm saying. I did *NOT* set up one experiment with a constant. Let me re-clarify what I did.

1. In my first experiment, I simply took the arithmetic average of the P/B ratio of all 487 points. P/B is simply the market cap of the stock divided by the book value of the company. So to find the average (market capped weighted, essentially), summed up the entire market cap of the S&P 500. I also summed up the entire book value of these 487 companies. Now i have 2 very, very large numbers. When I divide the first of these numbers (total Market Cap which exceeds \$12T) by the second, I get 2.85.

2. In my second experiment, I decided to regress the market cap (MC) to the BV without including a constant. It was found that the slope relating the BV to the MC (the P/B ratio) was 2.50. This value is quite different from the first answer of 2.85.

It would probably be simpler if we reduced the number of companies, and the sizes of the numbers involved.

Consider just two companies, C1 and C2.

C1: MC= 3, BV=1

C2: MC=21, BV=2

Your first experiment would give, I think, a result of 8
 $= (3+21)/(1+2) = 24/3$

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Your second experiment would give, I think, a result of 9
 $= (3x_1 + 21x_2)/(1x_1 + 2x_2) = 45/5$

Are my 8 and 9 correct?

Do you understand why the two numbers are different?

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Clive Tooth

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