

Approximate Bayes factors and Bayesian Trace Statistics

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Estimation of the reduced rank regression model requires restrictions be imposed upon the model. Two forms of restrictions are commonly used. Earlier Bayesian work relied on the triangular method of identification which imposes an a priori ordering on the variables in the system, however, incorrect ordering of the variables can result in model misspecification. Bayesian estimation of the reduced rank regression model without ordering restrictions was presented in Strachan (1998) and follows the classical approach of Anderson (1951) and Johansen (1988). This method of estimation avoids placing restrictions on the space spanned by the reduced rank relations. In this paper, a method for estimating approximate marginal likelihoods and Bayes factors is presented for this model, using Laplace approximations for integrals. These Bayes factors algebraically resemble the Johansen trace statistic (1995), hence the title. We consider the model with rank r and no restrictions on the reduced rank relations.

Key Words: reduced rank regression model; error correction model; marginal likelihoods; Bayes factors; Bayesian analysis

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