

## Problem Set #4

- PLEASE READ THE FOLLOWING INSTRUCTIONS.
- Due 6pm, **9 August** 2021 (Sydney time)
- Late submission: 20% penalty for each additional hour
- Submit a hard copy or email the scanned copy of your work to [jay.lee@unsw.edu.au](mailto:jay.lee@unsw.edu.au)
- If you submit electronically, attach a single pdf file (code included) with the file name.

“Lastname-Firstname-zID-PS4.pdf”

- Total 10 points

~~Q1. Exercise 12.9 (1 point)~~

Q2. Exercise 12.12 (2 points)

~~Q3. Consider the potential outcome framework covered in Lecture 7 slides. Let  $Y_i$ ,  $D_i$ , and  $Z_i$  be the observed outcome, binary treatment, and binary instrument. Among the four types of individuals in the population, always takers, compliers, never takers, and defiers, we assume that there is no defiers in the population. If we observe  $(D_i, Z_i) = (1, 1)$  for individual  $i$ , what can we say about the individual's type? What about for  $(D_i, Z_i) = (0, 1)$ ,  $(D_i, Z_i) = (1, 0)$ , and  $(D_i, Z_i) = (0, 0)$ ? (1 point)~~

Q4. Exercise 13.10 (1 point)

Q5. Exercise 13.24 (1 point)

Q6. Exercise 12.25 (a)-(d) (2 points)

Q7. Exercise 13.28. In addition, provide the iterated GMM results. (2 points)