graph twoway dot — Two-way dot plots

Description

`twoway dot` displays numeric (y,x) data as dot plots. Also see [G-2] **graph dot** to create dot plots of categorical variables. `twoway dot` is useful in programming contexts.

Quick start

Dot plot showing the values of y against values of x

```
twoway dot y x
```

Same as above, but with dots extending from 0 to the dot and no further

```
twoway dot y x, dotextend(no)
```

Horizontal dot plot

```
twoway dot y x, horizontal
```

Menu

Graphics > Two-way graph (scatter, line, etc.)

Syntax

twoway dot *yvar xvar* [*if*] [*in*] [, *options*]

options	Description
vertical	vertical bar plot; the default
horizontal	horizontal bar plot
dotextend(yes|no)	dots extend beyond point
base(#)	value to drop to if dotextend(no)
ndots(#)	# of dots in full span of y or x
dstyle(*markerstyle*)	overall marker style of dots
dsymbol(*symbolstyle*)	marker symbol for dots
dcolor(*colorstyle*)	fill and outline color and opacity for dots
dfcolor(*colorstyle*)	fill color and opacity for dots
dsize(*markersizestyle*)	size of dots
dlstyle(*linestyle*)	overall outline style of dots
dlcolor(*colorstyle*)	outline color and opacity for dots
dlwidth(*linewidthstyle*)	thickness of outline for dots
dlalign(*linealignmentstyle*)	alignment of outline for dots
colorvar_options	change color of dots based on values of a variable
scatter_options	any options other than *connect_options* documented in [G-2] **graph twoway scatter**

All options are *rightmost*, except vertical and horizontal, which are *unique*; see [G-4] **Concept: repeated options**.

Options

vertical and horizontal specify either a vertical or a horizontal dot plot. vertical is the default. If horizontal is specified, the values recorded in *yvar* are treated as x values, and the values recorded in *xvar* are treated as y values. That is, to make horizontal plots, do not switch the order of the two variables specified.

In the vertical case, dots are drawn at the specified *xvar* values and extend up and down.

In the horizontal case, lines are drawn at the specified *xvar* values and extend left and right.

dotextend(yes|no) determines whether the dots extend beyond the y value (or x value if horizontal is specified). dotextend(yes) is the default.

base(#) is relevant only if dotextend(no) is also specified. base() specifies the value from which the dots are to extend. The default is base(0).

ndots(#) specifies the number of dots across a line; ndots(75) is the default. Depending on printer/screen resolution, using fewer or more dots can make the graph look better.

dstyle(*markerstyle*) specifies the overall look of the markers used to create the dots, including their shape and color. The other options listed below allow you to change their attributes, but dstyle() provides the starting point.

You need not specify `dstyle()` just because there is something you want to change. You specify `dstyle()` when another style exists that is exactly what you desire or when another style would allow you to specify fewer changes to obtain what you want.

See [G-4] ***markerstyle*** for a list of available marker styles.

`dsymbol(`*symbolstyle*`)` specifies the shape of the marker used for the dot. See [G-4] ***symbolstyle*** for a list of symbol choices, although it really makes little sense to change the shape of dots; else why would it be called a dot plot?

`dcolor(`*colorstyle*`)` specifies the color and opacity of the symbol used for the dot. See [G-4] ***colorstyle*** for a list of color choices.

`dfcolor(`*colorstyle*`)`, `dsize(`*markersizestyle*`)`, `dlstyle(`*linestyle*`)`, `dlcolor(`*colorstyle*`)`, `dlwidth(`*linewidthstyle*`)`, and `dlalign(`*linealignmentstyle*`)` are rarely (never) specified options. They control, respectively, the fill color and opacity, size, outline style, outline color and opacity, outline width, and outline alignment. Dots—if you are really using them—are affected by none of these things. For these options to be useful, you must also specify `dsymbol()`; as we said earlier, why then would it be called a dot plot? In any case, see [G-4] ***colorstyle***, [G-4] ***markersizestyle***, [G-4] ***linestyle***, [G-4] ***linewidthstyle***, and [G-4] ***linealignmentstyle*** for a list of choices.

colorvar_options specify that the color of the dots be determined by the levels of the numeric variable *colorvar*; see [G-3] ***colorvar_options***.

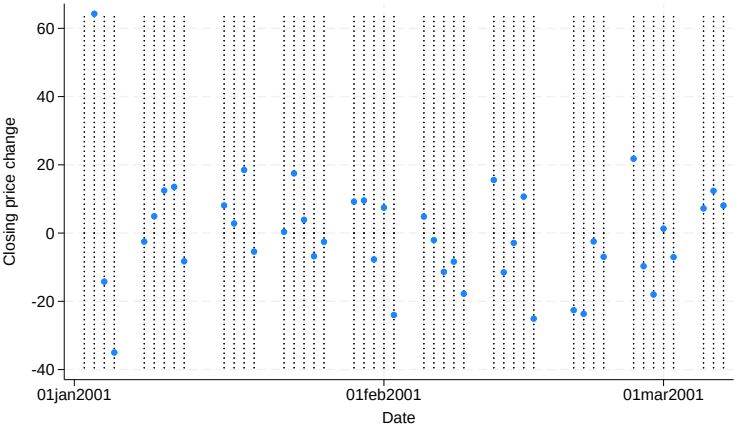
scatter_options refer to any of the options allowed by `scatter`, and most especially the *marker_options*, which control how the marker (not the dot) appears. *connect_options*, even if specified, are ignored. See [G-2] **graph twoway scatter**.

Remarks and examples

`twoway dot` is of little, if any use. We cannot think of a use for it, but perhaps someday, somewhere, someone will. We have nothing against the dot plot used with categorical data—see [G-2] **graph dot** for a useful command—but using the dot plot in a twoway context would be bizarre. It is nonetheless included for logical completeness.

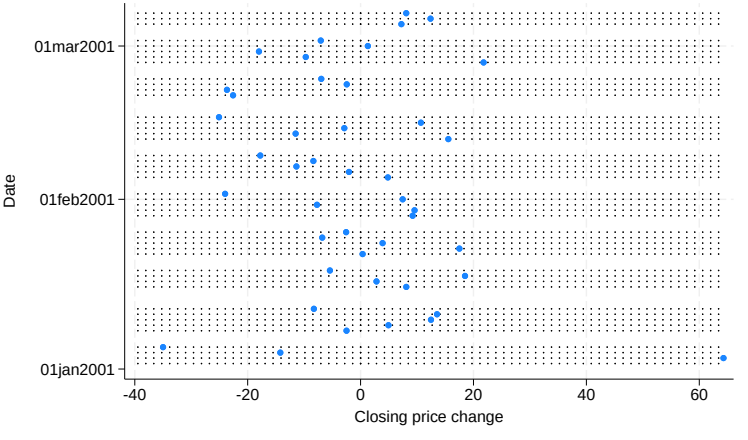
In [G-2] **graph twoway bar**, we graphed the change in the value for the S&P 500. Here are a few of that data graphed as a dot plot:

```
. use https://www.stata-press.com/data/r19/sp500
(S&P 500)
. twoway dot change date in 1/45
```



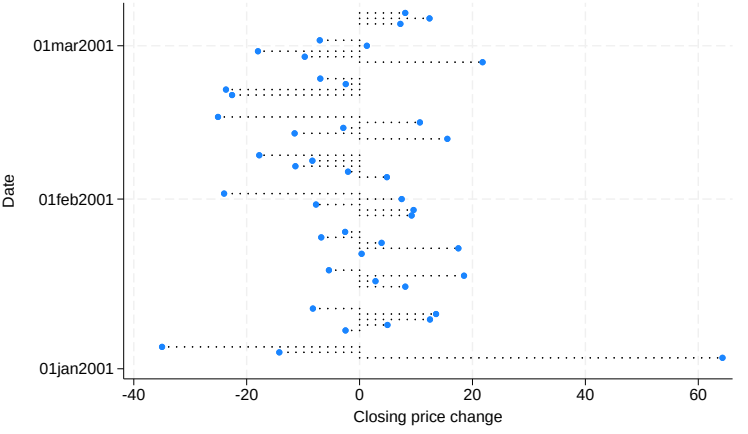
Dot plots are usually presented horizontally,

```
. twoway dot change date in 1/45, horizontal
```



and below we specify the `dotextend(n)` option to prevent the dots from extending across the range of x:

```
. twoway dot change date in 1/45, horizontal dotext(n)
```



Reference

Cox, N. J. 2008. Speaking Stata: Between tables and graphs. *Stata Journal* 8: 269–289.

Also see

[G-2] **graph twoway scatter** — Two-way scatterplots

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