graph twoway spike — Two-way spike plots

Description

twoway spike displays numerical (y,x) data as spikes. twoway spike is useful for drawing spike plots of time-series data or other equally spaced data and is useful as a programming tool. For sparse data, also see [G-2] **graph bar**.

Quick start

A spike plot displaying a spike between (y, x) and 0

```
twoway spike y x
```

Same as above, with horizontal spikes

```
twoway spike y x, horizontal
```

Draw spikes from 200 instead of 0

```
twoway spike y x, base(200)
```

Same as above, but set overall appearance to that used by the *Stata Journal*

```
twoway spike y x, base(200) scheme(sj)
```

Menu

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

Syntax

> <u>two</u>way spike *yvar xvar* [*if*] [*in*] [, *options*]

options	Description
<u>vertical</u>	vertical spike plot; the default
<u>horizontal</u>	horizontal spike plot
base(*#*)	value to drop to; default is 0
line_options	change look of spike lines
colorvar_options	change color of spike lines based on values of a variable
axis_choice_options	associate plot with alternative axis
twoway_options	titles, legends, axes, added lines and text, by, regions, name, aspect ratio, etc.

All explicit 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 spike 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, spikes are drawn at the specified *xvar* values and extend up or down from 0
according to the corresponding *yvar* values. If 0 is not in the range of the y axis, spikes extend up or
down to the x axis.

In the horizontal case, spikes are drawn at the specified *xvar* values and extend left or right from
0 according to the corresponding *yvar* values. If 0 is not in the range of the x axis, spikes extend left
or right to the y axis.

base(*#*) specifies the value from which the spike should extend. The default is base(0); in the above
description of options vertical and horizontal, this default was assumed.

line_options specify the look of the lines used to draw the spikes, including pattern, width, and color;
see [G-3] *line_options*.

colorvar_options specify that the color of the lines used to draw the spikes be determined by the levels
of the numeric variable *colorvar*; see [G-3] *colorvar_options*.

axis_choice_options associate the plot with a particular y or x axis on the graph; see
[G-3] *axis_choice_options*.

twoway_options are a set of common options supported by all twoway graphs. These options allow you
to title graphs, name graphs, control axes and legends, add lines and text, set aspect ratios, create
graphs over by() groups, and change some advanced settings. See [G-3] *twoway_options*.

Remarks and examples

Remarks are presented under the following headings:

       Typical use
       Advanced use
   *Cautions*

Typical use

We have daily data recording the values for the S&P 500 in 2001:

```
. use https://www.stata-press.com/data/r19/sp500
(S&P 500)
. list date close change in 1/5
```

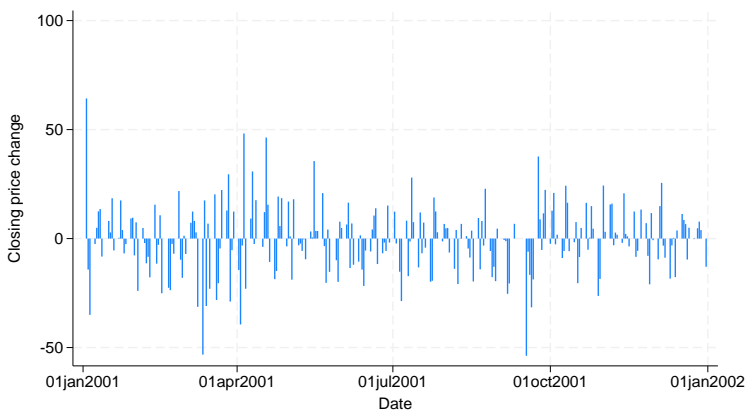|	date	close	change
1.	02jan2001	1283.27	.
2.	03jan2001	1347.56	64.29004
3.	04jan2001	1333.34	-14.22009
4.	05jan2001	1298.35	-34.98999
5.	08jan2001	1295.86	-2.48999

The example in [G-2] **graph twoway bar** graphed the first 57 observations of these data by using bars. Here is the same graph presented as spikes:

```
. twoway spike change date in 1/57
```
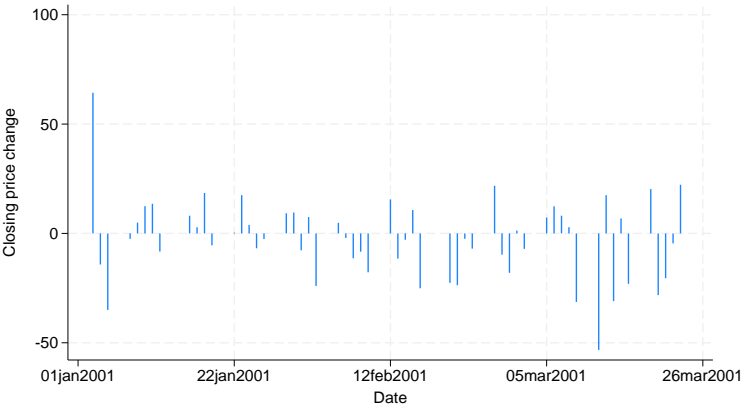
Spikes are especially useful when there are a lot of data. The graph below shows the data for the entire
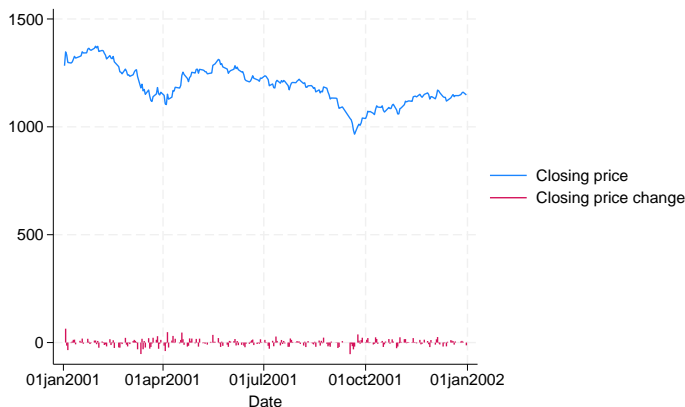year:

. twoway spike change date

Advanced use

The useful thing about `twoway spike` is that it can be combined with other `twoway` plottypes (see
[G-2] **graph twoway**):

. twoway line close date || spike change date

We can improve this graph by typing

```
. twoway
      line close date, yaxis(1)
  ||
      spike change date, yaxis(2)
  ||,
      ysca(axis(1) r(700  1400)) ylab(1000(100)1400, axis(1))
      ysca(axis(2) r(-50 300)) ylab(-50 0 50, axis(2))
            ytick(-50(25)50, axis(2) grid)
      legend(off)
      xtitle("Date")
      title("S&P 500")
      subtitle("January to December 2001")
      note("Source: Yahoo!Finance and Commodity Systems, Inc.")
      yline(950, axis(1) lstyle(foreground))
```
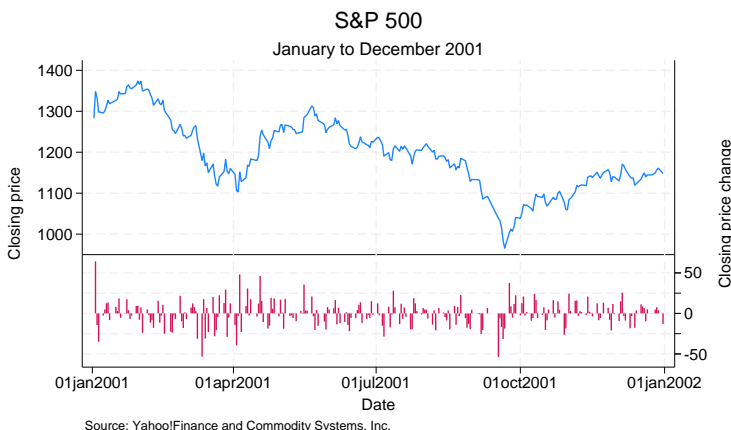
Concerning our use of

```
      yline(950, axis(1) lstyle(foreground))
```

see *Advanced use: Overlaying* in [G-2] **graph twoway bar**.

Cautions

See *Cautions* in [G-2] **graph twoway bar**, which applies equally to `twoway spike`.

Also see

[G-2] **graph twoway bar** — Two-way bar plots

[G-2] **graph twoway dot** — Two-way dot plots

[G-2] **graph twoway dropline** — Two-way dropped-line plots

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