

Stata tip 5: Ensuring programs preserve dataset sort order

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Did you know about `sortpreserve`? If you are writing a Stata program which temporarily changes the order of the data, and you want the data to be sorted back to the original order at the end of execution, then you can save a bit of programming by including `sortpreserve` on your `program` statement. If your program is called `myprogram`, then you can start it with

```
program myprogram,sortpreserve
```

If you do this, then you can change the order of observations in the data set inside `myprogram`, and Stata will automatically sort it back into the original order at the end of execution. Stata does this by creating a temporary variable whose name is stored in a macro named `_sortindex`, discussed in the manuals under [P] `sortpreserve`. (Note, however, that there is a typo in the manual, so the underscore in `_sortindex` is missing.) The temporary variable '`_sortindex`' contains the original sort order of the data, and the dataset is sorted automatically by '`_sortindex`' at the end of the program's execution.

If you know about temporary variables, you might think that `sortpreserve` is unnecessary, because you can always include two lines at the beginning like

```
tempvar order
generate long 'order' = _n
```

and a single line at the end like

```
sort 'order'
```

and do the job of `sortpreserve` in 3 lines. However, `sortpreserve` does more than that. It restores the result of the macro extended function `sortedby` to the value that it would have had before your program executed. (See [P] `macro` for a description of `sortedby`.) Also, it restores the "Sorted by:" variable list reported by the `describe` command to the variable list that would have been reported before your program executed. For example, in the `auto` data shipped with official Stata, the output of `describe` ends with the message

```
Sorted by: foreign
```

and this will not be changed if you execute a program defined with `sortpreserve`.