# Finite Sample Inference in the SUR Model

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The effect of adding equations on coefficient uncertainty in a system of seemingly unrelated regression equations is analyzed. In contrast to Fiebig and Kim (1999), who use a sampling-theory approach, our criterion for measuring parameter uncertainty is the marginal posterior standard deviations of the coefficients. Using an improper noninformative prior, and two proper, mildly informative priors, we evaluate posterior standard deviations for systems of different sizes and compare them with SUR and maximum likelihood standard errors. We find that, despite the additional uncertainty created by additional unknown covariance parameters, adding equations generally improved estimation precision whenever proper priors are used.

**Keywords:** Bayesian inference; Gibbs sampler; *g*-prior; measuring parameter uncertainty
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