

This is a read me file for the data and replication codes accompanying the paper “Mixed Integer Programming Revealed Preference Tests of Utility Maximization and Weak Separability of Consumption, Leisure and Money” (MS14-109) written by Per Hjertstrand, James Swofford and Gerald Whitney, forthcoming in *Journal of Money, Credit and Banking*.

1. The data

The raw data set is given in the ASCII-files “QUANTITIES.txt” and “PRICES.txt”, and also in the excel-file “data.xls”. The replication codes use the matlab mat-file “HSWdata.mat” which also contains the data.

2. Replication codes

The folder “Replication codes” contains the following Matlab m-files which are used in the paper:

- “CDDH.m”: This code implements the test-procedure for weak separability proposed by Cherchye, Demuynck, De Rock and Hjertstrand (2015, *Journal of Econometrics*, cited in the paper).
- “garpNUM.m”: This code calculates the number of GARP violations. The code is based on codes that were originally written by the Group for the advancement of revealed preferences. See <http://www.revealedpreferences.org/resources.php>.
- “CDDH_ME.m”: This code implements the test-procedure for weak separability when the quantities are assumed to contain measurement errors. The code implements the test-procedure outlined in Cherchye, Demuynck, De Rock and Hjertstrand (2012, working paper, cited in the paper).
- “FminWeakSep.m”: Used in “CDDH_ME.m”. Calculates the minimal F such that the weak separability conditions are satisfied.
- “CDDH_F.m”: Used in “CDDH_ME.m” and “FminWeakSep.m”. Checks whether the weak separability conditions are satisfied for a given number F.

NOTE: The codes “CDDH.m” and “CDDH_F.m” which solves the mixed-integer linear programming problem uses the commercial software CPLEX from Tomlab (See <http://tomopt.com/tomlab/products/cplex/>). A test copy can be obtained from Tomlab.

Alternatively, CPLEX can be bought from Tomlab. Another alternative is to use CPLEX from IBM (See <http://www-01.ibm.com/software/commerce/optimization/cplex-optimizer/>), or any other solver for mixed integer linear programming problems.