**fcast graph** — Graph forecasts after fcast compute



## Description

`fcast graph` graphs dynamic forecasts of the endogenous variables from a vector autoregressive (VAR) model or a vector error-correction (VEC) model that has already been obtained from `fcast compute`; see [TS] **fcast compute**.

## Quick start

Graph forecasts in `f_y1` after `fcast compute`

```
fcast graph f_y1
```

Same as above, and include observed values of the predicted variable

```
fcast graph f_y1, observed
```

Same as above, but suppress confidence bands

```
fcast graph f_y1, observed noci
```

## Menu

Statistics > Multivariate time series > VEC/VAR forecasts > Graph forecasts

# Syntax

```
fcast graph varlist [ if ] [ in ] [ , options ]
```

where *varlist* contains one or more forecasted variables generated by `fcast compute`.

| *options* | Description |
|---|---|
| Main | |
| `differences` | graph forecasts of the first-differenced variables (`vec` only) |
| `noci` | suppress confidence bands |
| `observed` | include observed values of the predicted variables |
| Forecast plot | |
| *cline_options* | affect rendition of the forecast lines |
| CI plot | |
| `ciopts(`*area_options*`)` | affect rendition of the confidence bands |
| Observed plot | |
| `obopts(`*cline_options*`)` | affect rendition of the observed values |
| Y axis, Time axis, Titles, Legend, Overall | |
| *twoway_options* | any options other than `by()` documented in [G-3] ***twoway_options*** |
| `byopts(`*by_option*`)` | affect appearance of the combined graph; see [G-3] ***by_option*** |

# Options

## Main

`differences` specifies that the forecasts of the first-differenced variables be graphed. This option is available only with forecasts computed by `fcast compute` after `vec`. The `differences` option implies `noci`.

`noci` specifies that the confidence intervals be suppressed. By default, the confidence intervals are included.

`observed` specifies that observed values of the predicted variables be included in the graph. By default, observed values are not graphed.

## Forecast plot

*cline_options* affect the rendition of the plotted lines corresponding to the forecast; see [G-3] ***cline_options***.

## CI plot

`ciopts(`*area_options*`)` affects the rendition of the confidence bands for the forecasts; see [G-3] ***area_options***.

## Observed plot

`obopts(`*cline_options*`)` affects the rendition of the observed values of the predicted variables; see [G-3] ***cline_options***. This option implies the `observed` option.

Y axis, Time axis, Titles, Legend, Overall

*twoway_options* are any of the options documented in [G-3] ***twoway_options***, excluding `by()`.

`byopts(`*by_option*`)` are documented in [G-3] ***by_option***. These options affect the appearance of the combined graph.

## Remarks and examples

`fcast graph` graphs dynamic forecasts created by `fcast compute`.

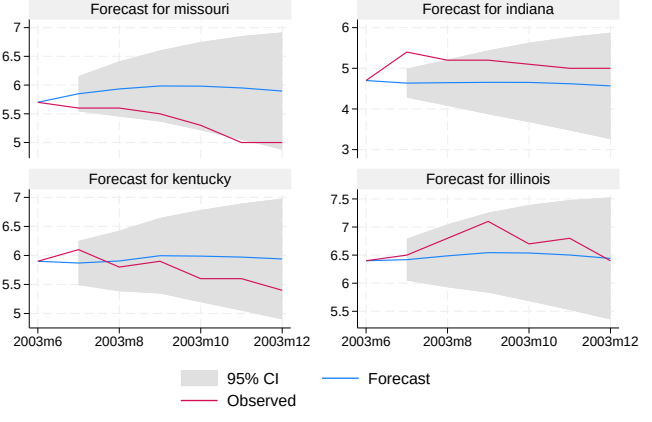
### Example 1

In this example, we use a cointegrating VEC model to model the state-level unemployment rates in Missouri, Indiana, Kentucky, and Illinois, and we graph the forecasts against a 6-month holdout sample.

```
. use https://www.stata-press.com/data/r19/urates
. vec missouri indiana kentucky illinois if t < tm(2003m7), trend(rconstant)
> rank(2) lags(4)
```

(*output omitted*)

```
. fcast compute m1_, step(6)
. fcast graph m1_missouri m1_indiana m1_kentucky m1_illinois, observed
```




Because the 95% confidence bands for the predicted unemployment rates in Missouri and Indiana do not contain all their observed values, the model does not reliably predict these unemployment rates.

## Also see

[TS] **fcast compute** — Compute dynamic forecasts

[TS] **var intro** — Introduction to vector autoregressive models

[TS] **vec intro** — Introduction to vector error-correction models

For suggested citations, see the FAQ on citing Stata documentation.