

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

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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: 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 ]
```

<i>stat</i>	Description
Main	
<code>irf</code>	IRF
<code>oirf</code>	orthogonalized IRF
<code>dm</code>	dynamic-multiplier function
<code>cirf</code>	cumulative IRF
<code>coirf</code>	cumulative orthogonalized IRF
<code>cdm</code>	cumulative dynamic-multiplier function
<code>fevd</code>	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: dsgen1`.

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

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

[stata.com](#)

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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