

# Course Preview: The Challenges of Global Poverty

This course preview is meant to give prospective learners the opportunity to get a taste of the content and exercises that will be covered in the course. While there are no prerequisites for this online course, it is recommended that learners have some familiarity with economics or statistics. Each question below is tied to concepts that will appear in this course, all of which it would be good to feel comfortable with. If you are new to these subjects, or eager to refresh your memory, please do consult the available resources below, and be prepared to refer to these resources over the course of the class. Try to first answer these questions without consulting the resources, but fear not if you do consult them - being an agile user of outside resources will help you succeed in this course.

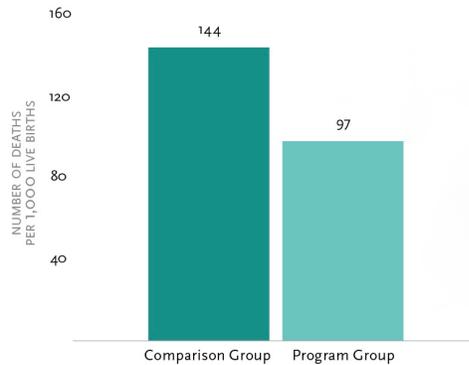
A score of 60% or above in this course preview indicates that you are ready to take this course, while a score below 60% indicates that you should further review some concepts in the attached materials before commencing the course.

## Useful Resources:

- *Poor Economics* by Esther Duflo and Abhijit Banerjee: This is the book upon which this online course is based. The two MIT professors who wrote *Poor Economics* are the principal lecturers for this course, and the online course content hews closely to the content covered in the book. If you would like to gain more familiarity with the course material, we recommend that you read *Poor Economics*, which can be found for free under the additional resources tab of the online course of *The Challenges of Global Poverty* (once you enroll). The book can also be purchased online in over 15 languages.
- *Basics of Regression*:
  - [An Introduction to Linear Regression Analysis](#)
  - [Introduction to Regression Analysis: Causal Inference Bootcamp](#)
- *Background on the development aid debate*:
  - Anti-aid: [Bill Easterly: Why doesn't aid work?](#)
  - Pro-aid: [Jeffrey Sachs: The ethics and practicalities of foreign aid](#)
  - RCTs/experimentation: [Esther Duflo: Social experiments to fight poverty](#)

1. **Graph Interpretation:** To address the problem of worker absenteeism, the World Bank has funded community monitoring of health workers, which provides communities with information on the performance of their local health workers. From 2004 to 2006, researchers evaluated a program of community-based monitoring in Uganda. In order to capture the impact of community monitoring, the researchers compared health outcomes in communities with health worker monitoring (program group) to communities without health worker monitoring (comparison group).

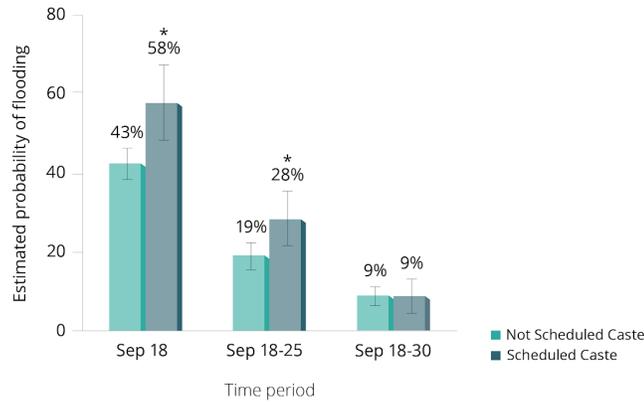
The following graph shows the difference in childhood mortality between the two groups.



- What is (a) the actual difference and (b) the percent difference between the comparison and program groups in the number of child deaths? (1 point)
- How do you think that community monitoring of health workers could influence (a) the performance of health workers and (b) the health of community members? Apart from statistics on childhood mortality, what other information would you like to collect in order to test your theory? (1 point)

2. **Graph Interpretation:** The following graph shows the vulnerability of land to flooding in Odisha, India, where two ethnic groups live: the historically marginalized “scheduled” caste and the relatively more wealthy “not-scheduled” caste.

Land held by members of scheduled castes was more likely to flood



Note: Error bars represent 95% confidence intervals. Stars (\*) note statistical significance from control group.

- What is the percentage point difference in the estimated probability of flooding between the land owned by the scheduled and not-scheduled caste/group to floods on September 18? (1 point)
- How does the percentage difference between groups in the probability of flooding change from the first (September 18) to the second (September 18-25) to the third time period (September 18-30)? What does this indicate about rainfall in September? (1 point)
- If a researcher were to look at the probability of flooding over just the third time period, they might think that there is no difference in the flood probability between the two castes. Why is it important to look at the data from the first two time periods, rather than just the third period? What does looking at the difference across these time periods reveal about the probability of flooding in the land holdings of the two castes?? (1 point)
- There is a strain of genetically modified rice called Swarna-Sub1 that is more resilient to flooding. Imagine that a nonprofit in the area gained access to a limited supply of this rice, which they initially could only distribute to a segment of the population. Thinking of the graph above, to which segment of the population would you prioritize? Why? (1 point)

3. **Regression Interpretation:** An NGO in Argentina conducted a survey of men and women ages 18-30 to try and determine the most important factors for a young person's income.

Using the data collected from the survey, they came up with the following equation to model the average person's predicted income in pesos/day as a function of age, years of education, and gender:

$$Income = 0.10 + 0.21 * Age + 0.53 * Education + 0.25 * Male$$

Note:  $Male = 1$  if the subject is male, and  $Male = 0$  if the subject is female.

- Based on the equation, what income would we expect a 23 year-old female with seven years of education to have? (2 points)
  
- On average, assuming a man and a woman are the same age and have the same number of years of education, how much more does the man make (in income) than the woman? (2 points)