**Syntax**

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

**Options**

- **Main**
  - `scale(#)` controls the length of the bars. The upper and lower limits of the bars will be `mvar + scale() × svar` and `mvar − scale() × 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`.

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**Description**

`serrbar` graphs `mvar ± scale() × 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.
**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

**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
```

<table>
<thead>
<tr>
<th>date</th>
<th>mean</th>
<th>std</th>
</tr>
</thead>
<tbody>
<tr>
<td>108</td>
<td>192.22</td>
<td>3.94</td>
</tr>
<tr>
<td>109</td>
<td>192.64</td>
<td>2.83</td>
</tr>
<tr>
<td>110</td>
<td>192.37</td>
<td>4.58</td>
</tr>
<tr>
<td>113</td>
<td>194.76</td>
<td>3.25</td>
</tr>
<tr>
<td>114</td>
<td>192.69</td>
<td>2.89</td>
</tr>
<tr>
<td>115</td>
<td>195.02</td>
<td>1.73</td>
</tr>
<tr>
<td>116</td>
<td>193.40</td>
<td>2.62</td>
</tr>
</tbody>
</table>

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