Title

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bayesirf graph — Graphs of Bayesian IRFs, dynamic-multiplier functions, and FEVDs

Description

`bayesirf graph` graphs Bayesian impulse–response functions (IRFs), dynamic-multiplier functions, and forecast-error variance decompositions (FEVDs) over time.

Quick start

Graph IRF for dependent variables `y1` and `y2` given an unexpected shock to `y1`

```
bayesirf graph irf, impulse(y1) response(y2)
```

Same as above, but for orthogonalized shocks

```
bayesirf graph oirf, impulse(y1) response(y2)
```

Same as above, but begin the plot with the third forecast period

```
bayesirf graph oirf, impulse(y1) response(y2) lstep(3)
```

Same as above, but with a separate graph for each IRF in the current IRF file

```
bayesirf graph oirf, impulse(y1) response(y2) lstep(3) individual
```

Note: `bayesirf` commands can be used after `bayes: var`, `bayes: dsge`, or `bayes: dsgenl`; see [BAYES] **bayes: var**, [BAYES] **bayes: dsge**, or [BAYES] **bayes: dsgenl**.

Menu

Statistics > Multivariate time series > Bayesian models > IRF and FEVD analysis

Syntax

```
bayesirf graph stat [ , options ]
```

stat	Description
Main	
`irf`	IRF
`oirf`	orthogonalized IRF
`dm`	dynamic-multiplier function
`cirf`	cumulative IRF
`coirf`	cumulative orthogonalized IRF
`cdm`	cumulative dynamic-multiplier function
`fevd`	Cholesky forecast-error variance decomposition

Notes: 1. No statistic may appear more than once.
2. If credible intervals are included (the default), only two statistics may be included.
3. If credible intervals are suppressed (option `nocri`), up to four statistics may be included.
4. Only `irf` is available after `bayes: dsge` and `bayes: dsgenl`.

options	Description
irf_options	any *options* documented in [TS] **irf graph**
Bayesian	
`nocri`	suppress credible intervals
`clevel(#)`	set credible interval level; default is set by `bayesirf create`
`equaltailed`	display equal-tailed credible intervals; default is set by `bayesirf create`
`hpd`	display HPD credible intervals; default is set by `bayesirf create`
`median`	display posterior medians instead of posterior means
CrI plot	
`cri#opts(`*area_options*`)`	affect rendition of the credible interval for the # *stat*

The **CrI plot** tab replaces the **CI plot** tab of [TS] **irf graph**.

`collect` is allowed; see [U] **11.1.10 Prefix commands**.

Options

irf_options are any of the *options* documented in [TS] **irf graph**. `level(#)` is a synonym for `clevel(#)`, `noci` is a synonym for `nocri`, and `ci#opts()` is a synonym for `cri#opts()`. Synonymous options do not appear on the dialog box.

Bayesian

`nocri` suppresses displaying the credible intervals for each statistic.

`clevel(#)`, `equaltailed`, and `hpd` affect the calculation of credible intervals. When the specified options do not correspond to the default credible intervals saved in the current IRF file by `bayesirf`

`create`, `bayesirf` will need an IRF MCMC sample to recompute the credible intervals. You can save this sample by specifying option `mcmcsaving()` with `bayesirf create`. Alternatively, if you would like to save the desired credible intervals as the default credible intervals in the current IRF file, you can specify the corresponding options directly with `bayesirf create`. See *Remarks and examples* in [BAYES] **bayesirf create**.

`clevel(#)` specifies the credible level, as a percentage, for equal-tailed and HPD credible intervals.

`equaltailed` displays the equal-tailed credible intervals. `equaltailed` may not be specified with `hpd`.

`hpd` displays the HPD credible intervals. `hpd` may not be specified with `equaltailed`.

`median` displays the posterior medians instead of the default posterior means.

CrI plot

`cri1opts(`*area_options*`)` and `cri2opts(`*area_options*`)` affect the rendition of the credible intervals for the first (`cri1opts()`) and second (`cri2opts()`) statistics in *stat*. *area_options* are as described in [G-3] ***area_options***. `irf`'s `ci#opts()` is a synonym for `cri#opts()`.

The **CrI plot** tab replaces the **CI plot** tab of [TS] **irf graph**.

Remarks and examples

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See [TS] **irf graph** for a general discussion about IRF and other graphs, and see example 8 in [BAYES] **bayes: var** for an example.

Also see [BAYES] **bayesirf cgraph**, which produces combined graphs; [BAYES] **bayesirf ograph**, which produces overlaid graphs; and [BAYES] **bayesirf table**, which displays results in tabular form.

Stored results

For stored results, see *Stored results* in [TS] **irf graph**.

Also see

[TS] **irf graph** — Graphs of IRFs, dynamic-multiplier functions, and FEVDs

[BAYES] **bayesirf cgraph** — Combined graphs of Bayesian IRF results

[BAYES] **bayesirf ograph** — Overlaid graphs of Bayesian IRF results

[BAYES] **bayesirf create** — Obtain Bayesian IRFs, dynamic-multiplier functions, and FEVDs

[BAYES] **bayesirf table** — Tables of Bayesian IRFs, dynamic-multiplier functions, and FEVDs

[BAYES] **bayesirf** — Bayesian IRFs, dynamic-multiplier functions, and FEVDs

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