Description Quick start Syntax Option Remarks and examples

## Description

Option blabel() is for use with graph bar and graph hbar; see [G-2] graph bar. It adds a label on top of or inside each bar.

## Quick start

Label each bar with its height
graph bar y1 y2 y3, blabel(bar)
Label each bar with the variable name
graph bar y1 y2 y3, blabel(name)
Label each bar with the value labels for the levels of categorical variable catvar
graph bar y, over(catvar) blabel (group)
Make the labels red
graph bar y, over(catvar) blabel(group, color(red))
Position the labels inside, rather than above, the bars
graph bar y, over(catvar) blabel(group, position(inside))

## Syntax

graph $\{\operatorname{bar} \mid$ hbar $\} \ldots, \ldots$ blabel (what $[$, where_and_how $]$ ) ...
what Description
none no label; the default
bar
label is bar height
total
name
label is cumulative bar height
label is name of yvar
group
label is first over () group
where_and_how
position(outside)
position(inside)
position(base)
position(center)
gap(size)
format (\% $\%$ fmt)
textbox_options

Description
place label just above the bar (bar) or just to its right (hbar)
place label inside the bar at the top (bar) or at rightmost extent (hbar)
place label inside the bar at the bar's base
place label inside the bar at the bar's center
distance from position
format if bar or total
look of label

## Option

blabel (what, where_and_how) specifies the label and where it is to be located relative to the bar. where_and_how is optional and is documented under Suboptions below. what specifies the contents of the label.
blabel (bar) specifies that the label be the height of the bar. In

- graph bar (mean) empcost, over(division) blabel(bar)
the labels would be the mean employee cost.
blabel (total) specifies that the label be the cumulative height of the bar. blabel(total) is for use with graph bar's stack option. In

```
. graph bar (sum) cost1 cost2, stack over(group) blabel(total)
```

the labels would be the total height of the stacked bar-the sum of costs. Also, the cost1 part of the stack bar would be labeled with its height.
blabel (name) specifies that the label be the name of the yvar. In

- graph bar (mean) y1 y2 y3 y4, blabel (name)

The labels would be "mean of y1", "mean of y2", ..., "mean of y4". Usually, you would also want to suppress the legend here and so would type
. graph bar (mean) y1 y2 y3 y4, blabel(name) legend (off)
blabel (group) specifies that the label be the name of the first over() group. In
. graph bar cost, over(division) over(year) blabel (group)
the labels would be the name of the divisions. Usually, you would also want to suppress the appearance of the division labels on the axis:

```
. graph bar cost, over(division, axis(off)) over(year) blabel(group)
```


## Suboptions

position() specifies where the label is to appear.
position(outside) is the default. The label appears just above the bar (graph bar) or just to its right (graph hbar).
position(inside) specifies that the label appear inside the bar, at the top (graph bar) or at its rightmost extent (graph hbar).
position(base) specifies that the label appear inside the bar, at the bar's base; at the bottom of the bar (graph bar); or at the left of the bar (graph hbar).
position(center) specifies that the label appear inside the bar, at its center.
$\operatorname{gap}($ size $)$ specifies a distance by which the label is to be offset from its location (outside, inside, base, or center). The default is usually gap (1.7). The gap() may be positive or negative and you can specify, for instance, gap $(* 1.2)$ and $\operatorname{gap}(* .8)$ to increase or decrease the gap by $20 \%$; see [G-4] size.
format (\% fmt) is for use with blabel (bar) and blabel (total); it specifies the display format to be used to format the height value. See [D] format.
textbox_options are any of the options allowed with a textbox. Important options include size(), which determines the size of the text; box, which draws a box around the text; and color(), which determines the color and opacity of the text. See [G-3] textbox_options.

## Remarks and examples

stata.com
blabel() serves two purposes: to increase the information content of the chart (blabel (bar) and blabel(total)) or to change how bars are labeled (blabel(name) and blabel (group)).

Remarks are presented under the following headings:
Increasing the information content
Changing how bars are labeled

## Increasing the information content

Under the heading Multiple bars (overlapping the bars) in [G-2] graph bar, the following graph was drawn:

```
. graph bar (mean) tempjan tempjuly, over(region)
    bargap(-30)
    legend(label(1 "January") label(2 "July"))
    ytitle("Degrees Fahrenheit")
    title("Average January and July temperatures")
    subtitle("by regions of the United States")
    note("Source: U.S. Census Bureau, U.S. Dept. of Commerce")
```

To the above, we now add

```
blabel(bar, position(inside) format(%9.1f))
```

which will add the average temperature to the bar, position the average inside the bar, at the top, and format its value by using \%9.1f:

```
. graph bar (mean) tempjan tempjuly, over(region)
        bargap(-30)
        legend(label(1 "January") label(2 "July"))
        ytitle("Degrees Fahrenheit")
        title("Average January and July temperatures")
        subtitle("by regions of the United States")
        note("Source: U.S. Census Bureau, U.S. Dept. of Commerce")
        blabel(bar, position(inside) format(%9.1f) color(white))}
```

Average January and July temperatures
by regions of the United States


We also specified the textbox_option color(white) to change the color of the text; see [G-3] textbox_options. Dark text on a dark bar would have blended too much.

## Changing how bars are labeled

Placing the labels on the bars works especially well with horizontal bar charts:

```
. use https://www.stata-press.com/data/r18/nlsw88, clear
(NLSW, 1988 extract)
. graph hbar (mean) wage,
    over(occ, axis(off) sort(1))
    blabel(group, position(base) color(bg))
    ytitle("")
    by(union,
        title("Average hourly wage, 1988, women aged 34 to 46")
        note("Source: }1988\mathrm{ data from NLS, U.S. Dept. of Labor,
        Bureau of Labor Statistics")
    )
```

Average hourly wage, 1988, women aged 34 to 46


What makes moving the labels from the axis to the bars work so well here is that it saves so much horizontal space.

In the above command, note the first two option lines:

```
        over(occ, axis(off) sort(1))
blabel(group, position(base) color(bg))
```

blabel (group) puts the occupation labels on top of the bars, and suboption position(base) located the labels at the base of each bar. We specified over (,axis (off)) to prevent the labels from appearing on the axis. Let us run through all the options:
over (occ, axis(off) sort(1))
Specified that the chart be done over occupation, that the occupation labels not be shown on the axis, and that the bars be sorted by the first (and only) yvar, namely, (mean) wage. ytitle("")

Specified that the title on the numerical $y$ axis (the horizontal axis in this horizontal case) be suppressed.
by (union, title(...) note(...))
Specified that the entire graph be repeated by values of variable union, and specified that the title and note be added to the overall graph. Had we specified the title() and note() options outside the by (), they would have been placed on each graph.

## Also see

[G-2] graph bar - Bar charts

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