Homework 5: Industrial Organisation

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N.B. The code for this exercise was written in `R` *and is available on my Github account.* `www.github.com/dhananjayghei/io_estimation`.
Problems 1 and 2 use the automobile data from Berry-Levinsohn-Pakes (1995). This data already accounts for the outside good (sum shares in any year and they will be less than one.)

Question 1

Replicate as closely as you can column 1-3 from GKP. Produce a table that looks similar and fill in with the results that you find. For column 3 do not worry about correcting standard errors for first two stages of estimation (i.e. just use results from non-linear least squares search). They will differ from results reported in the paper which are corrected for the first two stages of estimation.

Note that, columns I and II from GKP are the same as the ones in BLP homework.

Question 2

Reproduce Table 2 using your preferred estimates from column 3 of Table 1 of your results.

Table 1 Automobile elasticities: OLS, 2SLS, CMRCF (with interactions)

Elasticities	OLS	IV	CMRCF
Interactions	No	No	Yes
Median	-0.77	-1.18	-2.03
Mean	-1.04	-1.59	-2.73
Standard Deviation	0.77	1.17	2.01
Percent of Inelastic Demands	67.75	33.65	0.36
Elasticities from 1990			
Median	-0.94	-1.43	-2.45
Mean	-1.24	-1.9	-3.26
Standard Deviation	0.84	1.28	2.2
Percent of Inelastic Demands	52.67	19.85	0.76
1990 Models (from BLP)			
Acura Legend	-1.68	-2.57	-4.4
BMW 735i	-3.32	-5.09	-8.71
Honda Accord	-0.82	-1.26	-2.15
Mazda 323	-0.45	-0.69	-1.17