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`. 