

Applied Microeconometrics

Introduction to stata 2: Beyond variables
Loops, macros, scalars (& graphs if we have time)

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- **Mail policy**
 - **NO content questions by email**
 - Ask during/between classes or just walk over to α 4035B

- What is **stata**
- Opening **dataset** (**use** [**using**] [**if**])
- **Variables**
 - Creating and replacing (**gen**, **gen**, **replace**)
 - Data selection (booleans, [**if**])
 - Descriptive statistics (**tabulate**, **table**, **summarize** [, **detail**])
 - Variable types and labels

Other data in stata

- **Macros**
 - Globals, **locals**
 - **Loops**
- **Results**
 - Accessing and storing them
- Scalars (and matrices)
- **If time, graphs**

Store and repeat text

- **Globals:** e.g. **global variables age female ln_wage**
 - Lasts all session, across files (**clear all**)
 - Access as **\$variables**
- **Locals:** e.g. **local variables age female ln_wage**
 - Lasts only while command (do-file) is executed
 - Access as **'variables'** (grave accent - apostrophe)
 - Invoked in **loops**

Loops

- **foreach** name **in/of**, **forval** name = numlist
- Commands between braces repeated
- 'name' accessed as local
- See also **while** (and **if**)

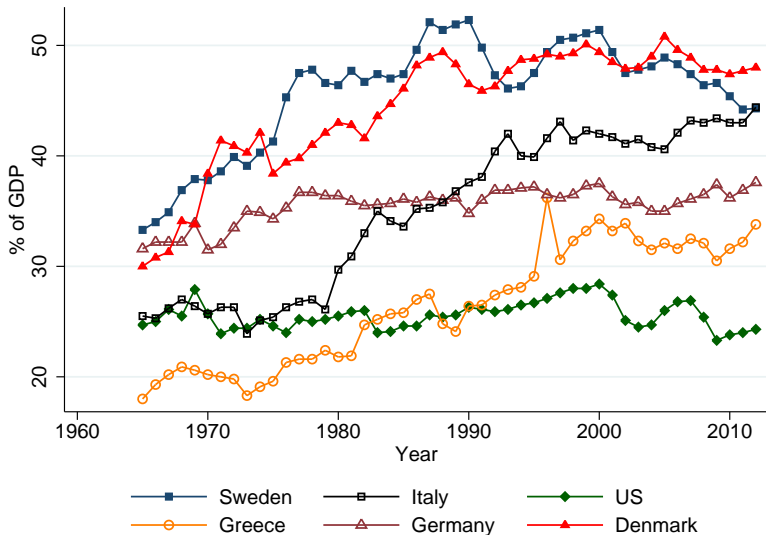
In regressions

- **OLS**: **reg depvar indepvar(s) [if] [, options]**
 - **depvar indepvars** can be **macros/varlist**
 - **Interaction syntax**: **i.discrete**, **c.continuous**, **#**, **##**
 - Shortcuts for **varlist**: *****, **?**

- **Saved results**
 - In `e()/r()`, see command help file
 - Estimation results: `_b[varname]`, `_se[varname]`
 - Save them as **macros**, **scalars** or **matrix**

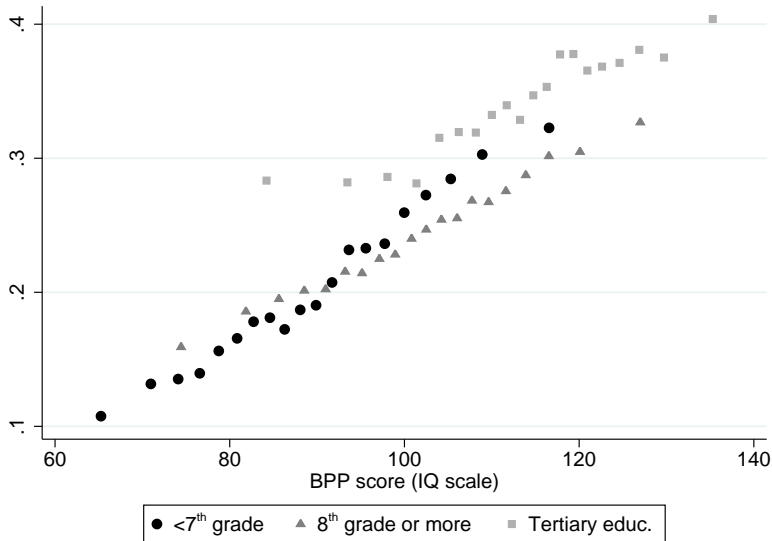
Graphs - examples: **connected**

Fiscal revenue over GDP of selected countries over time



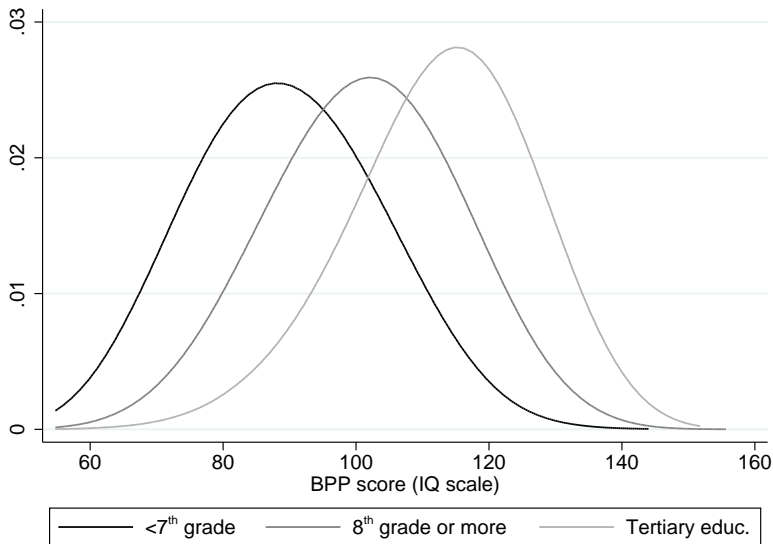
Graphs - examples: scatter

Participation in financial markets over intelligence, DK



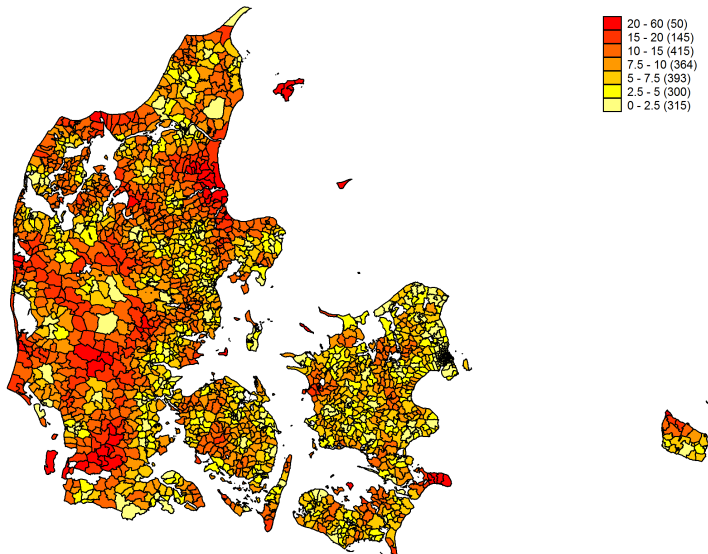
Graphs - examples: **kdensity**

Correlation between intelligence and schooling, DK



Graphs - examples: **spmap**

Distance to closest public school, DK (1950)

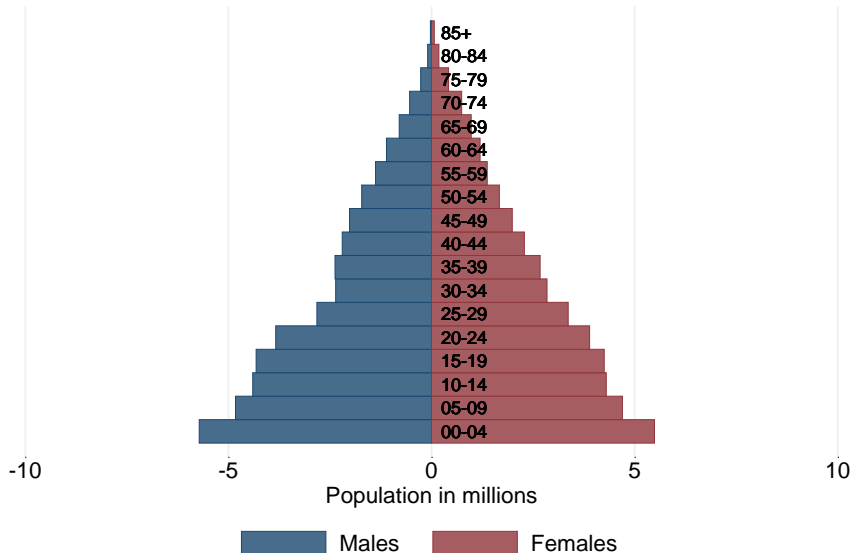


Stata - graphing machine

- **help graph**
 - **help twoway**: combined with **data management** tools can do almost anything
- **graph export mydir/mygraph.myformat, replace**
- Stata defaults are ugly - but can be easily changed
- GUI interface / script (do-files)
 - **Repeatability** (loops)

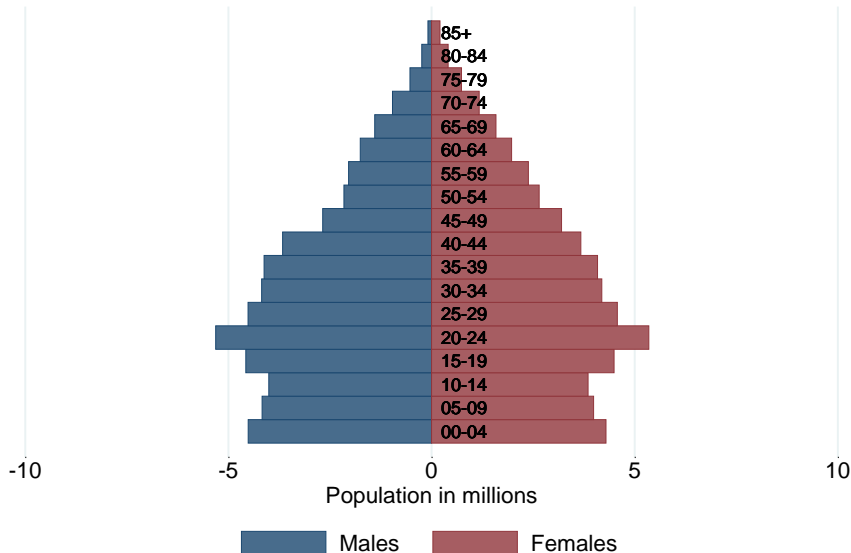
Plotting demographic evolutions

Population by Age, Japan 1950



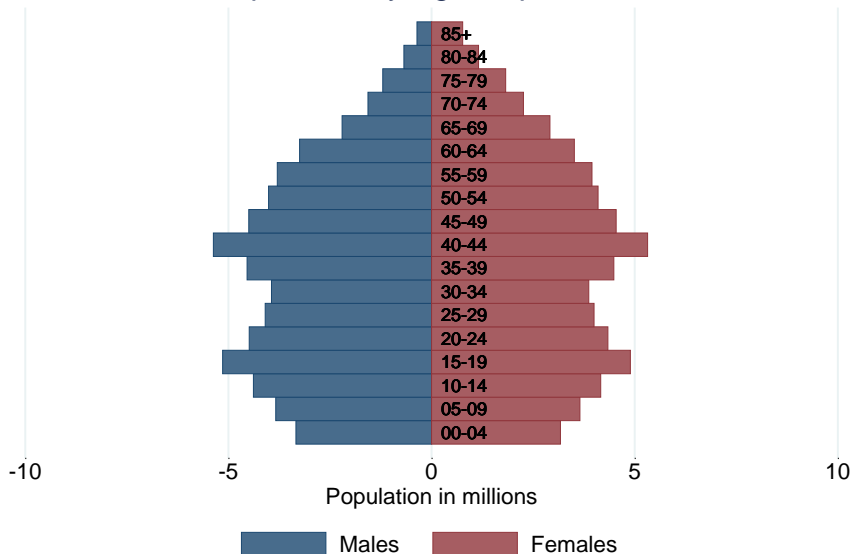
Plotting demographic evolutions

Population by Age, Japan 1970



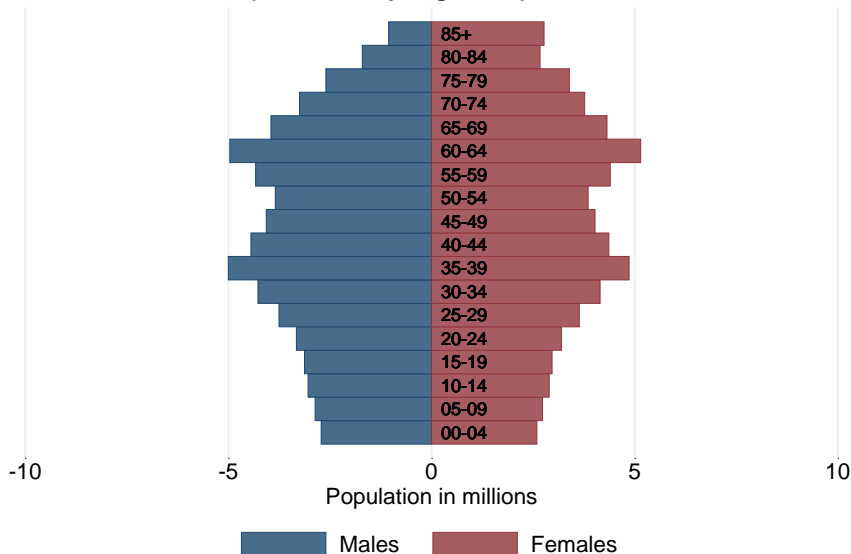
Plotting demographic evolutions

Population by Age, Japan 1990



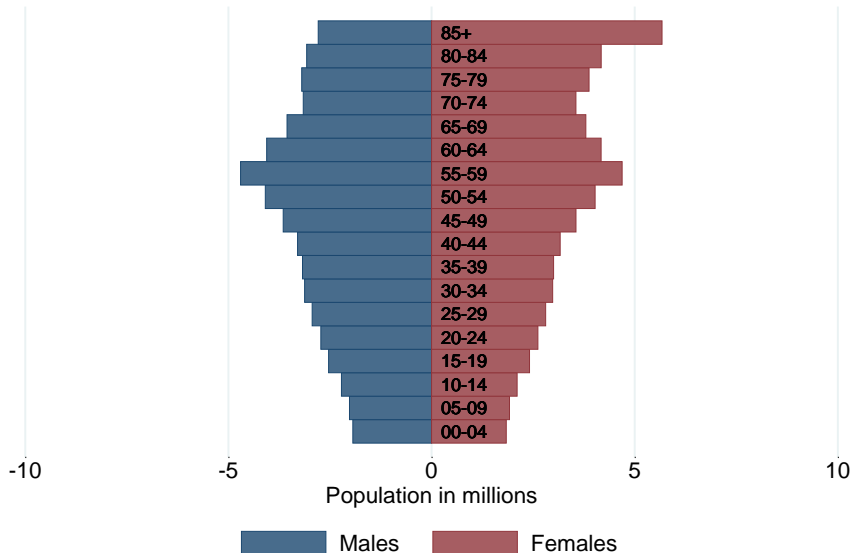
Plotting demographic evolutions

Population by Age, Japan 2010



Plotting demographic evolutions

Population by Age, Japan 2030



Plotting demographic evolutions

Population by Age, Japan 2050

