

# DYNARE COURSE

## Application 2

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Get the paper by Rubio Ramirez and Rabanal from papers/JEEA.pdf  
Get rr2005/rr.mod and rr2005/datarabanal.m

1. Run `rr.mod` as it is. Note that 20000 Metropolis iterations are much too few are only for the sake of the exercise. See below.
2. Compare the Laplace and the Modified Harmonic Mean approximation for the log of the marginal density.
3. Modify the model, so as to include price indexation and Calvo wages (without indexation). Look at the paper to find how to do it. Note that in equation 6',  $w_t - p_t = rw_t$  and  $w_t - w_{t-1} = winf_t$ . From now on, do all the computations with only 1 Metropolis chain so as to shorten the time of computation. Check that the average acceptance rate is in the 20%–30% range.
4. Compare the two models by computing the Bayes factor.
5. Redo the computations while doubling the standard deviation of `thetabig` and `thetabigw`. How does it change the results?