Advanced Microeconomics

Problem Set 2: Random Utility Model (RUM)

Hans Martinez

02 Mar 2021

Replication of Kitamura-Stoye (KS) algorithm to test Random Utility Model (RUM)

I replicated table IV (p.28) from KS, for three goods and a budget length of six for years 93-99. I used Matlab code provided from original KS replication package and the github repo from Bart Smeulders. I use CPLEX optimizer from IBM. The replication code and the results can be found in my github we page.

Years	$\mathcal{J}_N$	p
93-98	5.28451371643549e-13	0.999000000000000
94-99	5.16504555822790e-13	0.988000000000000

According to KS, $\mathcal{J}_N$=0 if the estimated choice probabilities are stochastically rationalizable. That is, their null hypothesis is that a repeated cross section of demand data have been generated by a population of rational consumers. In this case, we accept the null for both periods.