ECONOMETRICS II

CLASS ASSIGNMENT

TIME ALLOCATION: HOURS

INSTRUCTION TO STUDENTS: ATTEMPT ALL QUESTIONS

Answer as if your try to explain the material to your fellow student.

Consider the model, where $Y = X\beta + \epsilon$, where for each t, $\epsilon_t \sim \sigma(e_t - 1)$, where e_t is standard exponential variable such that $E[e_t] = 1$ and $Var[e_t] = 1$. Assume that X are independent of ϵ. Suppose that (x_t, ϵ_t) are i.i.d. across t.

1. Do Gauss-Markov assumptions hold for this model?
2. Consider the least squares estimator $\hat{\beta}$. Compute $E[\hat{\beta}|X]$ and $Var[\hat{\beta}|X]$. Is $\hat{\beta}$ normally distributed in finite samples, conditional on X?
3. Carefully, but briefly, explain the label "BLUE". Is OLS BLUE in this set-up?