

## Is “Objective Bayesian Analysis” objective, Bayesian, or wise? (Comment on Articles by Berger and by Goldstein)

Joseph B. Kadane\*,

“Every form of comfort has its price.”

The Eagles

It is a pleasure to have these two papers. Michael Goldstein gives us several examples of the successful use of the subjective approach, and argues that only a subjective approach could be successful with at least some of them. Since Jim Berger does not deny the usefulness of subjective Bayesian analysis – indeed he calls it “indispensable” – I suppose there is hardly anything in Michael’s paper that Jim would disagree with, nor would I.

So the issues here have more to do with Jim’s paper, in which he argues for a place in the Bayesian repertoire for what he calls objective Bayesian methods. At the outset, it is well to recognize that modeling (for me, this involves both the likelihood and the prior) is approximate, and that one often uses familiar choices with an implicit or explicit hope and expectation that the intended uses are robust against “small” variations in the model. Unlike Jim, I believe that what “small” amounts to in practice will vary by problem (and by analyst), and constitutes part of the judgments we are required to make and defend. Jim would go further and anoint certain of these familiar choices with the label “objective,” perhaps in the hopes of deflecting questions about the sensitivity of the conclusions to the judgments embodied in the analysis. It would certainly be nice if a claim of doing objective Bayesian analysis could be sustained. The thesis of this comment is that it cannot.

The name “objective” is not, I think, a good one for advancing the discussion, among other reasons because rhetorically it is opposite of “subjective,” which has unfair connotations of incomplete consideration. A better name, I think, would be “interpersonal” or “nonpersonal,” to be contrasted to the “personal” philosophy associated with de Finetti, Lindley, Savage, Raiffa, and Ramsey.

Perhaps it would be useful to begin with the question of why personal Bayesian analysis is attractive as a substitute for sampling theory statistics, of either the Fisherian or Neyman-Pearson varieties.

First, the personal view of probability gives reasons why the axioms of probability are what they are, in terms of avoiding sure loss. The usual classical treatments of probability offer no such explanations. The consequences of these axioms are the

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\*Department of Statistics, Carnegie Mellon University, Pittsburgh, PA,  
<http://www.stat.cmu.edu/~kadane>