

Exchange Rate Exposure and Firm Dynamics

Codes and Data Sources

Juliana Salomao

Liliana Varela*

January 2021

This document lists the files contained in the `datacodes.zip` and describes how to access the data employed in the paper.

Stata and txt Files

- Software Requirement: Stata 16.
- `Figure-1-data.dta` and `Figure-1.do`: these files contain the data and the code to generate Figure 1.
- `Table-2.do`: this .do file generate moments for Table 2.
- `aggregate-data1.dta`: this .dta file contains the data to generate Figure 1 and some of the moments in Table 2 .
- `aggregate-shock-Z.dta`: this .dta file contains the data to generate the moment related to aggregate productivity in Table 2.
- `model-firm-level-data.txt`: this .txt file contains the model simulated data to generate Tables 3, 4, 5, 6 and 8. This data is generated in the Matlab Files/ `FL-data-and-Tables7-and-9.m` as described below.
- `Tables-3-6-and-8-model-data.do`: this .do file imports the data in `model-firm-level-data.txt` and generates Tables 3, 4, 5, 6 and 8.
- `Tables-1-3-6-and-8-HGY-data.do`: this .do file reproduces the results generated using the Hungarian data.

Matlab Files

- Software Requirement: MATLAB (the code was run with MATLAB Release 2018b)

*Juliana Salomao: University of Minnesota, jsalomao@umn.edu. Liliana Varela: London School of Economics, l.v.varela@lse.ac.uk.

- Programs in Matlab File replicate FL data and Tables 7 and 9. The program FL-data-and-Tables7-and-9.m will run them all.
 - Step 1 (line 33) in this file generates and saves firm level data (model-firm-level-data.txt) used in Tables 3, 4, 5, 6 and 8. This is already in the Stata Files folder.
 - Step 2 (line 52) in this file generates Table 7. It will be displayed in the command window and it is called table7-final in the workspace.
 - Step 3 (line 79) in this file generates Table 9. Line 82 has the note in the table. It will be displayed in the command window and it is called table9-final in the workspace.
 - Computing time for this code is about 1.5 hours.

Data Sources

Firm-level Data

We employ two firm-level databases to test the model's implications: APEH and Credit Registry. The APEH dataset contains panel data on firms' balance sheets reported to tax authorities. The Credit Registry data reports information on all corporate loans with financial institutions in Hungary. These datasets are provided by the Statistical and Research Department of the National Bank of Hungary (NBH). These datasets are administrative data and are not available to the general public. They can only be accessed by permission of the Statistical and Research Departments of the National Bank of Hungary. To obtain information about how to access the data, visit the website of the Research Department of the NBH, [https : //www.mnb.hu/en/research](https://www.mnb.hu/en/research).

We compute revenue TFP employing the methodologies developed by Levinsohn and Petrin (2012) and Wooldridge (2009) and Olley and Pakes (1996) to estimate the input elasticities of the production function. These elasticities can be estimated using Stata. The code to compute Levinsohn and Petrin's (2011) methodologies with Wooldridge's (2009) correction is available at Amil Petrin's website (<https://sites.google.com/a/umn.edu/amil-petrin/home/Available-Programs>). The code to compute RTFP following Olley and Pakes' methodology has been developed by Yasar, Raciborski, and Poi (2008) and is available at <http://wweb.uta.edu/faculty/myasar/opreg.html>.

Aggregate Data

We compute the UIP deviation using German and Hungarian government bonds extracted from Global Financial Data. We adjust by sovereign default risk using credit default swaps from Datastream. We employ expectations on exchange rate at one year horizon using Consensus Forecast. Data for foreign currency loans and exchange rate for Hungary comes from the NBH available at [https : //www.mnb.hu/en/statistics](https://www.mnb.hu/en/statistics). We estimate the sensitivity of the aggregate shock to the exchange rate using the aggregate productivity series from Penn World Table (version 9.0) for Hungary.

References

- LEVINSOHN, J., AND A. PETRIN (2012): “Measuring aggregate productivity growth using plant-level data,” *The RAND Journal of Economics*, 43(4), 705–725.
- OLLEY, G. S., AND A. PAKES (1996): “The Dynamics of Productivity in the Telecommunications Equipment Industry,” *Econometrica*, 64(6), 1263–97.
- WOOLDRIDGE, J. M. (2009): “On estimating firm-level production functions using proxy variables to control for unobservables,” *Economics Letters*, 104(3), 112–114.
- YASAR, M., R. RACIBORSKI, AND B. POI (2008): “Production Function Estimation in Stata Using the Olley and Pakes Method,” *Stata Journal*, 8(2), 1–11.