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Description

`estat steady` displays the estimated steady-state values of variables in a nonlinear DSGE model.

Quick start

Display the estimated steady-state values

```
estat steady
```

Same as above, but with 90% confidence intervals

```
estat steady, level(90)
```

Menu for estat

Statistics > Postestimation

Syntax

```
estat steady [ , compact level(#) display_options ]
```

`collect` is allowed; see [\[U\] 11.1.10 Prefix commands](#).

Options

`compact` reports only the coefficient values of the estimated steady-state vector.

`level(#)` specifies the confidence level, as a percentage, for confidence intervals. The default is `level(95)` or as set by `set level`; see [\[U\] 20.8 Specifying the width of confidence intervals](#).

display_options: `noci`, `nopvalues`, `cformat(%fmt)`, `pformat(%fmt)`, `sformat(%fmt)`, and `nolstretch`; see [\[R\] Estimation options](#).

Remarks and examples

A nonlinear DSGE model is a system of equations describing the relationships among model variables. These relationships are dynamic and subject to random shocks. When the random shocks are set to zero, the model variables converge to fixed values over time. This vector of fixed values is known as the steady-state vector. The steady-state vector solves the system of equations when past and future values of each variable are replaced with their present value and expectations are dropped.

`estat steady` displays the estimated steady-state value of each variable.

For an example of `estat steady`, see [\[DSGE\] Intro 3f](#).

Stored results

`estat steady` stores the following in `r()`:

Matrices

`r(steady)` estimated steady-state vector

Methods and formulas

A nonlinear DSGE model can be written in the structural form

$$E_t \{ \mathbf{f}(\mathbf{x}_{t+1}, \mathbf{y}_{t+1}, \mathbf{x}_t, \mathbf{y}_t; \boldsymbol{\theta}) \} = \mathbf{0}$$

The steady state is obtained by solving

$$\mathbf{f}(\mathbf{x}, \mathbf{y}, \mathbf{x}, \mathbf{y}; \boldsymbol{\theta}) = \mathbf{0}$$

The resulting (\mathbf{x}, \mathbf{y}) is a function of the parameter vector $\boldsymbol{\theta}$. Standard errors are calculated using the delta method.

Also see

[DSGE] [dsgenl](#) — Nonlinear dynamic stochastic general equilibrium models

[DSGE] [dsgenl postestimation](#) — Postestimation tools for `dsgenl`

[DSGE] [Intro 3f](#) — Stochastic growth model

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