Creating \LaTeX\ documents from within Stata

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German Stata Users Group Meeting

Bonn, June 26, 2009
Introduction

- texdoc is a new command to create \LaTeX\ documents from within Stata.
- texdoc is especially convenient to create \LaTeX\ documents that contain Stata output.
- texdoc is like weaving, but all Stata.
- I use it for teaching, e.g. to create solutions for class assignments.
- I also use it for Stata Journal articles.
Syntax and Usage

- Create a \LaTeX{} document (interactive mode)

```
texdoc_init docname [, replace ]
tex line 1
tex line 2
...
texdoc_close
```
Syntax and Usage

- Include Stata output in \texttt{\LaTeX} document

\begin{verbatim}
texdoc \_init \textit{docname} [, \_replace \ldots ]
...

texdoc \_stlog [name]
... \texttt{commands} ...
texdoc \_stlog \_close
...
texdoc \_close
\end{verbatim}
Syntax and Usage

- Within `texdoc stlog`, type
  
  ```
texdoc _stlog_oom command
  ```
  
  to suppress output (and print “(output omitted)”).

- Furthermore, within `texdoc stlog` type
  
  ```
texdoc _stlog_cnp
  ```
  
  to continue output on next page (and print “(continued on next page)”).
Syntax and Usage

- Non-interactive mode: Process a do-file containing `texdoc` commands.
  ```stata
texdoc do filename [, init(docname) close replace ... ]
  ```

- In non-interactive mode you can use the
  ```stata
/*tex ... tex*/
  ```
  comment structure to include blocks of \LaTeX code.

- `init()` and `close` can also be specified within the do-file using `texdoc init` and `texdoc close`

- Get rid of all \LaTeX and `texdoc` commands:
  ```stata
texdoc strip oldfile newfile [, replace ]
  ```
Examples
Create homework assignment (interactive mode)

. texdoc init assignment
(texdoc output file is assignment.tex)
. tex \documentclass[12pt]{article}
. tex
. tex \begin{document}
. tex
. tex \section*{Assignment A}
. tex
. tex \subsection*{Exercise 1}
. tex
. tex Open auto.dta and describe the data.
. tex
. tex \subsection*{Exercise 2}
. tex
. tex Run some regressions.
. tex
. tex \subsection*{Exercise 3}
. tex
. tex Draw a scatter plot.
. tex
. tex \subsection*{Exercise 4}
. tex
. tex Draw a histogram.
. tex
. tex \end{document}
. texdoc close (texdoc output written to assignment.tex)
Assignment A

Exercise 1
Open auto.dta and describe the data.

As we can see, the mean price is 6165.

Exercise 2
Run some regressions.

Exercise 3
Draw a scatter plot.

Exercise 4
Draw a histogram.
Issues

- texdoc do always runs everything, that is it
  - cannot process LaTeX without running Stata commands,
  - cannot run Stata commands without processing LaTeX.

- An option to copy the pieces of Stata output directly into the LaTeX document instead of using external log files would be nice.

- texdoc stlog relies on sjlog, which has some limitations:
  - linesize is fixed
  - closes the (unnamed) default log

- texdoc do does not exit the do-file on exit

- Overall, texdoc is only for small documents. I would not use it to produce a whole book or so. Also, texdoc is suited primarily for documents where Stata plays an important role. If the document is mostly LaTeX then an alternative approach should probably be followed . . .
Alternative approach

- Make \LaTeX the default and tag Stata commands.
- That is, define a \LaTeX document containing blocks of Stata code such as
  \begin{verbatim}
  \begin{stata}
  ... commands ...
  \end{stata}
  \end{verbatim}

  \begin{verbatim}
  \begin{stlog}
  ... commands ...
  \end{stlog}
  \end{verbatim}

  and then process the file e.g. as follows
  \texttt{dotex filename}

- Implementation would not be much more complicated than the implementation of \texttt{texdoc}.
Thanks for listening!