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MITx: 14.310x Data Analysis for Social Scientists

<u>**Help**</u>

Module 3: Gathering and Collecting Data, Ethics, and Kernel Density Estimates > Summarizing and Describing Data > Cumulative Histograms - Quiz

Cumulative Histograms - Quiz

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Question 1
1 point possible (graded)
A cumulative histogram is to the _____ what the _____ is to the _____.

○   a. CDF, probability density function, histogram

○   b. probability density function, histogram, CDF

○   c. histogram, probability density function, CDF

○   d. CDF, histogram, probability density function

Explanation
A histogram contains information about the frequency of observations within each interval. Dividing the frequency by the total number of observations gives us the density. On the other hand, a cumulative histogram conveys information on the "cumulative" frequency / density and

hence provides an idea of what the CDF would look like. You can think of it as a running count as you move across bins, whereas a normal histogram resets the count for each bin.

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Question 2

1 point possible (graded)

True or False: The figure below plots the CDF of log per capita consumption for different subsidy scheme targeting methods. The CDF of consumption under automatic enrollment first-order stochastically dominates that under selection.

FIGURE 7. Experimental Comparison of Self Targeting and Automatic Enrollment Treatments
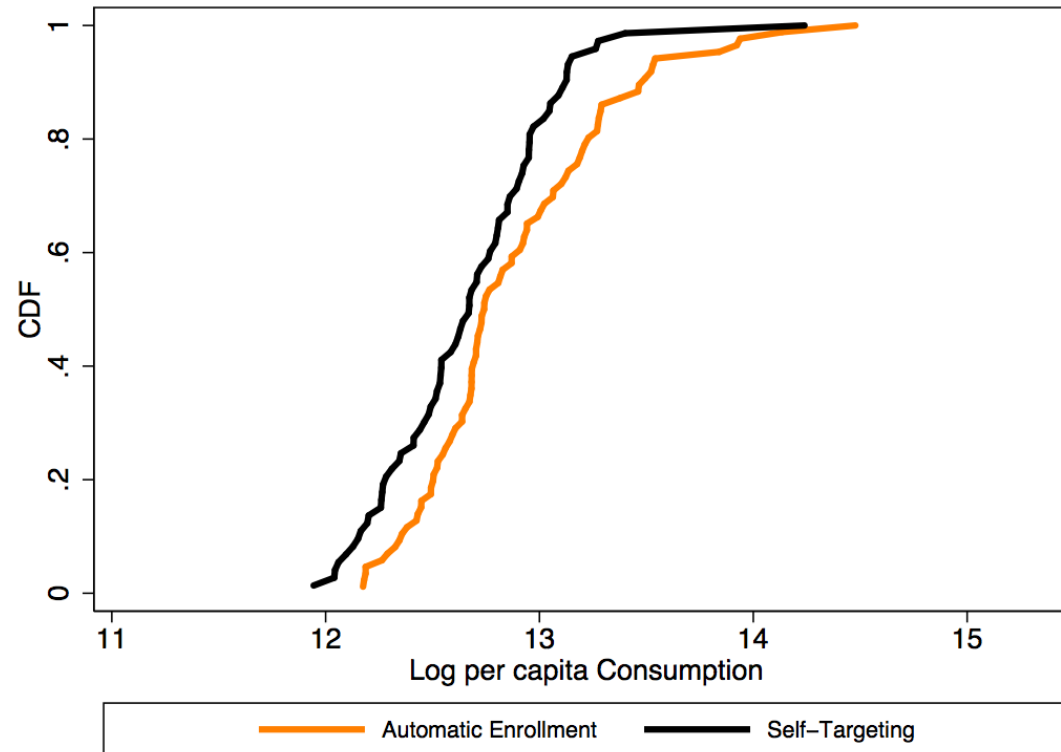
(A) CDF of log per capita consumption of beneficiaries

○ True

Instrumental Variables,
and Experimental
Design

▸ Exit Survey

▸ Final Exam

○ False

Explanation
True. As Professor Duflo explained in class, since The figure shows that the "Automatic Enrollment" curve is to the right of the the "Selection" curve. From that, we can see that for any given consumption level, there are more people who consume less than than amount under the "Selection" scheme. So by definition, the automatic enrollment curve first order stochastically dominates the selection curve.

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Discussion
Topic: Module 3 / Cumulative Histograms - Quiz

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