

Basic Data Analysis Course on Stata

Introduction to Stata

Md. Nayeem Chowdhury

Institute of Statistical Research and Training (ISRT)

December 14, 2024

About Stata software

- Stata is a software package used for statistical analysis. The name Stata is a syllabic abbreviation of the words statistics and data.
- Stata was developed by StataCorp in 1985.
- Stata has always emphasized a command-line interface, which facilitates replicable analyses. Starting with version 8.0, however, Stata has included a graphical user interface which uses menus and dialog boxes.
- The latest release is Stata version 18, released in April, 2023.
- Purchase link: <https://www.stata.com/order/dev/>

Overview of Stata file extensions

- Stata data file: `.dta`, example: `mydata.dta`
- Stata syntax file: `.do`, example: `mysyntax.do`
- Stata output file: `.smcl`, example: `myoutput.smcl`, `smcl` stands for
- Stata Markup and Control Language

Stata windows

The screenshot shows the Stata 13.0 interface with the following windows and content:

- Review window:** Displays the Stata logo and version information (13.0), copyright (1985-2013), and contact details for StataCorp. It also shows the perpetual license for user Stata network, serial number 501306208483, licensed to IDRE-UCLA.
- Results window:** Displays the output of the command `use "D:\drive d\Nabil_ISRT\ACADEMIC\2016\SPSS Stata Training ISRT 2016\changeinthestatelectures2016\Training_Stata_2016_Intro_and_DM\bd_individual.dta", clear`. The output shows the file name, label, notes, number of variables (46), observations (17,863), size (1.21M), and memory (32M).
- Command window:** Displays the command `use "D:\drive d\Nabil_ISRT\ACADEMIC\2016\SPSS Stata Training ISRT 2016\changeinthestatelectures2016\Training_Stata_2016_Intro_and_DM\bd_individual.dta", clear`.
- Variables window:** Displays a list of variables and their labels. The variables are: `caseid` (case identification), `v001` (cluster number), `v002` (household number), `v003` (respondent's line ...), `v004` (ultimate area unit ...), `v005` (date of interview ...), `v006` (respondent's year ...), `v007` (respondent's cur...), `v008` (primary sampling ...), `v009` (division), and `v010` (type of place of re...).

Stata windows

There is an additional window for graph that appears when a graph is produced in Stata.

- Command window: where commands are entered. Press the Enter key on your keyboard to execute any command.
- Results window: where results appear (i.e, are printed).
- Variables window: lists the variables in the current dataset.
- Review window: lists past (i.e, already executed) commands.
- Graph window: where graphs are displayed (appears when graphs are generated).

GUI and CLI

- You can either use the menu-based **Graphical User Interface** (GUI) or the command-driven **Command Line Interface** (CLI) to interact with Stata. But there are some advantages of using CLI:
 - **Command syntax** has the advantage of reproducibility.
 - Many of the commands are short and easy to execute, and as proficiency grows, it is often faster to type commands rather than use the menu.

We will mostly cover command syntax in this course. We will be providing commands so that you will become familiar with them. The commands will be useful for constructing longer and more complicated programs.

- The command executes if it is entered properly
- Issues an error message (in red) if it cannot figure out what to do, or if there is something which could inadvertently change the dataset.
- If Stata gives you an error, it will provide you with a return code, `r(#)`. You can find out more about the error by typing: `lookup rc #`.
- To get help regarding any command, e.g. the regression command, type: `help regression`

THANK YOU