

This zip-file contains all necessary Matlab-codes to replicate the empirical applications in:

Heufer, J. and P. Hjertstrand (forthcoming). "Homothetic efficiency: Theory and Applications ", Journal of Business & Economic Statistics.

Notes:

- The commercial software CPLEX from Tomlab (www.tomopt.com/tomlab/products/cplex) is required to solve the linear programming problems and mixed integer linear programming problems in the m-files.
- Some codes (indicated in the m-files) were written by the group for the advancement of revealed preferences (GARP) and can be downloaded from www.revealedpreferences.org/resources.php.

The folders FKM and ECPF contain the following Matlab codes:

- AEI_L0_NORM.m: Calculates the AEI in the L0-norm. Requires CPLEX
- emax_AEI.m: Calculates the Afriat efficiency index (AEI).
- emax_HEI.m: Calculates the homothetic efficiency index (HEI)
- garpe.m: Tests if garpe holds for a particular e
- garpevec.m: Tests if garpe holds for a particular vector e
- harpe.m: Tests if harpe holds for a particular e
- harpevec.m: Tests if harpe holds for a particular vector e
- HEI_L0_NORM.m: Calculates the HEI in the L0-norm. Requires CPLEX
- HEV_L0.m: Calculates the HEV in the L0-norm. Requires CPLEX
- POWER.m: Calculates Bronars' power measure for GARP and HARP (with expenditure-adjustments)
- POWER_PS.m: Calculates Bronars' power measure for GARP and HARP used to calculate the predictive success (with expenditure adjustments)
- warshall.m: Calculates the transitive closure for garpe. Used in garpe.m
- VEV.m: Calculates the VEV in the L1-norm. Requires CPLEX
- VEV_L0.m: Calculates the VEV in the L0-norm. Requires CPLEX

Application to FKM data (Folder FKM)

FKM.m: m-file to run the application

The data can be obtained as supplementary material of:

Fisman, R., Kariv, S., and Markovits, D. (2007). "Individual preferences for giving". *American Economic Review* 97, 1858-1876.

Note that the expenditures in the codes for the FKM data are set to one.

Application to ECPF data (Folder ECPF)

ECPF.m: m-file to run the application

The data can be obtained as supplementary material of:

Crawford, I. (2010). "Habits revealed". *Review of Economic Studies* 77, 1382-1402.

Note that the expenditures in the codes for the ECPF are set to the observed expenditures.