"A Maximum Likelihood Bunching Estimator of the Elasticity of Taxable Income" written by Thomas Aronsson, Katharina Jenderny and Gauthier Lanot, accepted for publication in the Journal of Applied Econometrics, MS-13011

This readme file describes the material uploaded to the archive.

Swedish Data:

Publishing the microdata used in our analysis in not permitted. It is possible to access this data either through approved research projects or by ordering it from Statistics Sweden (SCB).

To order the microdata from SCB one must proceed as follows (see https://www.scb.se/vara-tjanster/bestall-data-och-statistik/bestalla-mikrodata/):

First, the registers, variables and populations of interest must be specified in a list. A suggestion for the format of the list can be found here https://www.scb.se/contentassets/9befa64e35ae48459388ed599e2e3934/mall-variabellista.xlsx .

This list should then be complemented with a project description outlining how the data will be used.

Second, the applicant(s) need(s) to fill the following form https://www.scb.se/contentassets/71d7a6abb46f4b5dbe8692c89dbb6815/scb_bestallningsblankett-mikrodata.docx .

and e-mail this, the list of variables, and the project description to mikrodata@scb.se.

Following this, the application will be reviewed by SCB, and if approved a price for the data request is set. After payment, the microdata is delivered either through SCBs cloud service Microdata Online Access (MONA) or through other means per agreement with the applicant(s).

In our case the data is extracted from the registers LISA (Longitudinell integrationsdatabas for sjukforsakrings- och arbetsmarknadsstudier) and IOT (Inkomst- och taxeringsregistret).

The operations which transform the raw data into the data we use are detailed in the do files:

Master_TAKJGL_JAE.do (master do file)

Functions_JAE.do

working_sample_JAE.do

hist_JAE.do

Monte Carlo Simulations:

The Monte Carlo simulations and the estimation on the Swedish data have been carried using sagemath (SageMath is a free open-source mathematics software system licensed under the GPL, see www.sagemath.org for installation and additional information) and we provide here the means to reproduce our results in the form of notebook files that can be read in jupyter (files with the extension ipynb). These files are self-contained and can be run independently provided the files GLbunching2.spyx and chetty_bunch.py are located in the same directory (this can be changed).

fig 4 and fig E.1.ipynb :

produces fig 4 (in the main article) and fig E.1 (in the online appendix)

to reproduce Table 1:

MC_JAE_Apr_2023_2304_05_nor_nor.ipynb :

Completes the Monte Carlo simulation analysis in the normal-normal case, ETI = 0.05

MC_JAE_Apr_2023_2304_10_nor_nor.ipynb :

Completes the Monte Carlo simulation analysis in the normal-normal case, ETI = 0.1

to reproduce Table 2:

MC_JAE_Apr_2023_2304_05_bimod_nor_nor.ipynb :

Completes the Monte Carlo simulation analysis in the bi modal normal-normal, ETI = 0.05

MC_JAE_Apr_2023_2304_10_bimod_nor_nor.ipynb :

Completes the Monte Carlo simulation analysis in the bi modal normal-normal, ETI = 0.1

to reproduce Table 3:

MC_JAE_Apr_2023_2304_05_pareto_nor.ipynb :

Completes the Monte Carlo simulation analysis in the pareto-normal case, ETI = 0.05

MC_JAE_Apr_2023_2304_10_pareto_nor.ipynb :

Completes the Monte Carlo simulation analysis in the pareto-normal case, ETI = 0.1

to reproduce Table 4:

MC_JAE_Apr_2023_2404_05_nor_nor_range.ipynb :

Completes the Monte Carlo simulation analysis in the normal-normal case, ETI = 0.05

MC_JAE_Apr_2023_2404_10_nor_nor_range.ipynb :

Completes the Monte Carlo simulation analysis in the normal-normal case, ETI = 0.1

To collect the information presented in Tables 1 to 4 as well as further graphical illustrations:

graphwMC_01_may2023_range- clean copy.ipynb :

code that generates the information presented in table 1 to 3.

graphwMC_02_may2023_range- clean copy.ipynb

Code which produces the information shown in table 4 and produces some figures/illustrations...

GLbunching2.spy

some functions related to the univariate and bivariate normal distribution.

chetty_bunch.py

Functions needed to calculate the ETI estimate based on Chetty et al.(2009,2011).

Estimation based on Swedish data:

ETI Maximum Likelihood estimates, all tax payers.pdf :

This pdf file reproduces the output of the execution of the maximum likelihood based on the Swedish data.

ETI MaxLik Swedish estimates, all tax units.ipynb :

Code for the calculations of the maximum likelihood ETI estimates on all tax units. Does not contain any data.

ETI Maximum Likelihood estimates, self employed.pdf :

This pdf file reproduces the output of the execution of the maximum likelihood based on the Swedish data.

ETI MaxLik Swedish estimates, self employed.ipynb :

Code for the calculations of the maximum likelihood ETI estimates on the self employed. Does not contain any data.

ETI Chetty Swedish estimates , all tax payers.pdf :

pdf file which reports on the estimation results of the ETI using Chettty's method based on the Swedish data.

ETI Chetty Swedish estimates , all tax payers.ipynb :

Code for the calculations of the Chetty's estimator of the ETI applied to all tax units. Does not contain any data.

ETI Chetty Swedish estimates, self employed.pdf :

pdf file which reports on the estimation results of the ETI using Chettty's method based on the Swedish data.

ETI Chetty Swedish estimates, self employed.ipynb :

Code for the calculations of the Chetty's estimator of the ETI applied to the sample of self-employed. Does not contain any data.