MY457/MY557

Causal Inference for Experimental and Observational Studies

<u>Week 7: Difference-in-Differences</u>

Paper:

- Braghieri, L., Levy, R. E., & Makarin, A. (2022). Social media and mental health. American Economic Review, 112(11), 3660-3693.

Reviewer-2 Exercise – Questions:

1. **Research Design**
   a) What are the key endogeneity concerns when measuring the effect of social media on mental health?
   b) Are the outcome variables good measures? How can the measurement of the outcome variables threaten internal validity?
   c) What is/are the key identifying assumption(s) of the causal inference approach?
   d) How do the authors validate the(se) identifying assumption(s)?
   e) Critically discuss the internal validity of the paper. Which treats do you see?

2. **Heterogeneous treatment effects**
   a) Why do the authors provide multiple estimators in Figure 2?
   b) Which potential concerns do these estimators (try to) address?

3. **Heterogeneity and mechanisms**
   a) How do the authors test for heterogeneity in effect size? Along which dimensions? Which further dimensions would you test?
   b) What are the key mechanism(s) that seem to channel the effect of social media on mental health?

Now, it's your turn:

In your group, identify one or two issues that may threaten internal validity, and brainstorm how you would test whether these issues bias the estimates. You can conduct further robustness checks as well as placebo tests, or adopt an entirely different identification strategy.