

serrbar — Graph standard error bar chart

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Syntax

```
serrbar mvar svar xvar [if] [in] [, options]
```

<i>options</i>	Description
Main	
<code>scale(#)</code>	scale length of graph bars; default is <code>scale(1)</code>
Error bars	
<code>rcap_options</code>	affect rendition of capped spikes
Plotted points	
<code>mvopts(scatter_options)</code>	affect rendition of plotted points
Add plots	
<code>addplot(plot)</code>	add other plots to generated graph
Y axis, X axis, Titles, Legend, Overall	
<code>twoway_options</code>	any options other than <code>by()</code> documented in [G-3] twoway_options

Menu

Statistics > Other > Quality control > Standard error bar chart

Description

`serrbar` graphs $mvar \pm \text{scale}() \times svar$ against $xvar$. Usually, but not necessarily, $mvar$ and $svar$ will contain means and standard errors or standard deviations of some variable so that a standard error bar chart is produced.

Options

Main

`scale(#)` controls the length of the bars. The upper and lower limits of the bars will be $mvar + \text{scale}() \times svar$ and $mvar - \text{scale}() \times svar$. The default is `scale(1)`.

Error bars

`rcap_options` affect the rendition of the plotted error bars (the capped spikes). See [G-2] [graph twoway rcap](#).

Plotted points

`mvopts` (*scatter_options*) affects the rendition of the plotted points (*mvar* versus *xvar*). See [G-2] [graph twoway scatter](#).

Add plots

`addplot` (*plot*) provides a way to add other plots to the generated graph; see [G-3] [addplot_option](#).

Y axis, X axis, Titles, Legend, Overall

twoway_options are any of the options documented in [G-3] [twoway_options](#), excluding `by()`. These include options for titling the graph (see [G-3] [title_options](#)) and for saving the graph to disk (see [G-3] [saving_option](#)).

Remarks and examples

[stata.com](http://www.stata.com)

► Example 1

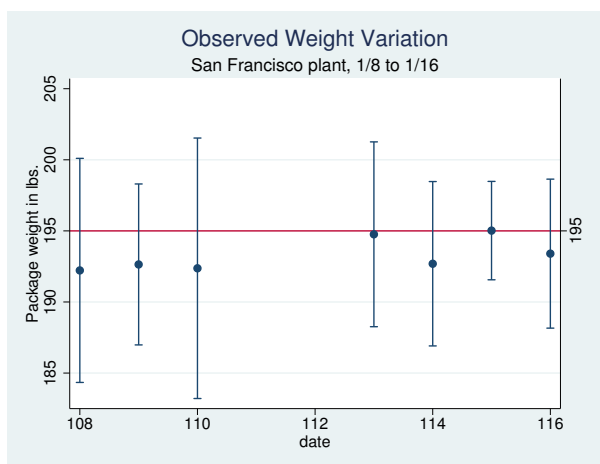
In quality-control applications, the three most commonly used variables with this command are the process mean, process standard deviation, and time. For instance, we have data on the average weights and standard deviations from an assembly line in San Francisco for the period January 8 to January 16. Our data are

```
. use http://www.stata-press.com/data/r13/assembly
. list, sep(0) divider
```

	date	mean	std
1.	108	192.22	3.94
2.	109	192.64	2.83
3.	110	192.37	4.58
4.	113	194.76	3.25
5.	114	192.69	2.89
6.	115	195.02	1.73
7.	116	193.40	2.62

We type `serrbar mean std date, scale(2)` but, after seeing the result, decide to make it fancier:

```
. serrbar mean std date, scale(2) title("Observed Weight Variation")
> sub("San Francisco plant, 1/8 to 1/16") yline(195) yaxis(1 2)
> ylab(195, axis(2)) ytitle("", axis(2))
```



◀

Acknowledgment

serrbar was written by Nicholas J. Cox of the Department of Geography at Durham University, UK, and coeditor of the *Stata Journal*.

Also see

[R] qc — Quality control charts