

Readme file for: Revisiting the Euro's trade cost and welfare effects

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Abstract

This document provides a detailed description of the data used and explains the underlying codes to derive the results. The readme file is structured exactly as the paper.

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1 Data General Information

- The main data base is the World Input-Output Database (WIOD) and needs to be bought on the respective website. It is described in detail by Timmer et al. (2015).
- It provides information on the expenditure shares α , the cost shares β and γ , as well as data on bilateral trade shares π , bilateral trade in final and intermediate goods in producer and consumer prices detailed by sector, countries' total value added $w_n L_n$, values of production, and trade surpluses S .
- We use the first WIOD wave to be able to cover the first Euro accessions by Germany, Italy, Belgium, Finland, France, Ireland, Luxembourg, Netherlands, Portugal, and Spain in 1999.
- To pin down the baseline, we have constructed a concordance between the two waves and work with the year 2014, the most recent one available. We use WIOD data on sectoral outputs, bilateral aggregated intermediate and final trade shares final expenditure and intermediate cost shares.
- Moreover, we match the cross-section of tariffs in 2014.¹
- Data on bilateral preferential and MFN tariffs stem from Felbermayr et al. (2018).
- Sectoral trade cost elasticities θ and the trade cost changes δ are identified through structural state-of-the-art gravity estimation.
- Data on trade from WIOD are used to estimate trade elasticities for the 16 manufacturing and agricultural sectors – jointly with the ad-valorem equivalent changes in NTBs associated with the different steps of European and trade integration in general.
- For services sectors, we borrow an average estimate of the elasticity of services trade with respect to trade cost from Egger et al. (2012). We adapt their method to obtain a trade elasticity of services and apply it to our estimated goods elasticity from our aggregated gravity estimation. This is given by $\beta = \theta_{\text{Goods}} - \theta_{\text{Services}}$, which is $\theta_{\text{Services}} = 1.446 = 3.471 - 2.026(\hat{\beta})$ and a relative standard error of $0.144 = 0.924/6.404$ (t-value).

¹We use the approach outlined in Aichele and Heiland (2018) to account for the fact that WIOD expenditure shares are valued in “basic” (or “producer”) prices (net of tariffs), while expenditure shares in the model are defined in “market” prices (including tariffs). Further, we utilize their approach to account for changes in inventory as part of the accounting system of WIOD but do not feature in our model.

- We use data on RTA membership from the WTO.² Data on membership in the EU, the Eurozone and the successive accession of countries to the Schengen Agreement stem from the European Commission. Information about the EU membership and RTA membership is taken the website of the European Commission.

1.1 Gravity Analysis of Average Effects

Data Prep for Gravity Tables

- part1_gravity.do
- Main datasource is WIOD, which needs to be bought on website
- Dummies for Euro, EU membership, RTAs, FTAs, Schengen Dummy stem from the European Commission (<https://ec.europa.eu/>), DESTA Database (<https://www.designoftradeagree>

Table 1 The Impact of EMU on sectoral Bilateral Imports

- Code for the Gravity estimation of Table 1 one can be retrieved from the do.file: part1_gravity.do
- Results are outsheeted: 1) agg_tau.xls Broad Goods and Services in Table 1 (The Impact of EMU on sectoral Bilateral Imports) and 2) sec_tau1.xls botheuro variable for sector estimates in Table 1 (The Impact of EMU on sectoral Bilateral Imports)

Table 2 The Impact of EMU on German Bilateral Imports from Old and New EMU Members

- Code for the Gravity estimation of Table 2 one can be retrieved from the do.file: part1_gravity.do
- Results for columns (1) to (4) - the goods - can be retrieved from the derived agg3_goods.xls
- Column 1 in table 2 equals column "DEcluster1" in agg3_goods.xls; Column 2 in table 2 equals column "DEcluster2" in agg3_goods.xls; Column 3 in table 2 equals column "DEcluster3" in agg3_goods.xls; Column 4 in table 2 equals column "DEcluster4" in agg3_goods.xls

²The RTA gateway is accessible via <http://rtais.wto.org/UI/PublicMaintainRTAHome.aspx>.

- Results for columns (5) and (6) - the services - can be retrieved from the derived `agg3_services.xls`
- Column 5 in table 2 equals column "DEcluster6" in `agg3_services.xls`; Column 6 in table 2 equals column "DEcluster5" in `agg3_services.xls`

Table 3 8The Impact of EMU on sectoral Bilateral Imports of Goods)

- Code for the Gravity estimation of Table 3 (The Impact of EMU on sectoral Bilateral Imports of Goods) one can be retrieved from the do.file: `part1_gravity.do`
- Results for all Columns can be found in the excelfile `sec3_asym_tau.xls`; v
- Column 1 of table 3 is equal to row "(first) DEUold_a" of excelfile `sec3_asym_tau.xls`;
Column 2 of table 3 is equal to row "(first) oldDEU_a" of excelfile `sec3_asym_tau.xls`;
Column 3 of table 3 is equal to row "(first) DEUnew_a" of excelfile `sec3_asym_tau.xls`;
Column 4 of table 3 is equal to row "(first) newDEU_a" of excelfile `sec3_asym_tau.xls`;
Column 5 of table 3 is equal to row "(first) oldnew_sym_tau" of excelfile `sec3_asym_tau.xls`;

Table 4

- Code for the Gravity estimation of Table 3 (The Impact of EMU on sectoral Bilateral Imports of Goods) one can be retrieved from the do.file: `part1_gravity.do`
- Results for all Columns can be found in the excelfile `sec3_asym_tau.xls`; Each column shows one sector cluster17 is for instance the sector 17 - Electricity. The services in table 3 go from column "cluster17 to cluster34" in the excelfile `sec3_asym_tau.xls`;
- Column 1 of table 3 is equal to row "(first) DEUold_a" of excelfile `sec3_asym_tau.xls`;
Column 2 of table 3 is equal to row "(first) oldDEU_a" of excelfile `sec3_asym_tau.xls`;
Column 3 of table 3 is equal to row "(first) DEUnew_a" of excelfile `sec3_asym_tau.xls`;
Column 4 of table 3 is equal to row "(first) newDEU_a" of excelfile `sec3_asym_tau.xls`;
Column 5 of table 3 is equal to row "(first) oldnew_sym_tau" of excelfile `sec3_asym_tau.xls`;

1.2 Counterfactual Analysis Results

General Prep in Advance

- Codes to run the simulations stem from Caliendo Parro (2015) and need to be asked from the authors. They are extended in the way to simulate the confidence intervals and include not only tariff as trade cost shocks but also the non-tariff barriers.

- Insheeting the results of matlab into stata for the analysis: This can be found in the do.file part4_CF_analysis.do

Table 5 Real Income Changes, in %

- The real income table is generated in the do.file part4_CF_analysis.do
- You can find it by searching for "real income change"

Table 6 Change in Aggregate Trade, in %

- do.file that generates this table: part4_CF_analysis.do
- Datasets needed to derive results: secexpimp_agg.dta; secexp_se_agg.dta, secexpimp.dta, secexp_se.dta

Table 7 The Impact of emu on sectoral bilateral imports of goods (and table 8 Services)

- Dofile for the generation of the table: part4_CF_analysis.do
- Files needed: secbilexp.dta_4tab; secbilexp.dta_se; secbilexp.dta_4tabagg.dta; secbilexp_seagg.dta

Table 8: Value Added of Germany

- Dofile for the generation of the table: part4_CF_analysis.do
- files needed: cname_deutsch.dta;

References

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