

[Description](#)
[Options](#)[Quick start](#)
[Remarks and examples](#)[Menu](#)
[Stored results](#)[Syntax](#)
[Also see](#)

Description

`bayesirf cgraph` makes a combined graph of Bayesian impulse–response function (IRF) results. A graph is made for specified combinations of named IRF results, impulse variables, response variables, and statistics. `bayesirf cgraph` combines these graphs into one image, unless separate graphs are requested.

Quick start

Combine graphs of an orthogonalized IRF `birf` and cumulative IRF `birf` for dependent variable `y1` and `y2`.

```
bayesirf cgraph (birf y1 y2 oirf) (birf y1 y2 cirf)
```

Same as above, but with maximum steps of 4 and 80% credible interval

```
bayesirf cgraph (birf y1 y2 oirf) (birf y1 y2 cirf), ustep(4) clevel(80)
```

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 cgraph (spec1) [ (spec2) ... (specN) ] [ , options ]
```

where (*spec*_{*k*}) is

```
(irfname impulsevar responsevar stat [ , spec_options ])
```

irfname is the name of a set of IRF results in the active IRF file. *impulsevar* should be specified as an endogenous variable for all statistics except dm and cdm; for those, specify as an exogenous variable. *responsevar* is an endogenous variable name. *stat* is one or more statistics from the list below:

<i>stat</i>	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.

<i>options</i>	Description
<i>irf_options</i>	any <i>options</i> documented in [TS] irf cgraph
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(<i>area_options</i>)	affect rendition of the credible interval for the # <i>stat</i>

The **Cri plot** tab replaces the **CI plot** tab of [\[TS\] irf cgraph](#).
collect is allowed; see [\[U\] 11.1.10 Prefix commands](#).

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

spec_options may be specified within a graph specification, globally, or in both. When specified in a graph specification, the *spec_options* affect only the specification in which they are used. When supplied globally, the *spec_options* affect all graph specifications. When supplied in both places, options in the graph specification take precedence.

Options

irf_options and *irf_spec_options* are any of the *options* and *spec_options*, respectively, documented in [TS] [irf cgraph](#). *level*(#) is a synonym for *clevel*(#), *nocri* 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.

Crl 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 **Crl plot** tab replaces the **CI plot** tab of [TS] *irf cgraph*.

Remarks and examples

See [TS] *irf cgraph* for a general discussion about combined IRF and other graphs.

Also see [BAYES] *baysirf graph*, which produces individual graphs; [BAYES] *baysirf ograph*, which produces overlaid graphs; and [BAYES] *baysirf table*, which displays results in tabular form.

Stored results

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

Also see

[TS] *irf cgraph* — Combined graphs of IRFs, dynamic-multiplier functions, and FEVDs

[BAYES] *baysirf graph* — Graphs of Bayesian IRFs, dynamic-multiplier functions, and FEVDs

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

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

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

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

Stata, Stata Press, Mata, NetCourse, and NetCourseNow are registered trademarks of StataCorp LLC. Stata and Stata Press are registered trademarks with the World Intellectual Property Organization of the United Nations. StataNow is a trademark of StataCorp LLC. Other brand and product names are registered trademarks or trademarks of their respective companies. Copyright © 1985–2025 StataCorp LLC, College Station, TX, USA. All rights reserved.



For suggested citations, see the FAQ on [citing Stata documentation](#).