

Homework 7. Due Wednesday October 13.

1. Use the posted Matlab code to simulate and estimate an exponential duration model. Truncate the outcomes at $T=40$ and estimate the exponential duration model with incomplete spells.
2. Instead assume the hazard θ_i takes a logit form. Now simulate and estimate the model.
3. (21% of Midterm 2, 2024) Consider the simultaneous equation model:

$$y_1 = \alpha_1 y_2 + \alpha_2 x_1 + u_1 \tag{1}$$

$$y_2 = \alpha_3 y_1 + \alpha_4 x_1 + \alpha_5 x_2 + u_2. \tag{2}$$

- a) Explain how you can use Two-Stage Least Squares (2SLS) to estimate equation (1).
- b) Explain why the 2SLS estimator can consistently estimate the equation for y_1 , but not the one for y_2 .
- c) Explain in words what the Three-Stage Least Squares estimator does.