

# data formats

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# outline

misc

data types

Stata

import/export or read/write

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## today's class

- ◇ still going slow today; next week will be last slow class!
  - if too slow for you, do extra things!
  - check out recommended materials, start working on final project, find more data, etc
- ◇ today, still basic so that everybody has the basics covered
  - everybody is at different level
- ◇ if you are bored: help others, check extra materials, see help files and experiment with commands
- ◇ we will start little more advanced topics next week

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## data basics

- ◇ dataset is a matrix
- ◇ columns are variables (var), rows are observations (obs)
- ◇ obs are also often referred to as U/A
- ◇ variables are characteristics of observations
- ◇ e.g., 'education', 'age', and 'income' are variables and persons are observations; each row is a separate person

## paths

- ◇ a location of a file on hard drive
- ◇ e.g. `C:\Documents and Settings\myfile.txt`
- ◇ if there is a blank in path, as above, stata needs quotes  
"`C:\ Documents and Settings\ myfile.txt`"
- ◇ avoid blanks: computers understand blank as a character
- ◇ and avoid special characters: everything that is not a letter or a number, say `$ % &`
- ◇ special characters have special meaning for a computer

## finding the path

- ◇ Windows: to find the path right-click the file— > properties
- ◇ Mac: ctrl-left-click the file — > get info



## paths

- ◇ remember that you write code that should run on other computers
- ◇ and remember to cd first to desired directory, so you can say
- ◇ `cd ????`
- ◇ and then `log using ps1.log`
- ◇ as opposed to:  
`log using C:\Users\Documents\ASTATA\PS1.txt`
- ◇ that won't run, because I do not have these dirs!
- ◇ and it is messy to repeat path for each reading/writing

## data for today

- ◇ data we use is a subset of general social survey:  
<http://gss.norc.org/>
- ◇ a comprehensive social science data for the US
- ◇ whatever you study you are likely to find it in gss
- ◇ we will look today at income, education and gender across US regions

## data types

- ◇ there are dozens of data types/formats/files
- ◇ a basic distinction:
  - software-specific binary files (.dta, .sas7bdat, .sav)
  - generic text files (.txt, .dat, .csv, .tab)
- ◇ just google it! eg 'stata read csv', 'stata export spss' etc

## databases

- ◇ but wait, we have databases
- ◇ outside of academia, in the real world
- ◇ all data are in databases
- ◇ Oracle, MySQL, NoSQL, MsSQL, or even MsAccess
- ◇ we'll talk about those in SQL class in 2nd part of the semester
- ◇ sometimes you can use Stata and always Python to pull directly from databases

## internet

- ◇ but wait, we have internet
- ◇ popular internet data types: html, xml, json
- ◇ we'll discuss internet data when we do Python
- ◇ in the 2nd half of the class
- ◇ Python is best at dealing with internet data

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## make comments in your code

- ◇ for each class we will have dofile with Stata code
- ◇ make comments in the electronic code files – you will run electronic files not the printout
- ◇ if you do not make comments, you will forget...
- ◇ use very handy keywords like “TODO”, “KLUDGE”, “BUG”, “LATER”, “FIXME”
  - then can ctrl-f for them in the dofile :)

## commenting

- ◇ have preamble (notes, install packages, etc)

- ◇ `*comment`

`/*comment`

`block */`



## stata command syntax and getting help

◇ `<command> <variables> , <options>`

`sum var1 var2, detail`

◇ `<variables>` and `<options>` are optional

◇ command specific syntax is in help files,

e.g. `help describe`

◇ `help` if you know command name, eg `help use`

· esp options, examples, full pdf help

## getting help using gui and google

- ◇ gui, eg to load/save, edit data, graphs, etc
- ◇ google: "stata" + "what you want to do"
  - eg "stata read excel"
- ◇ use google a lot! extremely useful!
- ◇ again, ucla website is the best:  
<https://stats.idre.ucla.edu/stata/>

## tips

- ◇ if you did something wrong, load data again and start over
  - (replication: you have dofile and can always start over)
- ◇ page -up and -down to get previous/next command in command window
- ◇ don't memorize commands but reuse and share code
- ◇ learn (naturally) abbreviations, e.g. **d** for **describe**
  - (they are underlined in help files)

## navigating

- ◇ you can navigate in stata: change, list/make/rm dirs and preview files

## packages/user-written commands

- ◇ to get them either google or `findit`;
  - say we want to load spss data e.g. `findit spss` and `help usespss`

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## excel

- ◇ many people use it and you may need to import from there
- ◇ can save as csv and then insheet
- ◇ or just use gui to generate the code you need
- ◇ in some cases (as here) gui is useful to generate code
  - File-Import-Excel Spreadsheet
  - Worksheet: Cell Range: Import first row as variable names

## saving

//good

use data1.dta

...

save data2.dta

//bad

use data1.dta

...

outsheet data1.tab //loosing var/val labels,notes

//ugly

use data1.dta

...

save, replace //loosing code in between  
import/export or read/write