Title

> **forecast describe** — Describe features of the forecast model

Syntax

Describe the current forecast model

> <u>fore</u>cast <u>d</u>escribe [, *options*]

Describe particular aspects of the current forecast model

> <u>fore</u>cast <u>d</u>escribe *aspect* [, *options*]

aspect	Description
<u>est</u>imates	estimation results
<u>coef</u>vector	coefficient vectors
<u>id</u>entity	identities
<u>exog</u>enous	declared exogenous variables
<u>adj</u>ust	adjustments to endogenous variables
<u>s</u>olve	forecast solution information
<u>en</u>dogenous	all endogenous variables

options	Description
<u>brief</u>	provide a one-line summary
* <u>detail</u>	provide more-detailed information

* Specifying `detail` provides no additional information with *aspect*s exogenous, endogenous, and solve.

Description

forecast describe displays information about the forecast model currently in memory. For example, you can type forecast describe endogenous to obtain information regarding all the endogenous variables in the model. Typing forecast describe without specifying a particular aspect of the model is equivalent to typing forecast describe *aspect* for every *aspect* in the table above and can result in more output than you want, particularly if you specify the detail option.

Options

brief requests that forecast describe produce a one-sentence summary of the aspect specified. For example, forecast describe exogenous, brief will tell you just the current forecast model's name and the number of exogenous variables in the model.

detail requests a more-detailed description of the aspect specified. For example, typing `forecast describe estimates` lists all the estimation results added to the model using `forecast estimates`, the estimation commands used, and the number of left-hand-side variables in each estimation result. When you specify `forecast describe estimates, detail`, the output includes a list of all the left-hand-side variables entered with `forecast estimates`.

Remarks and examples   stata.com

For an overview of the `forecast` commands, see [TS] **forecast**. This manual entry assumes you have already read that manual entry. `forecast describe` displays information about the forecast model currently in memory. You can obtain either all the information at once or information about individual aspects of your model, whereby we use the word "aspect" to refer to, for example, just the estimation results, identities, or solution information.

▷ Example 1

In example 1 of [TS] **forecast**, we created and forecasted Klein's (1950) model of the U.S. economy. Here we obtain information about all the endogenous variables in the model:

```
. forecast describe endogenous
Forecast model kleinmodel contains 7 endogenous variables:
```

Variable	Source	# adjustments
1. c	estimates	0
2. i	estimates	0
3. wp	estimates	0
4. y	identity	0
5. p	identity	0
6. k	identity	0
7. w	identity	0

As we mentioned in [TS] **forecast**, there are seven endogenous variables in this model. Three of those variables (c, i, and wp) were left-hand-side variables in equations we fitted and added to our forecast model with `forecast estimates`. The other four variables were defined by identities added with `forecast identity`. The right-hand column of the table indicates that none of our endogenous variables contains adjustments specified using `forecast adjust`.

We can obtain more information about the estimated equations in our model using `forecast describe estimates`:

```
. forecast describe estimates, detail
Forecast model kleinmodel contains 1 estimation result:
```

Estimation result	Command	LHS variables
1. klein	reg3	c
		i
		wp

Our model has one estimation result, `klein`, containing results produced by the `reg3` command. If we had not specified the `detail` option, `forecast describe estimates` would have simply stated the number of left-hand-side variables (3) rather than listing them.

At the end of example 1 in [TS] **forecast**, we obtained dynamic forecasts beginning in 1936. Here we obtain information about the solution:

```
. forecast describe solve
Forecast model kleinmodel has been solved:
─────────────────────────────────────────────────────────────
Forecast horizon
   Begin                        1936
   End                          1941
   Number of periods            6
Forecast variables
   Prefix                       d_
   Number of variables          7
   Storage type                 float
Type of forecast                Dynamic
Solution
   Technique                    Damped Gauss-Seidel (0.200)
   Maximum iterations           500
   Tolerance for function values 1.0e-09
   Tolerance for function zero  (not applicable)
─────────────────────────────────────────────────────────────
```

We obtain information about the forecast horizon, how the variables holding our forecasts were created and stored, and the solution technique used. If we had used the simulate() option with forecast solve, we would have obtained information about the types of simulations performed and the variables used to hold the results.

◁

Stored results

When you specify option brief, only a limited number of results are stored. In the tables below, a superscript B indicates results that are available even after brief is specified. forecast coefvector saves certain results only if detail is specified; these are indicated by superscript D. Typing forecast describe without specifying an aspect does not return any results.

forecast describe estimates stores the following in r():

Scalars
   r(n_estimates)[B]   number of estimation results
   r(n_lhs)   number of left-hand-side variables defined by estimation results

Macros
   r(model)[B]   name of forecast model, if named
   r(lhs)   left-hand-side variables
   r(estimates)   names of estimation results

forecast describe identity stores the following in r():

Scalars
   r(n_identities)[B]   number of identities

Macros
   r(model)[B]   name of forecast model, if named
   r(lhs)   left-hand-side variables
   r(identities)   list of identities

`forecast describe coefvector` stores the following in `r()`:

Scalars
    $r(\texttt{n\_coefvectors})^B$ number of coefficient vectors
    $r(\texttt{n\_lhs})^B$ number of left-hand-side variables defined by coefficient vectors

Macros
    $r(\texttt{model})^B$ name of forecast model, if named
    `r(lhs)`   left-hand-side variables
    $r(\texttt{rhs})^D$ right-hand-side variables
    `r(names)`   names of coefficient vectors
    $r(\texttt{Vnames})^D$ names of variance matrices ("." if not specified)
    $r(\texttt{Enames})^D$ names of error variance matrices ("." if not specified)

`forecast describe exogenous` stores the following in `r()`:

Scalars
    $r(\texttt{n\_exogenous})^B$ number of declared exogenous variables

Macros
    $r(\texttt{model})^B$ name of forecast model, if named
    `r(exogenous)`   declared exogenous variables

`forecast describe endogenous` stores the following in `r()`:

Scalars
    $r(\texttt{n\_endogenous})^B$ number of endogenous variables

Macros
    $r(\texttt{model})^B$ name of forecast model, if named
    `r(varlist)`   endogenous variables
    `r(source_list)`   sources of endogenous variables (`estimates`, `identity`, `coefvector`)
    `r(adjust_cnt)`   number of adjustments per endogenous variable

`forecast describe solve` stores the following in `r()`:

Scalars
    `r(periods)`   number of periods forecast per panel
    `r(Npanels)`   number of panels forecast
    `r(Nvar)`   number of forecast variables
    `r(damping)`   damping parameter for damped Gauss–Seidel
    `r(maxiter)`   maximum number of iterations
    `r(vtolerance)`   tolerance for forecast values
    `r(ztolerance)`   tolerance for function zero
    `r(sim_nreps)`   number of simulations

Macros
    $r(\texttt{solved})^B$ `solved`, if the model has been solved
    $r(\texttt{model})^B$ name of forecast model, if named
    `r(actuals)`   `actuals`, if specified with `forecast solve`
    `r(double)`   `double`, if specified with `forecast solve`
    `r(static)`   `static`, if specified with `forecast solve`
    `r(begin)`   first period in forecast horizon
    `r(end)`   last period in forecast horizon
    `r(technique)`   solver technique
    `r(sim_technique)` specified *sim_technique*
    `r(prefix)`   forecast variable prefix
    `r(suffix)`   forecast variable suffix
    `r(sim_prefix_`*i*`)` *i*th simulation statistic prefix
    `r(sim_suffix_`*i*`)` *i*th simulation statistic suffix
    `r(sim_stat_`*i*`)`   *i*th simulation statistic

forecast describe adjust stores the following in r():

Scalars
    r(n_adjustments)[B]   total number of adjustments
    r(n_adjust_vars)[B]   number of variables with adjustments

Macros
    r(model)[B]   name of forecast model, if named
    r(varlist)   variables with adjustments
    r(adjust_cnt)   number of adjustments per endogenous variable
    r(adjust_list)   list of adjustments

Reference

Klein, L. R. 1950. *Economic Fluctuations in the United States 1921–1941.* New York: Wiley.

Also see

[TS] **forecast** — Econometric model forecasting

[TS] **forecast list** — List forecast commands composing current model