In-Class Activity:_____(ADD TEAM # & NAME HERE)_____

Causal Inference Scavenger Hunt - Applied Studies Winter 26'

Introduction: Your goal is to quickly analyze studies that use experimental and natural experimental methods, identify the causal inference strategy, and evaluate the validity of the results. Encountering unfamiliar terminology is normal, research is a journey through uncharted territory!

Objective: Examine the 11 peer-reviewed studies. Your goal is to identify key methodological details, including: (1) variables, (2) identification approach, (3) assumptions.

Instructions:

- Create one "copy" of this document per team and make group members + Annie as "editors"
- Add responses within your team's copy of the document.
- Responses will be evaluated on accuracy and clarity. Be concise!

Strategize + research article shortcuts:

- Discuss with your team the best way to break up the task to complete the activity.
- Tip 1: Jump straight to the methods and results sections of the study (start there first).
- Tip 2: Look for tables & figures that present the study's main results (search; "table" & "figure").
- Tip 3: Conduct a keyword search. Search for words such as; "method", "random", "regression", "treatment", "robust", "assumption", "instrument", "discontinuity" , "fixed", "synthetic", etc...

Q1. Outcome variable (Y): Identify the study's main outcome variable (choose one if study contains multiple outcomes. Describe how the outcome variable was measured and what the unit of analysis is in the study.

Q2. Treatment variable (D): Identify the treatment or intervention variable. Describe the intervention group, the comparison group, and the treatment assignment process.

Q3. Identify & describe causal inference approach: Identify the causal inference strategy used in the study. Note that some studies employ multiple methods (e.g., *DiD + Fixed Effects*). Explain why the researchers selected the causal identification strategy used in the study given the policy evaluation context.

Q4. Evaluate key causal identification assumption(s):

a. What are the key identification assumption(s) required for the study's causal inference approach? Describe briefly how assumption is justified by authors.

b. What do you think is the biggest threat to causal identification in this study? Make the most persuasive case you can that the authors did *not* identify a causal effect.

In-Class Activity:_____(ADD TEAM # & NAME HERE)_____

Response sheet

1. CARBON - Jayachandran - 2017 - Cash for Carbon- A Randomized Trial of Payments for Ecosy…

Q1. Outcome:

Q2. Treatment:

Q3. Causal method:

Q4. Specification:
a. [response]
b. [response]

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2. BIRDS - Xie 2025 - Exploring the ecological impacts of high-speed rail on urban a…

Q1. Outcome:

Q2. Treatment:

Q3. Causal method:

Q4. Specification:
a. [response]
b. [response]

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3. BYCATCH - Senko 2025 -HarnessingSolarEnergytoReduceSeaTurtleBycatch.pdf

Q1. Outcome:

Q2. Treatment:

Q3. Causal method:

Q4. Assumptions:
a. [response]

b. [response]

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4. DAMS - 2024 - Atristain - Slow drawdown fast recovery Stream macroinvertebra...

Q1. Outcome:

Q2. Treatment:

Q3. Causal method:

Q4. Assumptions:
a. [response]
b. [response]

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5. WASTE - Papp 2025 - Plastic bag bans and fees reduce harmful bag litter on shor...

Q1. Outcome:

Q2. Treatment:

Q3. Causal method:

Q4. Assumptions:
a. [response]
b. [response]

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6. LAND - Buntaine 2014 - Titling community land to prevent deforestation- An eval...

Q1. Outcome:

Q2. Treatment:

Q3. Causal method:

Q4. Assumptions:
a. [response]
b. [response]

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7. **GREEN SPACES - Branas 2011 - A Difference-in-Differences Analysis of Health, S...**

Q1. Outcome:

Q2. Treatment:

Q3. Causal method:

Q4. Assumptions:
a. [response]
b. [response]

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8. **FIRE - Letellier 2018 - Applying_a_two_stage_generalized_synthetic_control.5.pdf**

Q1. Outcome:

Q2. Treatment:

Q3. Causal method:

Q4. Assumptions:
a. [response]
b. [response]

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9. **TRANSPORTATION - Bento 214 - The Effects of Regulation in the Presence of M...**

Q1. Outcome:

Q2. Treatment:

Q3. Causal method:

Q4. Assumptions:
a. [response]
b. [response]

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10. **IRRIGATION - Gatti - 2020 - Can Irrigation Infrastructure Mitigate the Effect of R...**

Q1. Outcome:

Q2. Treatment:

Q3. Causal method:

Q4. Assumptions:
a. [response]
b. [response]

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11. **AQUACULTURE - Rennie - 2019 - Impacts of freshwater aquaculture on fish com...**

Q1. Outcome:

Q2. Treatment:

Q3. Causal method:

Q4. Assumptions:
a. [response]
b. [response]

***Submission:** Add your team's link to the Spreadsheet: Tab 2 - "W9_Submit"