

Re: Marginals of a trivariate normal

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On Sep 20, 4:34 pm, paleostat <paleol...@xxxxxxxxxx> wrote:

I am trying to get clarity on the following problem, which was posed to me by a friend (who claims to be the original formulator!). It's very simple to state, but I am stuck. The answer is not known to me. Here it is:

"Consider three random variables, X, Y, Z. we assume that each pair of random variables follows a bivariate normal distribution. Is this sufficient to state that the joint distribution of the three random variables is normal?"

It is well known that normal marginals of a bivariate distribution don't imply a joint normal. the previous question is to some extent a generalization of this statement in higher dimensions.

Any insight is greatly appreciated!

-G

No, I won't think so. Although the counter example would not be obvious to construct. But I am sure you can make one by Copula methods.

Zhi

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