444 Lecture 7.5 - Going to College

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- Sender is deciding whether to go to college.
- There are two attributes of Sender that we're going to be interested in.
- They are either a High Value or Low Value employee.
- They will either Like or Dislike college.
- Let's assume that these attributes are perfectly correlated: all and only the High Value employees Like college.

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Features of College in this Game

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- I am not saying either of these are true, though I don't entirely disagree with the second.

The Hiring Decision

- Hearer is an employer who pays high salaries, but gets good value for this high salary from High Value employees.
- Unfortunately, they have literally no way of telling who is High Value and who is Low Value.
- All they know is that only 40% of people are High Value.

- Everyone starts with 0 points, unless one of the conditions below is triggered.
- Sender gets 2 points if they get Recruited.
- They lose 1 point if they Like college and go to college.
- They lose 3 points if they Dislike college and go to college.
- Hearer gets 1 point if they Recruit a High Value Sender.
- They lose 1 point if they Recruit a Low Value Sender.

2,1	–1,0		–1,–1	–3,0
R	P		R	P
		2		
College			College	
1	0.4	c	0.6	1
Beach			Beach	
		2		
R	P		R	P
3,1	0,0		3,–1	0,0
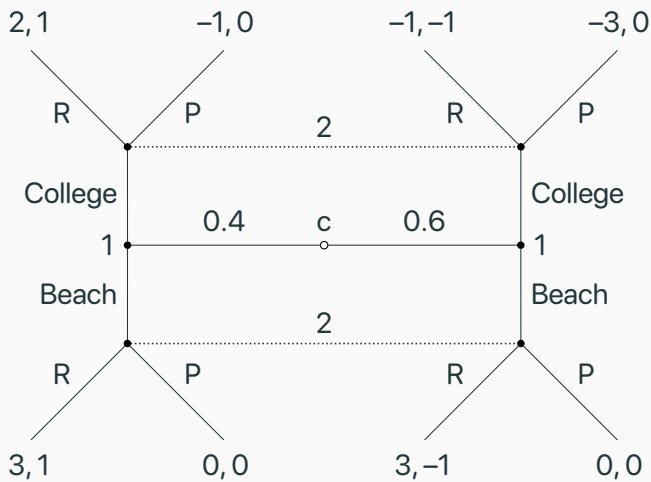
Some Notes

- In the original Spence game, Sender gets to choose how much to spend on education from a range. They have infinitely many choices, not just the binary College/Beach choice. This doesn't really affect the analysis.
- What is crucial is that education is more costly for Low Value employees.
- There are a lot of equilibria to this game, but the most natural is the separating equilibria, where Like/High go to college, and Dislike/Low go to the Beach.
- For reasons I don't know (but can guess about), the wikipedia page on signaling games is dire. This is odd because most of the game theory pages are really very good.

Plausibility

Here are some ways in which the model (or at least the separating equilibrium of the model) does seem to look a bit like the real world.

- College grads get paid a lot more than non-grads.
- It isn't immediately obvious how what we do here explains the higher pay.
- Yet there is a ton of demand for places in college (at least pre-pandemic), and obviously a lot of demand for college grads.
- College is more fun, i.e., less costly, for people with certain skills (perserverence, curiosity, writing/mathematical aptitude) that are independently valuable to employers.

Implausibility

But there are several ways in which the model does not seem particularly plausible.

- At least after a few weeks/months/years in the job, employers have some ability to tell who is High Value, so if education was purely a signal, it should wear off after a little while.
- The correlation between High Value and Liking college is a long way from perfect. At least in my day, the people who really liked college were not at all what I'd think of as High Value employees for most businesses.
- Even if the people who Dislike college really really hate calculus class, it's a little hard to see how they could hate it so much to turn down the college wage premium.