graph twoway pccapsym — Paired-coordinate plot with spikes and marker symbols

Syntax

twoway pccapsym y1var x1var y2var x2var [if] [in] [, options]

options      Description

line_options    change look of spike lines
marker_options  change look of markers (color, size, etc.)
marker_label_options add marker labels; change look or position
headlabel       label second coordinate, not first
vertical        orient plot naturally; the default
horizontal      orient plot transposing y and x values
axis_choice_options    associate plot with alternative axis
twoway_options    titles, legends, axes, added lines and text, by, regions, name, aspect ratio, etc.

See [G-3] line_options, [G-3] marker_options, [G-3] marker_label_options,

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

Menu

Graphics > Twoway graph (scatter, line, etc.)

Description

A paired-coordinate capped-symbol plot draws a spike (or line) for each observation in the dataset and caps these spikes with a marker symbol at each end. The line starts at the coordinate \((y1var,x1var)\) and ends at the coordinate \((y2var,x2var)\), and both coordinates are designated with a marker.

Options

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

marker_options specify how the markers look, including shape, size, color, and outline; see [G-3] marker_options. The same marker is used on both ends of the spikes.

marker_label_options specify if and how the markers are to be labeled; see [G-3] marker_label_options.
headlabel specifies that labels be drawn on the markers of the \((y2var,x2var)\) points rather than on the markers of the \((y1var,x1var)\) points. By default, when the \texttt{mlabel()}\) option is specified, labels are placed on the points for the first two variables—\(y1var\) and \(x1var\). headlabel moves the labels from these points to the points for the second two variables—\(y2var\) and \(x2var\).

vertical and \texttt{horizontal} specify whether the \(y\) and \(x\) coordinates are to be swapped before plotting—\texttt{vertical} (the default) does not swap the coordinates, whereas \texttt{horizontal} does.

These options are rarely used when plotting only paired-coordinate data; they can, however, be used to good effect when combining paired-coordinate plots with range plots, such as \texttt{twoway rspike} or \texttt{twoway rbar}; see \cite{G-2} \texttt{graph twoway rspike} and \cite{G-2} \texttt{graph twoway rbar}.

\texttt{axis\_choice\_options} associate the plot with a particular \(y\) or \(x\) axis on the graph; see \cite{G-3} \texttt{axis\_choice\_options}.

\texttt{twoway\_options} are a set of common options supported by all \texttt{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 \texttt{by()} groups, and change some advanced settings. See \cite{G-3} \texttt{twoway\_options}.

\section*{Remarks and examples}

Remarks are presented under the following headings:

\begin{itemize}
  \item Basic use 1
  \item Basic use 2
\end{itemize}

\subsection*{Basic use 1}

We have longitudinal data from 1968 and 1988 on the earnings and total experience of U.S. women by occupation.

\begin{verbatim}
. use http://www.stata-press.com/data/r13/nlswide1
(National Longitudinal Survey. Young Women 14-26 years of age in 1968)
. list occ wage68 ttl_exp68 wage88 ttl_exp88
\end{verbatim}

\begin{verbatim}
<table>
<thead>
<tr>
<th></th>
<th>occ</th>
<th>wage68</th>
<th>ttl_e-68</th>
<th>wage88</th>
<th>ttl_e-88</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Professionals</td>
<td>6.121874</td>
<td>.860618</td>
<td>10.94776</td>
<td>14.11177</td>
</tr>
<tr>
<td>2.</td>
<td>Managers</td>
<td>5.426208</td>
<td>1.354167</td>
<td>11.53928</td>
<td>13.88886</td>
</tr>
<tr>
<td>3.</td>
<td>Sales</td>
<td>4.836701</td>
<td>.9896552</td>
<td>7.290306</td>
<td>12.62823</td>
</tr>
<tr>
<td>5.</td>
<td>Craftsmen</td>
<td>4.721373</td>
<td>1.091346</td>
<td>7.839769</td>
<td>12.64364</td>
</tr>
<tr>
<td>6.</td>
<td>Operatives</td>
<td>4.364782</td>
<td>.7959284</td>
<td>5.893025</td>
<td>11.99362</td>
</tr>
<tr>
<td>7.</td>
<td>Transport</td>
<td>1.987857</td>
<td>.5247414</td>
<td>3.200494</td>
<td>8.710394</td>
</tr>
<tr>
<td>8.</td>
<td>Laborers</td>
<td>3.724821</td>
<td>.775966</td>
<td>5.264415</td>
<td>10.66182</td>
</tr>
<tr>
<td>9.</td>
<td>Other</td>
<td>5.58524</td>
<td>.8278245</td>
<td>8.628641</td>
<td>12.78389</td>
</tr>
</tbody>
</table>
\end{verbatim}
We graph a spike with symbols capping the end to show the movement from 1968 values to 1988 values for each observation (each occupation):

```
. twoway pccapsym wage68 ttl_exp68 wage88 ttl_exp88
```

![Paired-coordinate plot with spikes and marker symbols](image)

For a better presentation of these data, see *Advanced use* in [G-2] *graph twoway pcspike*; the comments there about combining plots apply equally well to `pccapsym` plots.

**Basic use 2**

We can draw both the edges and nodes of network diagrams by using `twoway pccapsym`.

```
. use http://www.stata-press.com/data/r13/network1
. twoway pccapsym y_c x_c y_l x_l
```

![Network diagram](image)

Again, a better presentation of these data can be found in [G-2] *graph twoway pcspike* under *Advanced use 2*. 
Also see

[G-2] `graph twoway` — Twoway graphs

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

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

[G-2] `graph twoway.pcarrow` — Paired-coordinate plot with arrows

[G-2] `graph twoway.pci` — Twoway paired-coordinate plot with immediate arguments

[G-2] `graph twoway.pcsscatter` — Paired-coordinate plot with markers

[G-2] `graph twoway.pcspike` — Paired-coordinate plot with spikes