

Review of Literature

Dynamic Stochastic General Equilibrium (DSGE) Models

SCHMITT-GROHE, S. AND M. URIBE (2003): “*Closing small open economy models*,” Journal of International Economics, 61, 163–185.

SCHMITT-GROHE, S. AND M. URIBE (2004): “*Solving dynamic general equilibrium models using a second-order approximation to the policy function*,” Journal of Economic Dynamics and Control, 28, 755–775.

FERNANDEZ-VILLAYERDE, J., RUBIO-RAMIREZ, J.F., AND SCHORFHEIDE F. (2016): “*Solution and Estimation Methods for DSGE Models*.” Handbook of Macroeconomics, 2:527–724. Elsevier.

FERNANDEZ-VILLAYERDE, J., AND GUERRON-QUINTANA, P. A. (2021): “*Estimating DSGE models: Recent advances and future challenges*,” Annual Review of Economics, 13.

Hamiltonian Monte Carlo (HMC)

BETANCOURT, M. (2017): “*A Conceptual Introduction to Hamiltonian Monte Carlo*” arXiv:1701.02434 [stat.ME]

HOFFMAN, M. D. AND A. GELMAN (2014): “*The No-U-Turn sampler: adaptively setting path lengths in Hamiltonian Monte Carlo*.” Journal of Machine Learning Research, 15, 1593–1623.

HMC methods for DSGE estimation

FARKAS, M. AND B. TATAR (2020): “*Bayesian estimation of DSGE models with Hamiltonian Monte Carlo*,” Tech. rep., IMFS Working Paper Series.

Joint Sampling Procedure

SARKKA, S. (2013): “*Bayesian Filtering and Smoothing*”, 3, Cambridge University Press.

Recursive Utility Functions in DSGEs

CALDARA, D., FERNANDEZ-VILLAYERDE, J., RUBIO-RAMIREZ, J., AND YAO, W. (2012). “*Computing DSGE Models with Recursive Preferences and Stochastic Volatility*,” Review of Economic Dynamics, Elsevier for the Society for Economic Dynamics, vol. 15(2), pages 188-206, April.

Machine Learning with DSGEs

HALL-HOFFARTH, E. (2023) “*Non-linear approximations of DSGE models with neural-networks and hard-constraints*” arXiv:2310.13436 [econ.TH]

Code Repositories

Calders et al. 2022 replication code (MATLAB/Julia) :

github.com/HighDimensionalEconLab/HMCEXamples.jl

DSGEpy: library for linearized DSGE with markov chains Monte Carlo (Python)

github.com/gusamarante/dsgepy