**grmeanby — Graph means and medians by categorical variables**

### 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(+)
```

### Menu

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Syntax

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

<table>
<thead>
<tr>
<th>options</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>summarize(varname)</code></td>
<td>graph mean (or median) of <code>varname</code></td>
</tr>
<tr>
<td><code>median</code></td>
<td>graph medians; default is to graph means</td>
</tr>
<tr>
<td><code>cline_options</code></td>
<td>change look of the lines</td>
</tr>
<tr>
<td><code>marker_options</code></td>
<td>change look of markers (color, size, etc.)</td>
</tr>
<tr>
<td><code>marker_label_options</code></td>
<td>add marker labels; change look or position</td>
</tr>
</tbody>
</table>
| `twoway_options`          | any options other than `by()` documented in [G-3] `twoway_options` | *`summarize(varname)` is required.  
  `aweight`s and `fweight`s are allowed; see [U] 11.1.6 `weight`.|

Remarks and examples

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:

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

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

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

References
