

Homework #2: Entry and Competition in Concentrated Markets

Econ 690: Numerical Methods

Fall 2015

The purpose of this homework is for you to take a simple structural economic model to the data. To do so, we'll replicate Bresnahan and Reiss's "Entry and Competition in Concentrated Markets" (JPE, 1991). The way that good economic structure and econometrics blend together in this model is particularly pronounced. On blackboard, you will find data that B&R used for their estimation in BR.csv. Data names correspond to data names in Table 3.

Step 0: Read Bresnahan and Reiss

Read Bresnahan and Reiss (1991) carefully. Make sure you understand what s_N means and what changes in $\frac{s_\infty}{s_N}$ means.

Step 1a: Replicate Table 4's point estimates for tire dealers

Download the original Bresnahan and Reiss data from Blackboard (BR.csv). Replicate the point estimates in the last column in Table 4, for tire dealers. This should include constructing the log likelihood function from equation (9) and (10) and F_N from page 992 and maximizing it. As B&R note, there should be 4 λ 's, 4 β 's, 5 α 's, and six γ 's. Compare your estimates to B&R's.

Step 1b: Find the standard errors

Use what you know about 1) likelihood functions, 2) their Hessians, and 3) finite differences to give an estimate of the standard errors. How do yours compare to B&R's?

Step 2: Replicate Figure 4 for tire dealers

Using equation (11) and your point estimates, replicate Figure 4.

Step 3: Respond and Interpret

Discuss and summarize B&R's findings. Do you find them convincing? What do you think of Table 4 and Table 10 in conjunction?

In two or three paragraphs respond to the following claim: Bresnahan and Reiss's paper is the most important empirical finding of the last 40 years, and indicts nearly all of IO as a top-tier subject.