"Aggregate Dynamics in Lumpy Economies"

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Replication Guide

Figure 1: Distributional Dynamics and Cumulative Impulse Response

The folder "Figure_1" contains:

- **`CIR_data.csv`** – Illustrative example of steady-state and perturbed distributions, IRF, and CIR.
- **`figure1_CIR.tex:`** Reads data and plots the figure in PDF.

Figure 2: Reset State, Capital Gaps, and Capital Gap Changes ($\nu = \lambda = 0$)

The folder "Figure_2" contains:

- **`Reset_state1.csv –`** Illustrative example of 3 distributions of the capital gaps
- **`Reset_state2.csv –`** Illustrative example of 3 distributions of the capital gap *changes*
- **`figure2_resetstate.tex –`** Reads data and plots the figure in PDF.

Table I: Inputs from Micro Data and Outputs from the Theory

The folder "Table_I" contains:

- **`CHILE_CLEAN_PIM.dta`**
  - Source: Chile's Annual National Industrial Survey (ENIA)
    - Clean data (see Data Appendix for details)
    - Capital series computed with Perpetual Inventory Method (PIM)

- **`TableI.do –`** Stata Do File
  - Keeps the following sample:
    - Firms with more than 10 years of data **`(Balance)`**
    - Only one stopping time per firm **`(tau1)`**
    - All firm sizes **`(Sampleall)`**
    - All industrial sectors **`(Sectorall)`**
    - Does not consider firm-specific weights **`(weightno)`**
    - Eliminates outliers below 2nd percentile and above 98th percentile of the investment rate distribution **`(outliers2)`**
    - Information for structures **`(build)`** and total capital **`(total)`**
  - Saves results in the following 2 datasets (used to construct Figure 3, see below):
    - **`Balance_tau1_Sampleall_Sectorall_weightno_total_outliers2.dta`**
    - **`Balance_tau1_Sampleall_Sectorall_weightno_build_outliers2.dta`**
  - Runs **`MainProg.do`** twice (for structures and for total capital)

- **`MainProg.do –`** Stata Do File
  - Compute statistics from micro data (inputs)
  - Computes steady-state moments and CIR (outputs)
  - Saves results in two Excel files
    - **`Formula_Balance_tau1_Sampleall_weightno_Sectorall_total_outliers2.xls`**
    - **`Formula_Balance_tau1_Sampleall_weightno_Sectorall_build_outliers2.xls`**

- **Formulas_balance_Main_1.m –** MATLAB script that organizes the data and writes the .tex file

- **tableI_inputsoutputs.tex –** Reads data and plots the figure in PDF.

Figure 3: Empirical Distribution of Non-Zero Capital Gap Changes

The folder "Figure_3" contains:

- Two datasets Produced by TableI.do (see above)
    - Panels of non-zero capital gap changes (Delta x) and duration of inaction (tau)
        - **Balance_tau1_Sampleall_Sectorall_weightno_total_outliers2.dta**
        - **Balance_tau1_Sampleall_Sectorall_weightno_build_outliers2.dta**

- **DoFile_Figure3 –** Stata Do File
    - Reads the data for total capital and for structures
    - Splits the distribution of Delta x for durations above and below their average, creating the following 4 intermediate datasets:
        - **Histogram_Deltax_total_aboveavgdur**
        - **Histogram_Deltax_total_belowavgdur**
        - **Histogram_Deltax_build_belowavgdur**
        - **Histogram_Deltax_build_belowavgdur**
    - Merges these 4 datasets into **Histogram_investments.csv**

- **Figure3_histrograms.tex:** Reads **Histogram_investments.csv** and plots the figure in PDF.

Table II: Configurations of the Bernoulli Fixed-Cost Model

The folder "Table_II" contains MATLAB code.

- **main_TableII.m**
    - MATLAB script that solves the Bernoulli fixed-cost model for 3 configurations and computes implied steady-state moments (E[tau], V[x], Cov[x,a], etc) and CIR_1.

- Calls the following subroutines:
    - **value_function.m** – Solves for optimal policy.
    - **inaction_moments.m** – Computes moments between a period of inaction.
    - **ergodic_moments.m** – Computes E[x^m] for a given m, using finite differences.
    - **compute_covariance.m** – Computes Cov[x,a] using finite differences.
    - **compute_CIR.m** – Computes the CIR using finite differences.

- **tableII_bernoulli.tex:** Organizes the output to produce the table.

    - See Online Appendix for details on computation and parameterization.

    - Some routines use functions of the `compecon` library by Miranda and Fackler. `http://www4.ncsu.edu/~pfackler/compecon/toolbox.html`
