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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: dsge1`; see [\[BAYES\] bayes: var](#), [\[BAYES\] bayes: dsge](#), or [\[BAYES\] bayes: dsge1](#).

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: dsge1.

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 in 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

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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