

# Case Study 1: Marriage Rates in Italy

## 1 The data

Annual marriage counts per 1,000 of the population in Italy from 1936 to 1961 (from Columbo 1952). Dataset “ItalyMarriageRates.csv” on Moodle.

## 2 Some questions

1. Are marriage rates before, during, and after World War II the same?
2. What are your Bayesian methods? What assumptions are you making? Are the assumptions justified?
3. What are the parameter(s) in your model(s)? What prior distribution(s) do you use? Are full conditional distribution(s) recognizable?
4. What is your computation scheme?
5. What’s your posterior summary of your parameter(s)? (Don’t forget MCMC diagnostics to make sure your chain has converged.)
6. What is your conclusion?