

Re: Statistics Basics

Source: <http://sci.tech-archive.net/Archive/sci.math/2007-01/msg05185.html>

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 - *Date:* 24 Jan 2007 10:29:35 -0800
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On Jan 24, 5:57 pm, NPD...@xxxxxxxxxxx wrote:

I'm trying to figure out some simple regression theory and would appreciate help/comments from the talented folks reading this.

In Simple Linear Regression (SLR),

$$Y_i = \beta_0 + \beta_1 X_i + \epsilon_i$$

we assume that the parameters β_0 and β_1 are constants along with X_i

Now, the estimated SLR eqn is :

$\hat{Y}_i = b_0 + b_1 X_i$, where " $\hat{}$ " denotes hat which is an estimate of the parameter

Now, when we make inferences for b_0 and b_1 , we talk about their expectations, variances and sampling distributions which means that we are saying at the outset that they are random variables (RVs).

So, then would it be correct to say that b_0 , b_1 are RVs, but the parameters β_0 , β_1 are NOT (they are constants) ?

If true, then isn't it rather strange that the parameters are NOT RVs, but the estimates (b_0 , b_1) of the parameters ARE RVs ? Is there an intuitive reasoning ?

I don't really understand what distinction you are trying to make between b_0 and β_0 , and b_1 and β_1 .

b_0 and b_1 are constants. Their values are determined by analysing the sample data.