<u>Help</u>

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<u>Course</u> <u>Progress</u> <u>Dates</u> <u>Discussion</u>

☆ Course / Week 1 / The Minimum Wage Debate and Causal Inference

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■ Calculator



| The fundamental problem of causal inference is that it is not possible to observe both potential outcomes for the same unit. We not yever observe one of the two potential outcomes for seed unit. Which now we observe depends on the action X, that individual i experiences: Y; = Yi, X; + Yiq. (1 - Xi). So while for two different units i and J we can observe both potential outcomes {Yo, i, Yi, i}, we can never observe {Yo, i, Yi, i}. Submit | | ed) ? The fundamental problem of causal inference is that it is not possible to observe the po or unit i and unit j. | otential outcomes |
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| Explanation The fundamental problem of causal inference is that it is not possible to observe both potential outcomes for the same unit. We only ever observe one of the two potential outcomes for each unit. Which one we observe depends on the scition X ₁ that individual integerences Y ₁ = Y ₁ X ₁ + Y ₆ (1 - X ₁) so while for two different units is and jive can observe both potential outcomes {Y ₆₀ , Y _{1,1} }, we can never observe {Y ₆₀ , Y _{1,1} }. Submit volue are displayed within the problem 4.2 If point grade() Answers are displayed within the problem 4.2 If point grade() Suppose we want to know the effect of temperature on water. What assumptions do we need to make a causal inference on the effect of temperature on the state of the water in a single glass? Select all that apply. If the point grade() Reversibility (causal transience) Population If the causal effect of X on Y is temporally stable and reversible, we can observe Y11 = Y11 by repeatedly changing X from 0 to 1. Water transience from the total effect of X on Y is temporally stable and reversible, we can observe Y11 = Y11 by repeatedly changing X from 0 to 1. Water transience from the total effect of X on Y is temporally stable and reversible, we can observe Y11 = Y11 by repeatedly changing X from 0 to 1. Water transience from the temporal stability and causal transience cannot be tested, and these assumptions may not always be plausible. Answers are displayed within the problem 4.3 If point grade() Unit homogeneity Reversibility (causal transience) Explanation If Y ₁ and Y ₂ are identical for all if i.e., Y ₁ = Y1 and Y ₂ = Y0 for all it, we can simply take the difference Y ₁ - Y ₂ , Y ₂ for i = jo nessure the causal effect. The homogeneity If y ₁ and Y ₂ are identical for all if it is y ₂ = Y1 for all it, we can simply take the difference Y ₁ - Y ₂ , Y ₂ for i = jo nessure the causal effect. The homogeneity of water molecules is an example while treatment for high cholesterol for patient it is a tourter example. Note | O True | | |
| The fundamental problem of causal inference is that it is not possible to observe both potential outcomes for the same unit. It we only ever observe depends on the sation X_1 that individual resperiences $Y_1 = Y_1X_1 + Y_0(1 - X_1)$, so while for two different units I and J we can observe both potential outcomes $\{Y_{0_1}, Y_{1_0}\}$, we can never observe $\{Y_{0_1}, Y_{1_0}\}$. Submit | • False | | |
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| Answers are displayed within the problem 4.2 17 point graded? Suppose we want to know the effect of temperature on water. What assumptions do we need to make a causal inference on the effect of temperature on the state of the water in a single glass? Select all that apply. ☑ Temporal stability ☐ Unit homogeneity ☐ Random distribution of water molecule ☑ Reversibility (causal transience) ✓ Explanation If the causal effect of X on Y is temporally stable and reversible, we can observe Y11 - Y01 by repeatedly changing X from 0 to 1. Water transforming from ice to steam and back is an example while treatment for high cholesterol for patient it is a counter-example. Note that temporal stability and causal transience cannot be tested, and these assumptions may not always be plausible. Submit You have used 1 of 2 attempts ① Answers are displayed within the problem 4.3 17 point graded? Suppose we want to know the effect of temperature on water. What assumptions do we need to make a causal inference on the effect of temperature on the state of the water in two different glasses. Imagine that the water in one glass transforms to ice and the water in the other glass transforms to steam. Select all that apply. ☐ Temporal stability ☐ Unit homogeneity ✓ Temporal stability ☐ Unit homogeneity ✓ Random distribution of water molecule ☐ Reversibility (causal transience) Explanation If Y ₁₁ and Y ₂₁ are identical for all 1 (a.e., Y ₁₁ = Y1 and Y ₂₁ = Y0 for all 1), we can simply take the difference Y ₂₁ - Y ₂₁ for 1 ≠ 1 to measure the causal effect. The homogeneity of water molecules is an example while treatment for high cholesterol for patient it is a counter-example. Note that this assumption is only plausible under certain laboratory conditions. ② Answers are displayed within the problem | unit i. We on action $oldsymbol{X_i}$ th | y ever observe one of the two potential outcomes for each unit. Which one we observe dat individual i experiences: $Y_i=Y_{1i}X_i+Y_{0i}\ (1-X_i)$. So while for two different units | epends on the |
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Finger Exercises due Sep 18, 2024 07:30 CST Completed

Topic: The Minimum Wage Debate and Causal Inference / Question 4

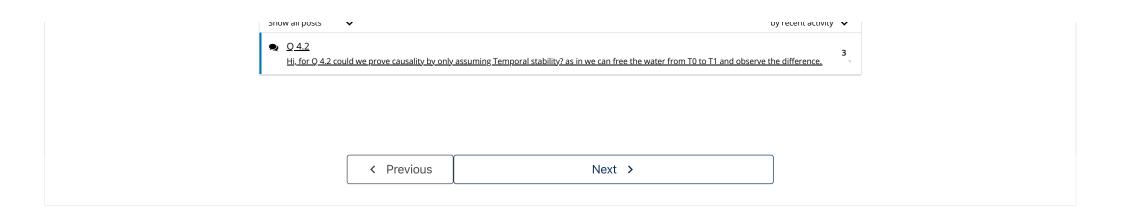
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