

Economics 696F, Homework 6

Due Friday, April 14, 2006

Continue to work with the probit model and the data set from homework 5.

Use the improper prior

$$p(\alpha, \beta) \propto 1,$$

Write a “Metropolis-within-Gibbs” sampler for the posterior distribution of α, β . This should draw the latent y_i^* as before, from their full conditional distributions given the observed data and the current draw for α, β .

To draw for (α, β) , use a random-walk Metropolis step as described in LN12. Experiment with different values for the scaling σ , and describe how this affects convergence of the MCMC algorithm.

Propose a value of σ that “works well” for this particular model and data set. Explain what you mean by “works well” and justify your choice of σ as completely as possible.