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Description

`twoway fpfitci` calculates the prediction for *yvar* from estimation of a fractional polynomial of *xvar* and plots the resulting curve along with the confidence interval of the mean.

Quick start

Fractional-polynomial prediction plot of *y* on *x* with 95% confidence interval

```
twoway fpfitci y1 x
```

Same as above, with a 90% confidence interval

```
twoway fpfitci y1 x, level(90)
```

Same as above, but estimate fractional polynomial of degree 4

```
twoway fpfitci y1 x, level(90) estopts(degree(4))
```

Overlay a scatterplot

```
twoway fpfitci y1 x || scatter y x
```

Same as above, but use small circles as markers

```
twoway fpfitci y1 x || scatter y x, msymbol(o)
```

Display confidence limits as a pair of lines

```
twoway fpfitci y1 x, ciplot(rline)
```

Same as above, with an overlaid scatterplot and medium-thick line for predicted values

```
twoway fpfitci y1 x, ciplot(rline) clwidth(medthick) || scatter y1 x
```

Predictions from estimation command `logit` with binary dependent variable *y2*

```
twoway fpfitci y2 x, estcmd(logit)
```

Add “My Title” as the title of the graph

```
twoway fpfitci y1 x || scatter y x, title("My Title")
```

Menu

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

Syntax

```
twoway fpfitci yvar xvar [if] [in] [weight] [, options]
```

<i>options</i>	Description
<i>fpfit_options</i>	any of the options of [G-2] graph twoway fpfit
<code>level(#)</code>	set confidence level; default is <code>level(95)</code>
<code>nofit</code>	prevent plotting the prediction
<code>fitplot(<i>plotype</i>)</code>	how to plot fit; default is <code>fitplot(line)</code>
<code>ciplot(<i>plotype</i>)</code>	how to plot CIs; default is <code>ciplot(rarea)</code>
<i>fcline_options</i>	change look of predicted line
<i>fitarea_options</i>	change look of CI
<i>axis_choice_options</i>	associate plot with alternative axis
<i>twoway_options</i>	titles, legends, axes, added lines and text, by, regions, name, aspect ratio, etc.

Option `level()` is *rightmost*; `nofit`, `fitplot()`, and `ciplot()` are *unique*; see [G-4] **Concept: repeated options**.

`aweight`s, `fweight`s, and `pweight`s are allowed. Weights, if specified, affect estimation but not how the weighted results are plotted. See [U] 11.1.6 **weight**.

Options

fpfit_options refers to any of the options of `graph twoway fpfit`; see [G-2] **graph twoway fpfit**. These options are seldom specified.

`level(#)` specifies the confidence level, as a percentage, for the confidence intervals. The default is `level(95)` or as set by `set level`; see [U] 20.8 **Specifying the width of confidence intervals**.

`nofit` prevents the prediction from being plotted.

`fitplot(plotype)` is seldom specified. It specifies how the prediction is to be plotted. The default is `fitplot(line)`, meaning that the prediction will be plotted by `graph twoway line`. See [G-2] **graph twoway** for a list of *plotype* choices. You may choose any plottypes that expect one *y* variable and one *x* variable.

`ciplot(plotype)` specifies how the confidence interval is to be plotted. The default is `ciplot(rarea)`, meaning that the prediction will be plotted by `graph twoway rarea`.

A reasonable alternative is `ciplot(rline)`, which will substitute lines around the prediction for shading. See [G-2] **graph twoway** for a list of *plotype* choices. You may choose any plottypes that expect two *y* variables and one *x* variable.

fcline_options specify how the prediction line is rendered; see [G-3] **fcline_options**. If you specify `fitplot()`, then rather than using *fcline_options*, you should select options that affect the specified *plotype* from the options in `scatter`; see [G-2] **graph twoway scatter**.

fitarea_options specify how the confidence interval is rendered; see [G-3] **fitarea_options**. If you specify `ciplot()`, then rather than using *fitarea_options*, you should specify whatever is appropriate.

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

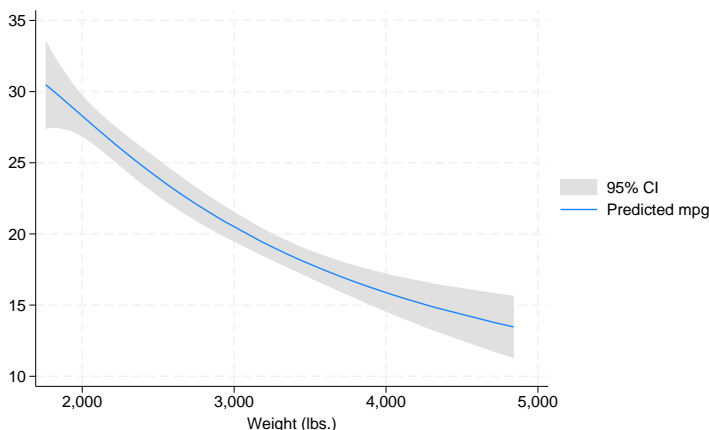
Remarks are presented under the following headings:

Typical use
Advanced use
Cautions
Use with by()

Typical use

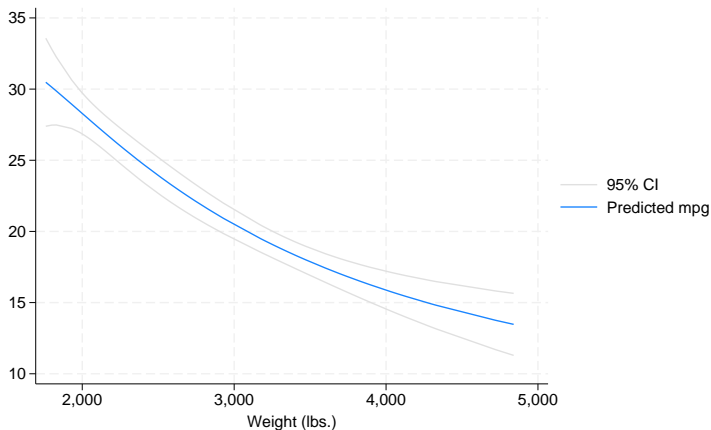
twoway fpfitci by default draws the confidence interval of the predicted mean:

```
. use https://www.stata-press.com/data/r19/auto
(1978 automobile data)
. twoway fpfitci mpg weight
```



If you specify the `ciplot(rline)` option, the confidence interval will be designated by lines rather than shading:

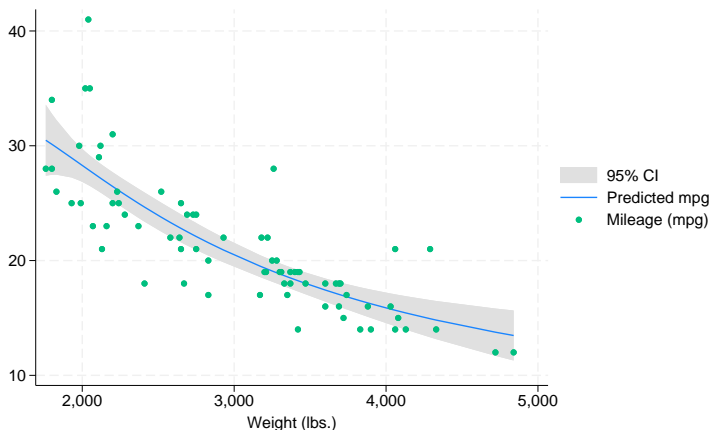
```
. twoway fptestci mpg weight, ciplot(rline)
```



Advanced use

`fptestci` can be usefully overlaid with other plots:

```
. use https://www.stata-press.com/data/r19/auto, clear  
(1978 automobile data)  
. twoway fptestci mpg weight || scatter mpg weight
```



In the above graph, the shaded area corresponds to the 95% confidence interval for the mean.

It is of great importance to note that we typed

```
. twoway fptestci ... || scatter ...
```

and not

```
. twoway scatter ... || fptestci ...
```

Had we drawn the scatter diagram first, the confidence interval would have covered up most of the points.

Cautions

Do not use `twoway fptestci` when specifying the `axis_scale_options` `yscale(log)` or `xscale(log)` to create log scales. Typing

```
. twoway fptestci mpg weight || scatter mpg weight ||, xscale(log)
```

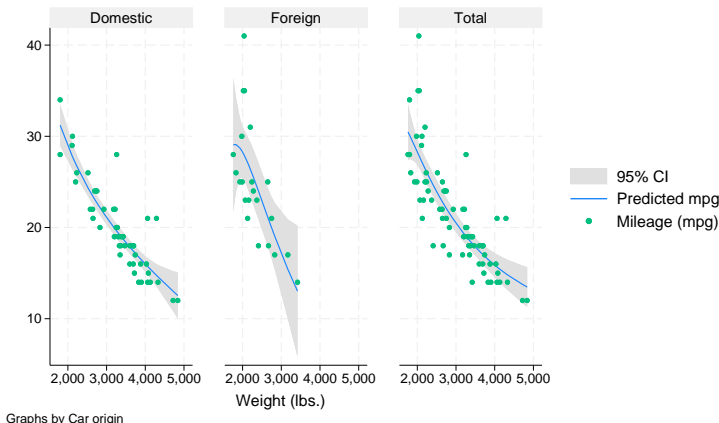
will produce a curve that will be fit from a fractional polynomial regression of mpg on weight rather than `log(weight)`.

See [Cautions](#) in [\[G-2\] graph twoway lfptestci](#).

Use with by()

`fptestci` may be used with `by()` (as can all the `twoway` plot commands):

```
. twoway fptestci mpg weight ||  
  scatter mpg weight ||  
  , by(foreign, total row(1))
```



Also see

[\[G-2\] graph twoway lfptestci](#) — Two-way linear prediction plots with CIs

[\[G-2\] graph twoway qfptestci](#) — Two-way quadratic prediction plots with CIs

[\[G-2\] graph twoway fptestci](#) — Two-way fractional-polynomial prediction plots

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