Week 8: IV with Heterogeneous Effect – Generalization

JJ Chen

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Review Plan

▶ We will review three generalizations of the LATE Theorem

1. Multiple instruments
2. LATE with covariates
3. Treatment intensity: The ACR Theorem

▶ Again, these are not about how to estimate IV models, but how to intereprete IV estimates

Set up

- Consider two mutually exclusive instruments z_{1i} and z_{2i}
  - What does mutually exclusive mean?
  - Think of a instrument set that are captured by a categorical variable.

- Suppose both of them are valid instruments satisfied assumptions for the LATE Theorem. So:
  - z_{1i} gives $E\left(Y_{1i} - Y_{0i} \mid D_{1i}^{Z_1} - D_{0i}^{Z_1}\right)$
  - z_{2i} gives $E\left(Y_{1i} - Y_{0i} \mid D_{1i}^{Z_2} - D_{0i}^{Z_2}\right)$