

THE STATA JOURNAL

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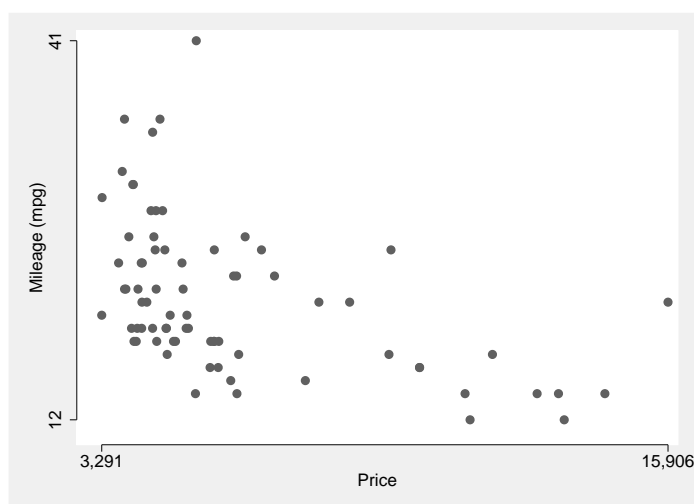
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Stata tip 49: Range frame plots

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One of Edward Tufte's principles for good graph design is to erase nondata ink (Tufte 2001). The axes on a typical scatterplot will extend beyond the range of the observed data. You can minimize the nondata ink by having the axis lines extend only over the range of the data. This can be accomplished by not having the lines extend through the plot region and the region's margin:

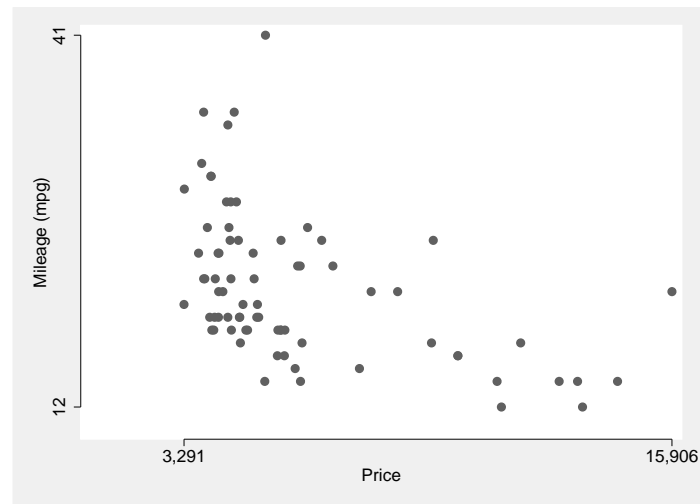
```
. sysuse auto  
. twoway scatter mpg price, ylabel(minmax, nogrid) xlabel(minmax)  
> yscale(nofextend) xscale(nofextend) plotregion(margin(5 2 5 2))
```



`nofextend` is an undocumented axis-scale option.

To position the origin of the scatterplot at (0, 10), you can adjust the `plotregion(margin())` by the percentage of the observed axis to the total axis length.

```
. sysuse auto
. summarize price, meanonly
. local w = (1 - (r(max) - r(min))/(r(max) - 0))*100
. summarize mpg, meanonly
. local h = (1 - (r(max) - r(min))/(r(max) - 10) )*100
. twoway scatter mpg price, ylabel(minmax, nogrid) xlabel(minmax)
> yscale(nofextend) xscale(nofextend) plotregion(margin('w' 2 'h' 2))
```



Reference

Tufte, E. R. 2001. *The Visual Display of Quantitative Information*. 2nd ed. Cheshire, CT: Graphics Press.