

Re: how to determine the variance of dependant variable when all the var. of ind. variables r known in a linear relation

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- *From:* "Jerry" <jsu006@xxxxxxxxxx>
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thank everyone of u for helping me here. I personally don't mind the way of Greg's "teaching". His way might be not proper in this board (which i am not sure), but he intended to help me out. I think encouragement of engaging is more important is such public groups, though good suggestions are always helpful.

Old Mac User wrote:

Greg...

I think it would be nice if you would give this person the answer without asking him/her to dig further into $\text{VAR}(y) = E\{ (y - E\{y\})^2 \}$

IMHO, when a person comes to this board with a reasonable question... expresses that question in "plain English"... then we should provide a direct and practical answer without asking them to "learn all about statistics".

Tutoring students who are attending courses for credit is one thing. Helping someone with a simple question is another. As a consultant I'm expected to "answer questions", not drive my clients to dig into matters of little or no concern to them.

Full Disclosure: I'm a chemical engineer and also a statistician.

Something like...

$$\text{Var}(y) = (a^2) * \text{Var}(X1) + (b^2) * \text{Var}(X2)$$

assuming that a, b, and c are constants which are not subject to random variation
and assuming that the errors in X1 and X2 are not correlated with each other.

OMU

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Greg Heath wrote:

Jerry wrote:

hi, here is the question,

if we know,

$$y = a * X1 + b * X2 + c$$

and we also know the variance of X1 and X2, how to evaluate the variance of the Y?

Plug in and simplify:

$$\text{VAR}(y) = E\{ (y - E\{y\})^2 \}$$

Hope this helps.

Greg

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