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Professor Wu has made a substantial contribution to a difficult area: the study of resampling methods in regression. The idea of weighted jackknife and bootstrap estimates of variance is an intriguing and potentially useful one. However, I feel that this paper falls short of providing any definitive answers because it overemphasizes unbiasedness and fails to address some important statistical issues. I will elaborate on these points as they relate to estimates of variance in regression, then I will conclude with a few remarks about confidence procedures. Despite the mostly critical comments that follow, I want to make it clear that I wholeheartedly endorse one of the major thrusts of the paper, namely Professor Wu's recommendation that "important features of a problem should be taken into account in the choice of resampling methods." This is good advice—it is just not clear yet how to do this in many problems.

Before computing an estimate of variance in a regression, there are two important questions that we should ask: (1) is our model adequate for the data and (2) do we want an estimate of the conditional or unconditional variance? Let us consider the first point. Given that we are going to use a linear model, the two main types of model inadequacy are misspecification of the mean of the response and nonhomogeneity of errors. Professor Wu assumes throughout that the mean part of the model is correctly specified. In fact, it is when the mean is misspecified that the unweighted procedures can still give a reliable estimate of variance. This is what I believe Efron and Gong meant in their claim about the robustness of the unweighted bootstrap. We will return to this point later, but for now we will assume that the mean is specified correctly, with possible heterogeneity of error variance.

Regarding the second point, Professor Wu uses the *conditional* variance, that is, the variance conditional on the observed X's, as his gold standard. An alternative gold standard is the unconditional variance, averaging over the marginal distribution of the X's. Which is the "correct" variance is an arguable point when the X's are not fixed by design, although ancillarity arguments can

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