Submitted material

The zipped folder "CODES & DATA" contains the empirical data and the codes used to conduct the wedge analysis presented in the article "Accounting for the Duality of the Italian Economy". It also contains the codes to replicate the empirical graphs presented in Section 2 of the paper.

Software and hardware

Software: The numerical analysis with the model is written in MATLAB, version R2021b. The empirical graphs are constructed in Excel and Python (in particular we used Python to construct the choropleth graphs).

Hardware: All programs for the structural analysis were run on a personal computer: Intel(R) Xeon(R) Silver 4215R CPU 3.20GHz 3.19 GHz, with 32.0 GB of RAM. Runtime for the execution of each program is indicated below.

Data Availability Statement

- The empirical series used to compute the wedges have been downloaded from the following sources:

    - Istituto Nazionale di Statistica,
      https://www.istat.it/
    - World Development Indicators,
      https://databank.worldbank.org/source/world-development-indicators
    - International Labor Organization,
      https://www.ilo.org/global/statistics-and-databases/lang–en/index.htm

  For the empirical graphs presented in Section 2 of the paper we used the following sources:

    - Istituto Nazionale di Statistica,
      https://www.istat.it
    - Conti Publici Territoriali (CPT),
      https://www.agenziacoesione.gov.it/sistema-conti-pubblici-territoriali
    - Online Supplementary Material for Felice (2019),
      https://academic.oup.com/ereh/article/23/4/499/5073301?login=true#supplementary-data

  All data sources are in the public domain and freely accessible. See Appendices B and C in the paper for detailed description of the data.

Description of zipped folder

The zipped folder "CODES & DATA" contains two subfolders:

"1. CODES & DATA FOR EMPIRICAL GRAPHS"

It contains Excel, MATLAB and Python programs to construct the empirical graphs presented in Section 2.

"2. CODES & DATA FOR WEDGE ANALYSIS"

It contains the MATLAB programs to conduct the wedge analysis.

Following is the description of the structure of each subfolder.

1. CODES & DATA FOR EMPIRICAL GRAPHS

1. "Figures2&5.xlsx": Excel file that contains data to construct Figures 2 and 5, as well as the two figures.

   Runtime "Figures2&5.xlsx": Time to open the file

2. "Figure3.m": The MATLAB program that constructs Figure 3. The file reads data from the Excel file: "Figure3.xlsx".

   Runtime "Figures3.m": 1 second

3. "EconMaps.ipynb": Python program that constructs the choropleth graphs for Figures 1, 4, 6, 8. The program reads data from the following two files:

   - "regions_geometry_file": File that contains the geographical coordinates of the Italian regions.
   - "regional_descriptives.xlsx": Excel file that contains empirical data.

     Runtime "Figures2&5.xlsx": 20 seconds

4. "Figures": Folder that contains the choropleth graphs created with Python program "Econ-Maps.ipynb". When the program is re-run, it will overwrite the existing graphs previously saved in this folder.

2. CODES & DATA FOR WEDGE ANALYSIS

1. "Program_CapitalStock.m": MATLAB program that constructs the series of the national capital stock for Italy and the related capital depreciation rate. It also decomposes the capital stock between North and South. See Appendix A.1 in the paper for the description of the procedure. The program uses the following subroutines and data file:

   - "f_kstock_delta_kt.m": MATLAB subroutine.
   - "f_kstock_regional.m": MATLAB subroutine.
   - "Investments and Capital Consumption.xlsx": Excel file containing empirical data.

`Runtime` "Program_CapitalStock.m": `1 seconds`

2. "Program_MakePlots.m": MATLAB program that constructs figures 9, 10, 11, 12 using model generated data. The generated figures are saved in subfolder "Figures". The folder must be created before running the code. The program uses the following subroutine and data file:

   - "ComputeWedges.m": MATLAB subprogram that computes the wedges using empirical data. This subprogram is called by program "Program_MakePlots.m". Therefore, the Runtime indicated below includes the time needed to run the subprogram.
   - "masterdata.mat": MATLAB data matrix that contains the empirical data used by the program "Program_MakePlots.m".

     `Runtime` "Program_MakePlots.m": `10 seconds`

3. "Program_CounterFactuals.m": MATLAB program that conducts the counterfactual exercises and constructs Tables 1 and 2. The produced data to fill the tables are printed in the screen. The program uses the following subroutines and data file:

   - "ComputeWedges.m": MATLAB subprogram that computes the wedges using empirical data. This subprogram is called by program "Program_CounterFactuals.m". Therefore, the Runtime indicated below includes the time needed to run the subprogram.
   - "FindSS.m": MATLAB function that is called by program "Program_CounterFactuals.m".
   - "masterdata.mat": MATLAB data matrix that contains the empirical data.
   - "xVar.mat": MATLAB array that contains the guesses to compute the steady state equilibrium.

     `Runtime` "Program_CounterFactuals.m": `4 seconds`

4. "Figures": Folder that contains the figures created with program "Program_MakePlots.m". When the program is re-run, it will overwrite the previously saved graphs in this folder.

References

FELICE, E. (2019): "The Roots of a Dual Equilibrium: GDP, Productivity, and Structural Change in the Italian Regions in the Long Run (1871–2011)," *European Review of Economic History*, 23, 499–528.