Sánchez-Marcos and Bethencourt (2017) "The Effect of Public Pensions on Women's Labor Market Participation over a Full Life-Cycle" *Quantitative Economics*

Folder BenchmarkEconomy

1. We use Fortran 90 to solve and simulate our model economy. We also compute several moments to compare to the data. Some additional moments are computed from the simulated data using Stata.

2. The code is split into modules which are called as necessary from the main program, which is in the file intensive1.f90. The code is written to run on a parallel computer system using MPI.

3. The different modules are:
   1. intensive1.f90 [main program]
   2. calibrate.f90 [reads several inputs (see below)]
   3. partner.f90 [implements the backwards solution method of the dynamic problem]
   4. params.f90 [for reading in the parameter values, defining grid sizes, and defining utility functions etc]
   5. assetgrid.f90 [defines the grid over assets that is used in the solution]
   6. wageproc.f90 [introduces wage growth, define grid for years of experience, define pension functions]
   7. equations.f90 [defines conditional value functions]
   8. consolve.f90 [simulates consumption given the solution that has been previously found]
   9. bisection.f90 [simple routine to solve for fixed point in one dimension]
   10. subrout.f90 [for passing information between routines]
   11. simulate.f90 [simulates behaviour once the model has been solved]
   12. statistics.f90 [computes several statistics from simulated data]
   13. banner.f90 [for outputting parameter values used]

4. The inputs to the code are: the parameters and targets [mpiparams.inp, mpiguess.inp, targets.inp], random numbers [randnos.inp, randnosupdate.inp,] and the wage grid and associated Markow transitions [wagepoints1812p_f_s3.inp, wagepoints1812p_m_s3.inp, transwagepoints1812p_s3.inp]

5. Output from the simulations is in ASCII text files. Output can either be in averages (which go to sims.out) or on indvidual behaviour (which go to sample.out). In order to produce each counterfactual R1, R2 and R3 the parameters in mpiparams.inp have to be modified to reflect each particular policy experiment: the different outputs are labelled: simsR1.out/simsR2.out/simsR3.out and sampleR1.out/sampleR2.out/sampleR3.out)

6. Simulated data in output files is used to compute several statistics using Stata:

   a. sampleBASE.do [Tables 1 to 4 and Figure 1] and sampleREFORM.do [Table 8]
   b. sampleMERGE-R1.do and sampleMERGE-R2.do [Tables 6 and 7]

c. sampleCOMPARE.do [Table 5 and Figure 2]

Folder ClaimingAgeAt66Economy

Same structure as the BenchmarkEconomy folder.