Firms, Destinations, and Aggregate Fluctuations: Replication Materials

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April 16, 2014

Data

A detailed description of the data is in the main text and Online Appendix D. The data are not included in this replication materials package because access to these data is restricted. To obtain the data, one must apply for access through the *Comité du Secret Statistique* of the *Conseil national de l'information statistique* (CNIS), the National Counsel for Statistical Information.

Organization of the working space:

- All the programs (.do files and .m files) must be saved in a separate folder, called "$dopath" if what follows. This is also the working path in Matlab
- The working path in stata is referred to as "$datapath"
- In addition to the programs, "$dopath" should also contain two separate folders, "Output" which is also the " $outputpath" in Stata and "Figures" in which the outcome of the .m files will be saved
- The starting point is a dataset ($data) stored in "$datapath". This dataset contains the micro-level data. It has the following variables:
  - year: time identifier
  - siren: firm identifier
  - pays: country identifier
  - $sect: sector identifier
  - gr_capays: annual growth rate of sales, by siren × pays × year
  - gr_vapays: annual growth rate of value added, by siren × pays × year
  - capays and lag_capays: current and lagged values of the sales variable
  - vapays and lag_vapays: current and lagged values of the value added variable

- out_gr: A dummy equal to one if the growth rate falls into the category of "outliers" and is thus neglected from the micro-level estimation
- size, age, RDint (R&D expenses over value added), patent (patent expenses over value added), totdebtratio (debt to sales ratio), the set of firm-level control variables used to obtain results in Table A.2
- ze: the local market identifier

First stage in Stata: Micro-level estimations

- First run microestimation.do, the do file that estimates the micro-level variance decompositions exploited in the paper. This master file:

  i) estimates the micro-level decomposition of growth rates into a macro/destination and a firm components. The estimation is performed in the benchmark case (equation (5) in the paper), using the model that controls for firm-specific characteristics interacted with the fixed effects (equation (12) in the paper) and in the benchmark case augmented with local market fixed effects

  ii) Further decomposes the firm-specific component of growth rates into a component that is common across markets and a market-specific component (equation (9) in the paper)

  iii) In the benchmark case, compute micro-level summary statistics on the outcome (Tables 2, 3 and 4 in the paper)

- Then run cvsexport.do, a do file which purpose is to prepare the data for later importation into Matlab

- Outcome in $outputpath:

  – A number of micro-level datasets (in .dta and .csv formats) that contain the observed and estimated components of individual growth rates, obtained under different specifications, namely:

    * growth_regs_capays_all (Whole economy) and growth_regs_capays_mfg (Manufacturing sector): Benchmark regression, Total sales
    * FR_growth_regs_capays_all (Whole economy) and FR_growth_regs_capays_mfg (Manufacturing sector): Benchmark regression, Domestic sales
    * X_growth_regs_capays_all (Whole economy) and X_growth_regs_capays_mfg (Manufacturing sector): Benchmark regression, Export sales
    * growth_control_interacted_regs_capays_all (Whole economy) and growth_control_interacted_regs_capays_mfg (Manufacturing sector): Augmented regression with firm-level controls (one for each firm-level control variable)
    * growth_localFE_regs_capays_all (Whole economy) and growth_localFE_regs_capays_mfg (Manufacturing sector): Augmented regression with additional local market effects
    * growth_regs_vapays_all (Whole economy) and growth_regs_vapays_mfg (Manufacturing sector): Benchmark regression using value added as LHS variable

– A log file with some summary statistics, including the results in Tables 2, 3, 4

Second step using Matlab:

- Read the csv files using import_all.m (Whole economy) and import_mfg.m (Manufacturing sector)
- Compute the aggregate growth and aggregate variance decomposition for total sales using master_variance_all_ca.m (Whole economy) and master_variance_mfg_ca.m (Manufacturing sector) (Results in Table 5, Panel I and Online Appendix B)
- Compute the aggregate growth and aggregate variance decomposition for domestic sales using master_variance_FR_all_ca.m (Whole economy) and master_variance_FR_mfg_ca.m (Manufacturing sector) (Results in Table 5, Panel II)
- Compute the aggregate growth and aggregate variance decomposition for export sales using master_variance_X_all_ca.m (Whole economy) and master_variance_X_mfg_ca.m (Manufacturing sector) (Results in Table 5, Panel III)
- Compute the aggregate growth and aggregate variance decomposition for total value added using master_variance_all_va.m (Whole economy) and master_variance_mfg_va.m (Manufacturing sector) (Results in Table 5, Panel IV)
- Compute analytical standard deviations for the aggregate variance and its components using master_std_errors_ALL.m (Whole economy) and master_std_errors_MFG.m (manufacturing sector)
- Compute bootstrapped standard deviations for the aggregate variance and its components using master_std_errors_bs_ALL.m (Whole economy) and master_std_errors_bs_MFG.m (manufacturing sector)
- Draw figure 3 (Aggregate variance and components with standard errors) using master_se_figures_ALL.m (Whole economy) and master_se_figures_MFG.m (Manufacturing sector)
- Draw figure 4 (Firm-specific component decomposed into a DIRECT and a LINK terms) using directlink_compare_ALL.m (Whole economy) and directlink_compare_ MFG.m (Manufacturing sector)
- Compute sector-specific DIRECT and LINK terms using master_variance_cs_all_ca.m (Whole economy) and master_variance_cs_mfg_ca.m (Manufacturing sector)
- Draw Figure 5 (Sector-specific DIRECT component against sectoral Herfindahl) using master_herfVaronly_figures_all_ca.m (Whole economy) and master_herfVaronly_figures _mfg_ca.m (Manufacturing sector)
- Draw Figure 6 (Sector-pair-specific LINK component against mean IO coefficient) using master_IOCovBil_figures_all_ca.m (Whole economy) and master_IOCovBil_figures _mfg_ca.m (Manufacturing sector)