Homework 2. Due Wednesday October 24th.

1. *This part is from Econometrics II.* Modify the programs in GMM_HS.zip to replicate the study by Hansen and Singleton. Try and estimate the model using 3–5 different sets of instruments. Try a set of instruments which you may think is good (argue why) and one which you may think is not so good. Try different lag-lengths. Try using a lot of instruments and try to use just a few. Comment on your results. Are the results stable to the choice of instruments?

2. Update the data to the current time and do it again. Are the results stable to the sample?

3. Estimate the variance matrix using the Newey-West HAC estimator. Try different bandwidths and try the asymptotically optimal bandwidth. (The attached code is programmed in GAUSS, by Bent, and it is not that hard to translate to MATLAB. Alternatively, you can use Kostas Kyriakoulis's GMM Toolbox from Alastair Hall's web-page. I have not tried, but I would be surprised if it does not have it. In advanced classes, you should expect to explore such things on your own.) Comment on the results; in particular, are the standard error sensitive to your choices?

4. Estimate the variance matrix using the Quadratic Spectral HAC estimator. Try different bandwidths and try the asymptotically optimal bandwidth. (The same as in question 3—you might want to do those two questions in one loop.)