

# Chapter 10 - Pseudo Priors

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## Pseudo Priors:

1. Run a MCMC estimation with a regular prior.
2. If high autocorrelation, run model again using the estimated posterior
3. Repeat until the pseudo prior distribution mimics the posterior AND low autocorrelation

## How to get the pseudo prior values

The values for the pseudo-priors are determined as follows:

1. Do an initial run of the analysis with the pseudo-prior set to the true prior. Note the characteristics of the marginal posterior distributions on the parameters.
2. Set the pseudo-prior constants to values that mimic the currently estimated posterior. Run the analysis. Note the characteristics of the marginal posterior distributions on the parameters. Repeat this step if the pseudo-prior distributions are very different from the posterior distributions.

- Can run as many times as needed

## Example Using Posterior from MCMC as Prior

- LHS shows regular prior used
- RHS shows posterior used as prior (pseudo prior), which solves autocorrelation and distributions represent each other

