

Read Me Document for “The Fall in Global Fertility: A Quantitative Model”

Note: All Stata do files have been tested on Stata SE 14.2 for Windows and all Matlab program files have been tested on Matlab 2015 for Windows.

Stata datasets

1. Model_dataset.dta – used to generate Figure 2 and 5, Tables 2, 4 and 5, and Appendix A1. Also to obtain data moments required for calibrating the parameters and initial conditions for the simulations carried out in the paper.
Data is compiled from several sources:
 - a. TFR, infant mortality rate, under-5 mortality rate, wanted fertility, household consumption, GDP, total and working age population, urban population as a share of total, government expenditure on education as a share of GDP – World Development Indicators (WDI)
 - b. Expected years of schooling from UNESCO 2013
 - c. Total per capita spending on family planning programs in 2005 USD cents (compiled from Nortman and Hofstatter (1978), Nortman (1982), and Ross, Mauldin, and Miller (1993)) and the CPI (2005) and nominal GDP data (both from the World Bank’s WDI) required to convert data into comparable units.)
 - d. The dummy variable “early_OECD” indicates countries which were classified as OECD countries prior to 1970
 - e. The variable “yr_sch_h” is constructed using observed and forecasted years of schooling for the population aged 25+ from Barro and Lee 2013
2. Datasets for out-of-sample exercise – these datasets were used to calibrate the model used for the out-of-sample exercise and construct Figure 5
 - a. Advanced_economies: TFR and population data from gapminder.org from 1800-1950 (to compare fertility transition with model)
 - b. Maddison.dta: GDP per capita data from the Maddison project (for calibration)
 - c. Hist_edu.dta: Years of schooling from Lee and Lee (2016) pre-1900 (for calibration)
3. OECD_edu_data – used to construct Appendix A3
 - d. Data on private and public expenditure on education from OECD database (2016)
 - e. GDP per capita data from WDI

Matlab files

Programs:

1. Latest_271116: code for the main model
2. Country_simulations_AEJ: code for individual country simulations
3. Latest_advanced_economies: code for the out-of-sample fit exercise
4. Latest_mortality_extension, latest_uncertainty_extension, latest_psi_151118, latest_functional_forms: code for the extensions of the model

Function files used to solve for the parameters and initial conditions

5. Calibration and calibration2: used for the main model and all extensions aside from the mortality extension
6. Calibration_specific: used in the individual country simulations
7. Calibration_dev: used for the out-of-sample fit exercise
8. Calibration_mort_new and calibration_mort2: used for calibrating the model with mortality incorporated

Function files for solving model

9. Myfun_norm290416 and myfun1_norm290416: for the model with norms
10. myfun_baseline290416 and myfun1_baseline290416 for the baseline model with no norms
11. myfun_mort141216 and myfun1_mort141216 for the mortality extension
12. myfun_290416 and myfun1_290416 for the uncertainty extension
13. myfun_norm_log290416 and myfun1_norm_log290416 for the functional form robustness check

Other

14. The file "params.mat" is a matrix of the data moments used for calibrating the parameters and initial conditions for each of the 15 countries