

# Empirical Exercise 1: Trade imbalances per capita

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**Due date and time: October 1, 5pm**

## Inputs and products

Please use Stata (any version) for your work. You may call any other software from within Stata (including Python, R, Perl, and system-level commands). Please base your analysis on the following files

ITPD-E by USITC	<code>itpd.dta</code>
WDI by World Bank	<code>wdi-2021sep30.dta</code>
Coordinates by <a href="http://naturalearthdata.com">naturalearthdata.com</a>	<code>ne_110m_admin_0_countries_coor_2021sep30.dta</code>
Geocoding by <a href="http://naturalearthdata.com">naturalearthdata.com</a>	<code>ne_110m_admin_0_countries_data_2021sep30.dta</code>

in the online data folder at <https://econweb.ucsd.edu/muendler/teach/21f/435/gen>.

You may find the code from lecture a useful reference: `lec01.do` in the online lecture folder <https://econweb.ucsd.edu/muendler/teach/21f/435/lec01>.

Please submit three products to [canvas.ucsd.edu](https://canvas.ucsd.edu) by the due time: (i) a file with results titled *ee01.pdf*, (ii) a log file titled *ee01.log*, and (iii) a Stata code file titled *ee01.do* (which may call other software). **Your log file must exhaustively document the steps from the above input files to the output of results.**

## Tasks

### 1. Preliminaries.

- Use the ITPD-E data to compute each country's trade balance in 2016 (the trade balance is exports less imports).  
*Hint:* Prepare ITPD export and import information separately, then merge the data at the country level one-to-one. Alternatively, aggregate ITPD-E separately by exporter and importer (using the Stata `egen · = sum(·), by(·)` command).
- Use the WDI data to obtain population and GDP in 2016.  
*Hint:* The GDP series is `NY.GDP.MKTP.CD`, the population series `SP.POP.TOTL`.
- Combine the WDI information with the ITPD-E information.

### 2. Graph.

- Plot two world maps of levels of positive and negative trade balances (in billions of current US\$ dollars) in 2016, one in reds for all countries with trade deficits and one in greens for all countries with trade surpluses.  
*Hint:* Use the Stata `spmap` package as shown in *lec01.do*. Set the options to `fcolor(Reds)` or `fcolor(Greens)` and consider logarithmic break points for the legend, marking 0 1 10 100, and so forth in `clbreaks(·)` (and make sure to extend the series to cover the maximum).

### 3. Report.

- Compute the trade balance per capita and list the three countries with the largest surplus per capita and the three countries with the largest deficit per capita in 2016.