From 3 to 15: Milestones, dead ends, prospects. A subjective review of Stata’s history

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Inhalt

Setting the Scene

Milestones (and Dead Ends)

Prospects (Why not Stata!?)
Plan of attack

Subjectively picking out

- milestones of development
- dead ends

to learn something on prospects.

Of course . . .

. . . any statements made here are just personal views. Others have different views. At best, my views are an inspiration for the wishes and grumbles session at the end of the meeting.
Related

- Cox (2005)
- . help whatsnew
to#
- . ssc hot, author(name) n(#)
Inhalt

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Prospects (Why not Stata!?)
Milestones (and Dead Ends)

My Milestone
Command milestones
Other Milestones
Dead ends
Me reading “Statistics with Stata”

Why did I became a Stata user after reading SwS?
Why Stata?

Command line interface

. use ../downloaded/data1, clear
. reg income age yedu income

Models

. mlogit lsat age yedu income

Humor

endless loop → see “loop, endless”
...
loop, endless → see “endless loop”

Speed

. set rmsg on
. mlogit rep78 foreign
r; t=0.04 14:54:11

Support

From: "William Gould" <w Gould@stata.com>
To: statalist@hsphsun2.harvard.edu
Subject: Re: statalist: iweights and regress
Date: Fri, 30 Jan 1998 10:11:57 -0600

xyz <xyz@abc.de> asked for a clarification on iweights. Stay away from them, I say, because they will invariably surprise you. Let me explain:...
Milestones (and Dead Ends)

My Milestone
Command milestones
Other Milestones
Dead ends
My 14 favorites

I’ll give some justifications for these choices.
Statistical commands

**svy** Describers (like me) need to respect the complexity of samples – especially weights.

**marginsplot** Makes understanding complicated models easy

```
. regress income i.sex##i.emp##c.age##c.age
. margins, at(age=(20(5)80) emp=(1,2,3) sex=(1,2))
. marginsplot, by(emp)
```

**npregress** If you do not believe in homogenous treatment effects, this is for you . . .

**bayes:** In my heart, I am Bayesian. *bayesmh were* introduced in Stata 14, but Stata 15’s bayes-prefix makes Bayesian analysis (syntactically) easy
General usability

foreach/forvalues  By-by endless loops, and by-by clumpy for.

graph twoway  A command and a graphics programming language at the same time. Powerful and simple (but sometimes we want it even more powerful and much simpler at the same time.)

fvvarlist  Factor-variable notation lets you specify complicated models. Use marginsplot to interpret them.

unicode  America first? Perhaps, but American alone?

. display "њет"
њет
program Stata wouldn’t be Stata without program

. program hello
. display "hello, world"
. end

syntax Parsing made easy

. syntax [varlist] [if] [in]

file , the core of

. esttab
. psiduse

mata Matrix calculations made easy

: b = invsym(X’X)*X’y
Other

net Stata became Web-aware in 1998. It turned out to be a game changer.

ssc the command formerly known as archutil made usage of user-written programs easy:

* ssc hot
* ssc install estout
Milestones (and Dead Ends)
  My Milestone
  Command milestones
Other Milestones
  Dead ends
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Milestones (and Dead Ends)
  My Milestone
  Command milestones
  Other Milestones
  Dead ends
Dead ends

- Stage. External command line editor for .gph-files. Published 1989, never updated. Deprecated since Stata 5.

- `gph` commands (Stata 5). Low level graphics language placed between
  
  . gph open
  ...

  . gph close

  `gph` continues to work under version 7; see help `gph`.

- Stata 7 had a “programmable bottom-layer graphics engine.
  You may wish to code your graphics programs using this new feature and, if so, point your browser at http://developer.stata.com/graphics
  Documentation for the new developmental system resides there.”

- `for` loops as one-liner; Deprecated since Stata 8.
Inhalt

Setting the Scene

Milestones (and Dead Ends)

Prospects (Why not Stata!?)
Real Programmers

Source: https://xkcd.com/378/
Speed

Speed was one (the) reason for me to start Stata. It is now a (the) reason for some to convert to R. I do not know, but speed has many dimensions:

- Speed of writing code
- Speed of writing correct code
- Speed of understanding written code
- Speed of the code written
- Speed of making written code running on different OS

In any case, C is faster than Mata, Mata is faster than Ado, but a well written Ado-file might still be faster than a badly written Mata program.

Of course users can add their own C-code to Stata (Plugins); see http://www.stata.com/plugins.
The number of available techniques was one (the) reason for me to start Stata. It is now a (the) reason for some to convert to R.

I believe that R has more routines than Stata.

As of today, I, personally don’t care. So far, I can do all I want to do with Stata.

Quality of routines?

I am aware of colleagues saying that Stata cannot do something, which in fact it can.
Animated Graphs

- Animated graphs never been a top target of Stata’s development
- Gould: animated graphs are for teaching not for publication. Since many journals are now online, this is no longer true.
- ’course, you can do animated graphs with `gr7` from within Stata:
  . do animated1
- ’course, you can build animated graphs by calling third party software from within Stata (ffmpeg, convert, i.e. ImageMagic)
  . do animated2
- Also see https://blog.stata.com/2014/03/24/how-to-create-animated-graphics-using-stata/
Of course we would like to see this really interactive.
Animated Graph in \LaTeX-Beamer Example

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Animated Graph in $\LaTeX$-Beamer Example

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Web scraping

- Web scraping is yet another reason for some to convert to R (and Python, of course)
- I realized that Python is much more powerful in processing text data. Regular Expressions, in particular, are easier to use there.
- However still:
  - `copy` lets you copy a file from the Internet to your hard disk, which can then be processed with `file`.
  - You can add Java plugins to Stata.
  - Java plugins have been used to program
  - `twitter2stata`;
  - `facebook2stata`;
    see https://blog.stata.com/2018/01/16/importing-facebook-data-into-stata/
'course there is an R-package . . .

- Need to rename this file using number found in the upper left corner.
- An R-package finds that number
- 'course it is easy to the same with Stata
  . do jpgrename
