

Quiz Week 4

Reading in Hansen

- Finish Chapter 3 and read all of Chapter 4. Then compare it to the treatment in Angrist and Pischke (ch 3):
 - Do you find the text harder or easier to follow?
 - What do you prefer in the book by Angrist and Pischke? What do you prefer in the Hansen Book
 - According to your judgement, which chapters in Hansen's book are not at all covered in the Angrist and Pischke Chapter?

Theoretical:

Try to solve the practice Problems:

- in Slide Set Review of Probability Theory – Part B on p.49 (best linear predictor)
- in Slide Set Review of Probability Theory – Part B. p.55 (Transforming a bivariate Random Variable into another one)

If you find them too hard, do not despair, solve as much as you can, and let me know what gets you stuck if you cannot seem to progress any further.

Programming:

- In class we saw, among others, several distributions: binomial, Poisson, normal, Chi Squared, F, and the t-distribution. Choose at least 3 distributions
 - Preferably in R, simulate data (e.g. 5000 draws) from a Random Variable that follows this distribution.
 - What is the Expectation and the Variance of your simulated variable?
 - Draw a histogram based on your simulated data.
 - Try to plot the distribution using qplot
 - As in the problem set, think:
 - What in the code or its output is the analogon of the random variable? Comment how you reach your conclusion.
 - What in the code or its output is the analogon of an outcome? Comment how you reach your conclusion.
 - What in the code or its output contain the analogon of a population/sample? Comment how you reach your conclusion.
 - Calculate the sample mean and the sample variance.
 - Compare them to the theoretical mean and variance that you programmed. Are they exactly the same? Why/Why not?