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Description

`bayesirf ograph` displays plots of Bayesian impulse–response function (IRF) results on one graph (one pair of axes).

Quick start

Graph of an orthogonalized IRF `birf` overlaid on cumulative IRF `birf` for dependent variable `y1` and `y2`
`bayesirf ograph (birf y1 y2 oirf) (birf y1 y2 cirf)`

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 ograph (spec1) [ (spec2) ... [ (spec15) ] ] [ , 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 or “.”, which means the first named result 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:

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

Note: Only *irf* is available after *bayes: dsge* and *bayes: dsge1*.

options	Description
irf_options	any options documented in [TS] irf ograph
Bayesian	
cri	add credible bands to the graph
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	
criopts(area_options)	affect rendition of the credible intervals

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

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 ograph
Bayesian	
<code>cri</code>	add credible bands to the graph
<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>criopts (area_options)</code>	affect rendition of the credible intervals

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 ograph](#). `level (#)` is a synonym for `clevel (#)`, `ci` is a synonym for `cri`, and `criopts ()` is a synonym for `criopts ()`. Synonymous options do not appear in the dialog box.

Bayesian

`cri` displays the credible intervals for each statistic. It is implied if `hpd` or `equaltailed` is specified.

`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

`criopts(area_options)` affects the rendition of the credible intervals for the plotted statistics; see [G-3] [area_options](#). `criopts()` implies `cri. irf's ciopts()` is a synonym for `criopts()`.

The **CrI plot** tab replaces the **CI plot** tab of [TS] [irf ograph](#).

Remarks and examples

See [TS] [irf ograph](#) for a general discussion about overlaid IRF and other graphs.

Also see [BAYES] [bayesirf graph](#), which produces individual graphs; [BAYES] [bayesirf cgraph](#), which produces combined graphs; and [BAYES] [bayesirf table](#), which displays results in tabular form.

Stored results

For stored results, see [Stored results](#) in [TS] [irf ograph](#).

Also see

[TS] [irf ograph](#) — Overlaid graphs of IRFs, dynamic-multiplier functions, and FEVDs

[BAYES] [bayesirf graph](#) — Graphs of Bayesian IRFs, dynamic-multiplier functions, and FEVDs

[BAYES] [bayesirf cgraph](#) — Combined graphs of Bayesian IRF results

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

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

[BAYES] [bayesirf](#) — Bayesian IRFs, dynamic-multiplier functions, and FEVDs

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