

## MATLAB Computer Session 4: TVP-VARs

This exercise uses code from [http://personal.strath.ac.uk/gary.koop/bayes\\_matlab\\_code\\_by\\_koop\\_and\\_korobilis.html](http://personal.strath.ac.uk/gary.koop/bayes_matlab_code_by_koop_and_korobilis.html) and refers to the monograph: Koop, G. and Korobilis, D. (2010). *Bayesian Multivariate Time Series Methods for Empirical Macroeconomics* which is available on this website. I have also put code and data for this exercise on the website associated with this course:

[http://personal.strath.ac.uk/gary.koop/BoK\\_course.html](http://personal.strath.ac.uk/gary.koop/BoK_course.html)

### MATLAB Exercises:

#### 1. *Homoskedastic TVP-VAR*:

Use the code that runs the homoskedastic TVP-VAR (`Homo_TVP_VAR.m`) and was used for the empirical illustration of Section 4.1.1 of the monograph. Extract impulse responses for different time periods and investigate how sensitive results are to the choice of prior.

#### 2. *Heteroskedastic TVP-VAR*:

Use the code (`Hetero_TVP_VAR.m`) that runs the TVP-VAR with stochastic volatility model of Primiceri (2005, Review of Economic Studies) and was used for the empirical illustration of Section 4.3 of the monograph. Get impulse responses for different time periods, and plot graphs of the time-varying volatilities. Compare your results to those of Exercise 1.