

# Recent Advances in the Field of Trade Theory and Policy Analysis Using Micro-Level Data

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# Content

- a) Basic regression in Stata (see “ols.do”)
- b) Panel data regressions in Stata (see “panel.do”)

## a) Basic regression in Stata

- Stata's regress command runs a simple OLS regression
  - *Regress depvar indepvar1 indepvar2 ..., options*
- Always use the option robust to ensure that the covariance estimator can handle heteroskedasticity of unknown form
- Usually apply the cluster option and specify an appropriate level of clustering to account for correlation within groups
- Rule of thumb: apply cluster to the most aggregated level of variables in the model
  - Example: In a model with data by city, state, and country, cluster by country

## b) Panel data regressions in Stata

- Fixed effects (within) estimation
- Brute force OLS
- LSDV
- Random effects
- Testing for fixed vs. random effects

## Fixed effects (within) estimation

- A variety of commands are available for estimating fixed effects regressions
- The most efficient method is the fixed effects regression (within estimation), *xtreg*
- Stata's *xtreg* command is purpose built for panel data regressions
- Use the *fe* option to specify fixed effects
- Make sure to set the panel dimension before using the *xtreg* command, using *xtset*
- For example:
  - *xtset countries* sets up the panel dimension as countries
  - *xtreg depvar indepvar1 indepvar2 ..., fe* runs a regression with fixed effects by country
- Hint: *xtset* cannot work with string variables, so use (e.g.) *egen countries = group(country)* to convert string categories to numbers

## Fixed effects (within) estimation (ct'd)

- As with `regress`, always specify the robust option with `xtreg`
- `xtreg, robust` will automatically correct for clustering at the level of the panel variable (firms in the previous example)
- Note that `xtreg` can only include fixed effects in one dimension. For additional dimensions, enter the dummies manually (see slide 8)

## Brute force OLS

- The fixed effects can enter as dummies in a standard regression (brute force OLS)
  - *Regress depvar indepvar1 indepvar2 ... dum1 dum2 ..., options*
  - Specify *dum\** to include all dummy variables with the same stem
- Stata automatically excludes one dummy if a constant is retained in the model
- With the same clustering specification, results should be identical between regress with dummy variables and *xtreg, fe*

## Brute force OLS (ct'd)

- To create dummy variables based on categories of another variable, use the `tabulate` command with the `gen()` option
- For example:
  - *Quietly tabulate country, gen(ctry\_dum\_)*
  - Will produce `ctry_dum_1`, `ctry_dum_2`, etc. automatically
  - Then *regress depvar indepvar1 indepvar2 ... ctry\_dum\_\*, robust cluster()*
- Or you can use the *i.varname* command to create dummies
  - *regress depvar indepvar1 indepvar2 ... i.country, robust cluster()*

预览已结束，完整报告链接和二维码如下：

[https://www.yunbaogao.cn/report/index/report?reportId=5\\_7500](https://www.yunbaogao.cn/report/index/report?reportId=5_7500)

