

grmeanby — Graph means and medians by categorical variables

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Description

`grmeanby` graphs the (optionally weighted) means or medians of *varname* according to the values of the variables in *varlist*. The variables in *varlist* may be string or numeric and, if numeric, may be labeled.

Quick start

Graph means of `v1` for each level of categorical variables `cvar1`, `cvar2`, and `cvar3`

```
grmeanby cvar1 cvar2 cvar3, sum(v1)
```

As above, but graph medians

```
grmeanby cvar1 cvar2 cvar3, sum(v1) median
```

As above, but use `+` as the marker

```
grmeanby cvar1 cvar2 cvar3, sum(v1) median msymbol(+)
```

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Syntax

```
grmeanby varlist [if] [in] [weight], summarize(varname) [options]
```

| <i>options</i> | Description |
|---|---|
| Main | |
| * <u>summarize</u> (<i>varname</i>) | graph mean (or median) of <i>varname</i> |
| <u>median</u> | graph medians; default is to graph means |
| Plot | |
| <i>cline_options</i> | change look of the lines |
| <i>marker_options</i> | change look of markers (color, size, etc.) |
| <i>marker_label_options</i> | add marker labels; change look or position |
| Y axis, X axis, Titles, Legend, Overall | |
| <i>twoway_options</i> | any options other than by() documented in [G-3] <i>twoway_options</i> |

*summarize(*varname*) is required.

*aweight*s and *fweight*s are allowed; see [U] 11.1.6 **weight**.

Options

Main

summarize(*varname*) is required; it specifies the name of the variable whose mean or median is to be graphed.

median specifies that the graph is to be of medians, not means.

Plot

cline_options affect the rendition of the lines through the markers, including their color, pattern, and width; see [G-3] *cline_options*.

marker_options affect the rendition of markers drawn at the plotted points, including their shape, size, color, and outline; see [G-3] *marker_options*.

marker_label_options specify if and how the markers are to be labeled; see [G-3] *marker_label_options*.

Y axis, X axis, Titles, Legend, Overall

twoway_options are any of the options documented in [G-3] *twoway_options*, excluding by(). These include options for titling the graph (see [G-3] *title_options*) and for saving the graph to disk (see [G-3] *saving_option*).

Remarks and examples

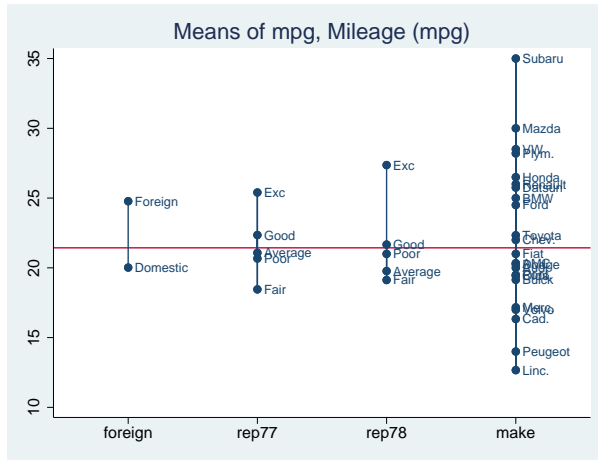
[stata.com](http://www.stata.com)

The idea of graphing means of categorical variables was shown in Chambers and Hastie (1992, 3). Because this was shown in the context of an S function for making such graphs, it doubtless has roots going back further than that. `grmeanby` is, in any case, another implementation of what we will assume is their idea.

▷ Example 1

Using a variation of our auto dataset, we graph the mean of mpg by foreign, rep77, rep78, and make:

```
. use https://www.stata-press.com/data/r17/auto1
(Automobile models)
. grmeanby foreign rep77 rep78 make, sum(mpg)
```



If we had wanted a graph of medians rather than means, we could have typed

```
. grmedianby foreign rep77 rep78 make, sum(mpg) median
```

◀

References

- Chambers, J. M., and T. J. Hastie, ed. 1992. *Statistical Models in S*. Pacific Grove, CA: Wadsworth and Brooks/Cole.
- Cox, N. J. 2014. Speaking Stata: Design plots for graphical summary of a response given factors. *Stata Journal* 14: 975–990.