

# Explain a Model

## The Evolution of Segregation and Education

**Due Date: Tuesday, February 6 at 6pm**

5% of final grade

EC 970: Sophomore Tutorial  
Harvard University Department of  
Economics

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In this assignment, you will practice structuring your thoughts in an organized way: you'll create a "model." While economists often express models with equations and symbols, the best models can be explained in words that anyone can understand. In this assignment, that is exactly what you'll do. This paper will be 3-4 pages.

Models help us make predictions about what will happen by making explicit the different mechanisms at play. For example, the basic model of supply and demand helps us make predictions about how price will respond to two different mechanisms (supply and demand).

In empirical work, we often cannot observe mechanisms directly and may only be able to observe our outcome (e.g. price). Models are helpful because they can help us understand what is driving the change in our outcome that we observe. Let's say we want to understand why we observe a price increase. Using our basic mental model, we hypothesize that this is either because supply decreased or demand increased. We can't observe demand directly. However, we can observe supply – and supply hasn't changed! We can thus conclude that price is increasing *because* demand increased.

Mental models help us organize our thoughts, interpret results, and think critically about research. Oh boy! I can tell you're excited to get started!

Before you get started, **skim** chapters 6-9 in *The Effect*. **You do not need to understand the nuts and bolts of drawing causal diagrams**, but the language Huntington-Klein uses can be helpful: you should understand the meaning of direct effect, indirect effect, and moderator.

**Please submit your papers** to canvas as a word or PDF document by **6pm on Thursday, February 15**. Please name your file lastname\_a2.

## Assignment Structure

Select a paper that we have not yet covered from the reading list. It need not be starred.

Read **only the abstract**. Don't look ahead!

From only the abstract, take your best guess at:

- The research question (e.g. "What happened when court orders were lifted?")
- The answer (e.g. "Schools became more segregated")
- How the authors are measuring the answer (e.g. "The outcome variable is the dissimilarity index")

Now, fill in the gaps by creating a model of what could cause the change in outcome variable. This should be 3-4 pages and should cover the following points:

1. What do you expect to happen as a result of the treatment? Why? For example:
  - What does it mean for schools to become more segregated?
  - Do you think students immediately switch schools?
  - What schools would they switch to?
  - Why would they switch schools?
  - Do you expect this effect to happen immediately, or after 10 years?
2. What are other mechanisms that could cause the outcome variable to change?

3. Could anything unrelated be happening in the areas that could drive these results?
4. Is it possible the outcome is different in different areas? Among different people? Why? How?

## **Rubric**.....

You will be graded on the thoroughness of your response and the organization of your paper.

- Research question explained .....10%
- Answer and outcome variable explained ..... 10%
- Points 1-4 ..... 15% each
- Organization ..... 20%