

Homework 4. Due Wednesday September 25.

1. Simulate and estimate an ordered probit model.
2. Davidson-MacKinnon 11.32 (this is finding the inverse Mill's ratio). I did it a little fast in class, so do it in detail.
3. Assume that X and Y are multivariate Normally distributed random variables with mean 0, variances Σ_X and Σ_Y and co-variance Σ_{XY} and $\Sigma_{YX} = \Sigma'_{XY}$. Using the formulas for conditional normals proved that $Y - \Sigma_{YX}\Sigma_{XX}^{-1}X$ is independent of X .
4. Use the Matlab program `Econ8331_Dur_Main.m` to simulate and estimate an exponential duration model. Truncate the outcomes at $T=50$ and estimate the exponential duration model with incomplete spells.