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Description

DSGE stands for dynamic stochastic general equilibrium. DSGE models are multivariate time-series models that are used in economics, in particular, macroeconomics, for policy analysis and forecasting. These models are systems of equations that are typically derived from economic theory. As such, the parameters are often directly interpretable based on theory. DSGE models are unique in that equations in the system allow current values of variables to depend not only on past values but also on expectations of future values.

The `dsgen1` command estimates parameters of nonlinear DSGE models.

The `dsgc` command estimates parameters of linear DSGE models.

Remarks and examples

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We recommend that you read this manual beginning with [\[DSGE\] Intro 1](#) and then continue with the remaining introductions. In these introductions, we will introduce DSGE models, show you how to use the `dsgen1` and `dsgc` commands, walk you through worked examples of classic models, and present solutions to common stumbling blocks.

[\[DSGE\] Intro 1](#) and [\[DSGE\] Intro 2](#) are essential reading. Read them first. Here you will find an overview of DSGE models, descriptions of concepts used throughout the manual, discussion of assumptions, a first worked example, and an introduction to the syntax.

[\[DSGE\] Intro 1](#)

Introduction to DSGEs

[\[DSGE\] Intro 2](#)

Learning the syntax

[\[DSGE\] Intro 3](#) focuses on classical DSGE models. It includes a series of examples that illustrate model solution, model estimation, and postestimation procedures for simple variants of common models.

[\[DSGE\] Intro 3](#)

Classic DSGE examples

[\[DSGE\] Intro 3a](#)

New Keynesian model

[\[DSGE\] Intro 3b](#)

New Classical model

[\[DSGE\] Intro 3c](#)

Financial frictions model

[\[DSGE\] Intro 3d](#)

Nonlinear New Keynesian model

[\[DSGE\] Intro 3e](#)

Nonlinear New Classical model

[\[DSGE\] Intro 3f](#)

Stochastic growth model

[\[DSGE\] Intro 4](#) discusses some features commonly found in DSGE models and how to specify models with those features to `dsgc` and `dsgen1`. The structural equations of the DSGE model must have a specific structure so that the model can be solved. Often, DSGE models are written using intuitive forms that do not have this structure. These intuitive forms can be rewritten in a logically equivalent form that has the structure required for solution. [\[DSGE\] Intro 4](#) provides an overview of this topic and examples demonstrating solutions.

[DSGE] Intro 4	Writing a DSGE in a solvable form
[DSGE] Intro 4a	Specifying a shock on a control variable
[DSGE] Intro 4b	Including a lag of a control variable
[DSGE] Intro 4c	Including a lag of a state variable
[DSGE] Intro 4d	Including an expectation dated by more than one period ahead
[DSGE] Intro 4e	Including a second-order lag of a control
[DSGE] Intro 4f	Including an observed exogenous variable
[DSGE] Intro 4g	Correlated state variables

[DSGE] **Intro 5**–[DSGE] **Intro 8** discuss technical issues. These introductions are essential reading, even though they are last.

[DSGE] Intro 5	Stability conditions
[DSGE] Intro 6	Identification
[DSGE] Intro 7	Convergence problems
[DSGE] Intro 8	Wald tests vary with nonlinear transforms

[DSGE] **Intro 9**, [DSGE] **Intro 9a**, and [DSGE] **Intro 9b** discuss Bayesian estimation.

[DSGE] Intro 9	Bayesian estimation
[DSGE] Intro 9a	Bayesian estimation of a New Keynesian model
[DSGE] Intro 9b	Bayesian estimation of stochastic growth model

The main command entries are references for syntax and implementation details. All the examples are in the introductions discussed above.

[DSGE] dsge	Linear dynamic stochastic general equilibrium models
[DSGE] dsge postestimation	Postestimation tools for dsge
[DSGE] dsgenl	Nonlinear dynamic stochastic general equilibrium models
[DSGE] dsgenl postestimation	Postestimation tools for dsgenl
[DSGE] estat covariance	Display estimated covariances of model variables
[DSGE] estat policy	Display policy matrix
[DSGE] estat stable	Check stability of system
[DSGE] estat steady	Display steady state of nonlinear DSGE model
[DSGE] estat transition	Display state transition matrix

[BAYES] bayes: dsge	Bayesian linear dynamic stochastic general equilibrium models
[BAYES] bayes: dsgenl	Bayesian nonlinear dynamic stochastic general equilibrium models
[BAYES] bayes: dsge postestimation	Postestimation tools for bayes: dsge and bayes: dsgenl
[BAYES] bayesirf	Bayesian IRFs, dynamic-multiplier functions, and FEVDs

Also see

[DSGE] [Intro 1](#) — Introduction to DSGEs

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