

## Description

The *cat\_axis\_line\_options* determine the look of the categorical  $x$  axis in `graph bar`, `graph hbar`, `graph dot`, and `graph box`; see [G-2] [graph bar](#), [G-2] [graph dot](#), [G-2] [graph box](#). These options are rarely specified but when specified, they are specified inside `axis()` of `over()`:

```
. graph ..., over(varname, ... axis(cat_axis_line_options) ...)
```

## Quick start

Force display of the categorical axis for plots drawn over categorical variable `catvar`

```
graph_command ..., over(catvar, axis(line))
```

Suppress display of the categorical axis

```
graph_command ..., over(catvar, axis(noline))
```

Make the categorical axis a thick line

```
graph_command ..., over(catvar, axis(lwidth(thick)))
```

Same as above, but specify line width as 18 point

```
graph_command ..., over(catvar, axis(lwidth(18pt)))
```

Make the categorical axis line green

```
graph_command ..., over(catvar, axis(lcolor(green)))
```

Note: Categorical axis-line options can be used only with `graph bar`, `graph box`, `graph dot`, or `graph hbar`.

## Syntax

<i>cat_axis_line_options</i>	Description
<code>off</code> and <code>on</code>	suppress/force display of axis
<code>fill</code>	allocate space for axis even if <code>off</code>
<code>fextend</code>	extend axis line through plot region and plot region's margin
<code>extend</code>	extend axis line through plot region
<code>noextend</code>	do not extend axis line at all
<code>noline</code>	do not even draw axis line
<code>line</code>	force drawing of axis line
<code>titlegap(size)</code>	margin between axis title and tick labels
<code>outergap(size)</code>	margin outside of axis title
<code>lstyle(linestyle)</code>	overall style of axis line
<code>lcolor(colorstyle)</code>	color and opacity of axis line
<code>lwidth(linewidthstyle)</code>	thickness of axis line
<code>lpattern(linepatternstyle)</code>	whether axis solid, dashed, etc.

## Options

`off` and `on` suppress or force the display of the axis.

`fill` goes with `off` and is seldom specified. If you turned an axis off but still wanted the space to be allocated for the axis, you could specify `fill`.

`fextend`, `extend`, `noextend`, `line`, and `noline` determine how much of the line representing the axis is to be drawn. They are alternatives.

`noline` specifies that the line not be drawn at all. The axis is there, ticks and labels will appear, but the axis line itself will not be drawn.

`line` is the opposite of `noline`, for use if the axis line somehow got turned off.

`noextend` specifies that the axis line not extend beyond the range of the axis, defined by the first and last categories.

`extend` specifies that the line be longer than that and extend all the way across the plot region.

`fextend` specifies that the line be longer than that and extend across the plot region and across the plot region's margins. For a definition of the plot region's margins, see [G-3] *region\_options*. If the plot region has no margins (which would be rare), then `fextend` means the same as `extend`. If the plot region does have margins, `extend` would result in the *y* and *x* axes not meeting. With `fextend`, they touch.

`fextend` is the default with most schemes.

`titlegap(size)` specifies the margin to be inserted between the axis title and the axis's tick labels; see [G-4] *size*.

`outergap(size)` specifies the margin to be inserted outside the axis title; see [G-4] *size*.

`lstyle(linestyle)`, `lcolor(colorstyle)`, `lwidth(linewidthstyle)`, and `lpattern(linepatternstyle)` determine the overall look of the line that is the axis; see [G-4] **Concept: lines**.

## Remarks and examples

The *cat\_axis\_label\_options* are rarely specified.

## Also see

[G-2] **graph bar** — Bar charts

[G-2] **graph box** — Box plots

[G-2] **graph dot** — Dot charts (summary statistics)

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