The Stata Journal

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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 that temporarily changes the order of the data and you want the data to be sorted in its original order at the end of execution, you can save a bit of programming by including `sortpreserve` on your `program` statement. If your program is called `myprogram`, you can start it with

```
program myprogram, sortpreserve
```

If you do this, you can change the order of observations in the dataset in `myprogram`, and Stata will automatically sort it in its original order at the end of execution. Stata does this by creating a temporary variable whose name is stored in a macro named `_sortindex`, which is discussed in the manuals under [P] **sortpreserve**. (Note, however, that there is a typo in the manual; 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, such as

```
tempvar order
generate long ‘order’ = _n
```

and a single line at the end such as

```
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` dataset shipped with official Stata, the output of `describe` ends with the message

```
Sorted by:  foreign
```

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

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