

Replication instruction for
“Recent Changes in the Nature of the Distribution Dynamics of United States
County Incomes”

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Software used: Matlab

1. Figure 1: Run Fig1.m to produce Figure 1. Fig1.m uses ‘PI.txt’, which contains county ID and per capita pre-transfer incomes from 1970 to 2017 that are obtained from the BEA Regional Economic Information System. Further details on data sources can be found in Sec 2.1 of the paper.
2. Figure 2: Run Fig2A.m and Fig2B.m to produce Figure 2 (A) and Figure 2 (B), respectively. Both codes use the same data set (‘PI.txt’) used to produce Figure 1.
3. Figure 3: Run Fig3A.m and Fig3B.m to produce Figure 3 (A) and Figure 3 (B), respectively. ‘PI_plus_all_transfer.txt’ is used in both codes: ‘PI_plus_all_transfer.txt’ contains county ID and per capita post-transfer incomes from 1970 to 2017 that are obtained from the BEA Regional Economic Information System. Further details on data sources can be found in Sec 3.3 of the paper.
4. Figure 4: Run Fig4A.m and Fig4B.m to produce Figure 4 (A) and Figure 4 (B), respectively. Each subfigure (Figure 4 (A) or Figure 4 (B)) is produced by running 5 sub-codes and saving the ergodic distribution from each sub-code. For example, in Figure 4 (A), ‘PT’ is obtained from running Fig2A.m, ‘PT+A’ is obtained from running Fig4A_PT_plus_A.m, ‘PT+B’ is obtained from running Fig4A_PT_plus_B.m, ‘PT+C’ is obtained from running Fig4A_PT_plus_C.m, and ‘PT+all govt transfers’ is obtained from running Fig3A.m. (Fig4A_PT_plus_A.m, Fig4A_PT_plus_B.m, Fig4A_PT_plus_C.m use ‘PI_plus_A_transfer.txt’, ‘PI_plus_B_transfer.txt’, and ‘PI_plus_C_transfer.txt’, respectively.) Then, save those 5 ergodic distributions (that are stored in Fig4A.m) and graph them. ‘PI_plus_x_transfer.txt’ contains county ID and the partially adjusted transfer income which is derived by adding each type of transfer income ‘x’ to the pre-transfer income. Figure 4 (B) is produced in a similar way.
5. Figure 5: Run Fig5A.m and Fig5B.m to produce Figure 5 (A) and Figure 5 (B), respectively. Fig5A.m and Fig5B.m use ‘P1_conditional.txt’ and ‘P2_conditional.txt’, respectively. ‘P1_conditional.txt’ contains the following variables:
 - (1) 1st-5th columns: unconditional pre-transfer incomes for 1970-1974
 - (2) 6th-10th columns: conditional pre-transfer incomes for 1993-1997‘P2_conditional.txt’ contains the following variables:
 - (1) 1st-5th columns: unconditional pre-transfer incomes for 1993-1997
 - (2) 6th-10th columns: conditional pre-transfer incomes for 2013-2017

Details on the conditioning method and variables can be found in Sec 3.4 of the paper and Appendix A.

6. Figure 6: Run Fig6A.m and Fig6B.m to produce Figure 6 (A) and Figure 6 (B), respectively. Fig6A.m and Fig6B.m use 'lower_bd.txt' and 'upper_bd.txt', respectively. The format of each data set is identical to that of the data set used for Figure 5 (B), but, in Figure 6, conditional pre-transfer incomes are generated by using the lower and upper bounds of the regression coefficients in a growth equation. The first 5 columns in 'lower_bd.txt' ('upper_bd.txt') are unconditional pre-transfer incomes for 1993-1997, and the last 5 columns are conditional pre-transfer incomes for 2013-2017 that are obtained using the lower (upper) bounds of the regression coefficients. Further details on the estimation method of the lower and upper bounds can be found in Sec 3.4 and Appendix H of the paper.
7. Figure 7: Run Fig7.m to produce Figures 7 (C) through 7 (J). Figures 7 (A) and 7 (B) are borrowed from Figure 2 (B) and Figure 5 (B), respectively. To produce each figure, a different data set should be loaded by changing the name of the data set in line 135 in the code. For example, to produce Figure 7 (C), change the name of the data set to 'P2_ind_uncontrolled.txt'. Each data set is named 'P2_xxx_uncontrolled.txt' where "xxx" denotes the variable that is not controlled for in estimating the growth equation and deriving the conditional pre-transfer income variable. The first 5 columns in 'P2_xxx_uncontrolled.txt' are unconditional pre-transfer incomes for 1993-1997, and the last 5 columns are partially-adjusted pre-transfer incomes for 2013-2017 that are obtained by controlling for all the conditioning variables except for the variable xxx.