

4 octobre 2020

The goal of this exercise is simply to establish your ability to deal with standard trade datasets, perform some simple summary statistics and empirical regressions. I do not expect you to know how to do everything, and this is not an exam of any sort. It is just to assess if you can figure some steps out along the way. Feel free to skip some steps if they appear too complicated.

Please hand out your annotated code (preferably Stata but R is fine too), as well as a document (I don't care about the format) with your outputs and brief analysis.

We are studying Germany's trade flows with the rest of the world between 2005 and 2010.

Datasets

In the folder, you will find the following datasets that I describe.¹

- `baci92w_t.dta` : These are BACI trade data from years 2005 to 2010.
Variables :
 - `t` : vintage year
 - `hs6` : Product code (HS6 classification)
 - `i` : Origin country
 - `j` : Destination country²
 - `v` : Value in 1,000 of current USD
- `cw_HS_WZ93_3_final2.dta` : Crosswalk Product classification HS6 to German classification of industries WZ93, with associated weighting (variable `temp_weight`)
- `ICPH_Eurostat-2.csv` : Consumer Price index for the Euro (base 2005)

Exercise

1. For each vintage of the Baci dataset, identify relevant exporters and importers list relative to Germany and provide summary statistics of yearly trade volumes in constant euros of 2005 during the period 2005 to 2010 :
 - China
 - Main export partners
 - Main import partners³

Hint : Start by convert values with the Eurostat exchange rate at the end of the document, and then use the CPI. Generate a dummy id for each relevant trading group. Summarize volumes by groups.
2. For each vintage year of the Baci data, list the 5 largest export industries and the 5 largest import industries for Germany.

1. Most of the datasets are `.dta` file because I mostly use Stata. But feel free to use R.

2. A number of countries have already been deleted from the original dataset to reduce size.

3. See list of country codes at the end of the document.

Hint : Start by converting HS6 product codes to WZ93 industries using the crosswalk. Aggregate volumes by industry.

3. Generate a panel of Germany's imports and exports towards its main partner between 2005 and 2010.

Hint : Only keep the relevant countries before merging.

4. Plot aggregate time series exports and imports volume of Germany with its main partners between 2005 and 2010.

Hint : Aggregate all exports and all imports into two volume variables.

5. Estimate the correlation between trade volumes (exports and imports separately) on Germany's GDP when controlling for industry and origin (or destination) country effects.

Hint : This latest question is purposely vague. First you need to find Germany's GDP time series data. Then you simply need to set up a regression that would exhibit some correlation that you think is in line with this question. There's no particular right or wrong way, I just want to see if you can set up a regression in a meaningful way.

Relevant countries code list

- Germany = 276
- China = 156
- Germany's main export partners :
 - France = 251
 - US = 842
 - UK = 826
 - Netherlands = 528
 - China = 156
 - Austria = 40
 - Italy = 381
 - Switzerland = 757
 - Poland = 616
 - Belgium = 58
- Main imports partners
 - Bulgaria = 100
 - Czech Republic = 203
 - Hungary = 348
 - Poland = 616
 - Romania = 642
 - Slovakia = 703
 - Slovenia = 705
 - and the former USSR or its succession states Russian Federation = 643
 - Belarus = 112
 - Estonia = 233
 - Latvia = 428
 - Lithuania = 440
 - Moldova = 498
 - Ukraine = 804
 - Azerbaijan = 31
 - Georgia = 268
 - Kazakhstan = 398
 - Kyrgyzstan = 417
 - Tajikistan = 762
 - Turkmenistan = 795
 - Uzbekistan = 860

EURO-USD Eurostat exchange rate time series

1€ = USD1.2441 in 2005

1€ = USD1.2556 in 2006

1€ = USD1.3705 in 2007

1€ = USD1.4708 in 2008

1€ = USD1.3948 in 2009

1€ = USD1.3257 in 2010