

Homework- Economics 8681

Due: Weds, March 26th

In this homework, I would like you to use one of the two-step, dynamic games estimators discussed in class to estimate the model considered in John Rust's paper: "Optimal Replacement of GMC Bus Engines: An Empirical Model of Harold Zurcher" *Econometrica* 55-5 999-1033. The data can be found at:

http://gemini.econ.umd.edu/jrust/nfxp_description.html. The location and documentation of the data is described in Chapter 4 of the manual. As in the previous class, please write your homeworks as if they were a section in a paper being submitted for publication.

You should fix the discount factor to a standard value, such as 0.97 (you will not be able to estimate the discount factor without modifications to the algorithm).

Also, do the estimates change if you allow for a quadratic specification in costs?

Compare your estimates to those produced by Rust.