Title

graph twoway rspike — Range plot with spikes

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Description

A range plot has two \( y \) variables, such as high and low daily stock price or upper and lower 95% confidence limits.

twoway rspike plots a range, using spikes to connect the high and low values.

Also see [G-2] graph twoway spike for another style of spike chart.

Quick start

Range plot with spikes

twoway rspike y1 y2 x

Horizontal range plot with spikes

twoway rspike y1 y2 x, horizontal

Specify maroon spikes

twoway rspike y1 y2 x, lcolor(maroon)

With an overlaid line plot

twoway rspike y1 y2 x || line y3 x, sort

Specify labels for the \( y \) axis

twoway rspike y1 y2 x, ylabel(100 200 300 400)

Menu

Graphics ➞ Twoway graph (scatter, line, etc.)
## Syntax

```
twoway rspike y1var y2var xvar [if] [in] [, options]
```

<table>
<thead>
<tr>
<th>options</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td><code>vertical</code></td>
<td>vertical spikes; the default</td>
</tr>
<tr>
<td><code>horizontal</code></td>
<td>horizontal spikes</td>
</tr>
<tr>
<td><code>line_options</code></td>
<td>change look of spike lines</td>
</tr>
<tr>
<td><code>axis_choice_options</code></td>
<td>associate plot with alternative axis</td>
</tr>
<tr>
<td><code>twoway_options</code></td>
<td>titles, legends, axes, added lines and text, by, regions, name, aspect ratio, etc.</td>
</tr>
</tbody>
</table>

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

## Options

- `vertical` and `horizontal` specify whether the high and low `y` values are to be presented vertically (the default) or horizontally.

  In the default `vertical` case, `y1var` and `y2var` record the minimum and maximum (or maximum and minimum) `y` values to be graphed against each `xvar` value.

  If `horizontal` is specified, the values recorded in `y1var` and `y2var` are plotted in the `x` direction and `xvar` is treated as the `y` value.

- `line_options` specify the look of the lines used to draw the spikes, including pattern, width, and color; see [G-3] **line_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
Advanced use 2

Typical use

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

```
. use https://www.stata-press.com/data/r16/sp500
(S&P 500)
. list date high low close in 1/5
```

<table>
<thead>
<tr>
<th>date</th>
<th>high</th>
<th>low</th>
<th>close</th>
</tr>
</thead>
<tbody>
<tr>
<td>02jan2001</td>
<td>1320.28</td>
<td>1276.05</td>
<td>1283.27</td>
</tr>
<tr>
<td>03jan2001</td>
<td>1347.76</td>
<td>1274.62</td>
<td>1347.56</td>
</tr>
<tr>
<td>04jan2001</td>
<td>1350.24</td>
<td>1329.14</td>
<td>1333.34</td>
</tr>
<tr>
<td>05jan2001</td>
<td>1334.77</td>
<td>1294.95</td>
<td>1298.35</td>
</tr>
<tr>
<td>08jan2001</td>
<td>1298.35</td>
<td>1276.29</td>
<td>1295.86</td>
</tr>
</tbody>
</table>

We will use the first 57 observations from these data:

```
. twoway rspike high low date in 1/57
```
Advanced use

twoway rspike can be usefully combined with other twoway plottypes (see [G-2] graph twoway):

```
. twoway rspike high low date, lcolor(gs11) ||
    line close date || in 1/57
```

We specified lcolor(gs11) to tone down the spikes and give the line plot more prominence.

Advanced use 2

A popular financial graph is

```
. use https://www.stata-press.com/data/r16/sp500, clear
(S&P 500)
. replace volume = volume/1000  \n  (248 real changes made)
. twoway
    rspike hi low date ||
    line close date ||
    bar volume date, barw(.25) yaxis(2) ||
in 1/57
    , ysca(axis(1) r(900 1400))
    ysca(axis(2) r( 9 45))
    ytitle(" Price -- High, Low, Close")
    ytitle(" Volume (millions)", axis(2) astext just(left))
    legend(off)
    subtitle("S&P 500", margin(b+2.5))
    note("Source: Yahoo!Finance and Commodity Systems, Inc.")
```
Also see

[G-2] `graph twoway rarea` — Range plot with area shading

[G-2] `graph twoway rbar` — Range plot with bars

[G-2] `graph twoway rcap` — Range plot with capped spikes

[G-2] `graph twoway rcapsym` — Range plot with spikes capped with marker symbols

[G-2] `graph twoway rconnected` — Range plot with connected lines

[G-2] `graph twoway rline` — Range plot with lines

[G-2] `graph twoway rscatter` — Range plot with markers

[G-2] `graph twoway spike` — Twoway spike plots