Economics 6002 - Fall Semester 2008
Assignment #3: Simultaneous Systems Estimation

Due November 18.

Review Berndt, chapter 10, section 10.5.
Do exercise 1 of chapter 10. The dataset is posted on the course web page.
Include your SHAZAM output with your assignment.

Note: In section (e) of exercise 1 you are asked to estimate Klein's model using 2SLS with a correction for AR(1) disturbances. The 2SLS command in SHAZAM does **not** support any correction for autocorrelation in the disturbances. However, the NL command (SHAZAM Manual, ch. 22) can be used with the AUTO option for 2SLS-AR estimation, even if the estimating equation is linear. This is because the need to estimate an autoregressive parameter ρ turns the estimation problem into a non-linear one, even when the equation being estimated is linear. The only implementation problem in SHAZAM is that a numerical algorithm is used to estimate derivatives and this method unfortunately produces garbage (but fortunately, transparently obvious garbage) in the covariance matrix estimates, so that hypothesis tests cannot be implemented. You should read the section on Non-Linear 2SLS in ch. 22 in the SHAZAM manual fairly carefully to be sure you understand how to implement this estimation technique in SHAZAM. Some care in specifying initial values for the parameters may be required.