

444 Lecture 7.4 - Beer and Quiche

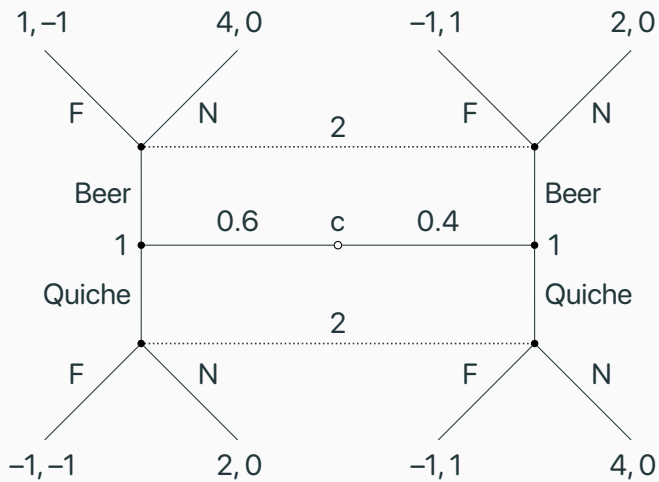
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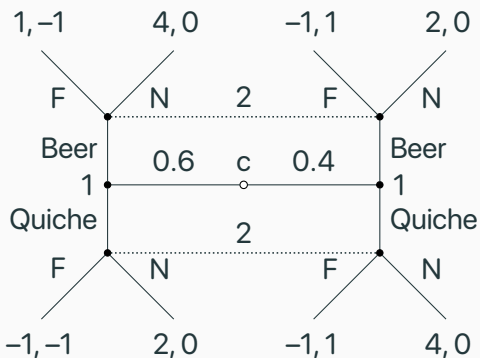
The Beer-Quiche Game

- Sender's car breaks down on the way to work, so he walks into a bar to wait somewhere while the repair truck comes. (I think in the 1985 version he's looking for a phone.)
- He quickly realises this is a rougher bar than he expected, and the patrons are all staring at him.
- Sender is smart, and he quickly realises that the patrons are both bullies and cowards. They're bullies, so they are looking for a fight, but cowards, so they won't fight a Tough Guy. And they think it's about 60% likely that he's a Tough Guy.
- Sender really wants to avoid a fight (whether or not he's a Tough Guy).
- He knows that if he just tries to leave, they will conclude that he too is a Wimp, so he better order something

The Beer-Quiche Game

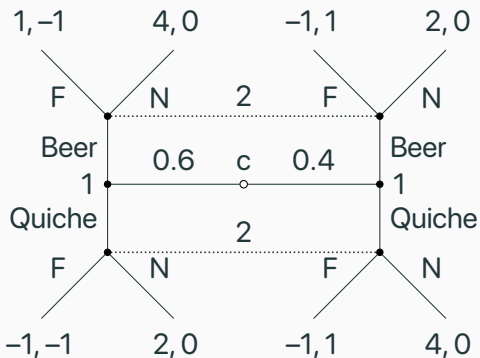
- His choices are beer or quiche.
- He knows that the patrons believe, correctly, that if he's a Tough Guy, he'd prefer beer, and if he's a Wimp, he'd prefer quiche.
- And while they can't read his character, they can hear his order.
- But he would also prefer not to get in a fight either way. Even Tough Guys have better things to do at 8 in the morning.
- What to do?





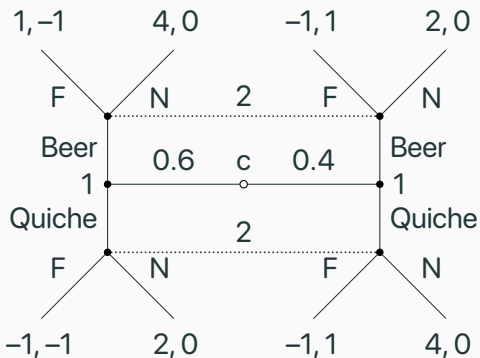
Sender gets

- 3 points for avoiding fight;
- +1 for liked order, -1 for disliked order.



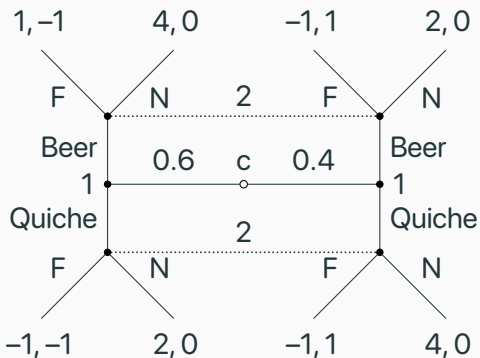
Hearer gets

- 1 point for fighting Wimp;
- -1 point for fighting Tough Guy



Obvious Equilibrium

- Sender orders Beer if either Tough Guy or Wimp.
- Hearer doesn't fight if Beer, fights if Quiche.



Non-Obvious Equilibrium

- Sender orders Quiche if either Tough Guy or Wimp.
- Hearer doesn't fight if Quiche, fights if Beer.

Mathematical Puzzle

- What constraints on equilibrium selection can rule out the non-obvious explanation?
- Really fun puzzle if you like puzzles, but not for us.
- The initial statement of the puzzle, and an idea for a solution, is in Cho and Kreps, Signaling Games and Stable Equilibrium, QJE 1987.
- If you like puzzles in this area, I highly recommend that paper.

Our Lessons

- Nature may provide something like a 'character', or what Harsanyi called a 'type', to Sender.
- You don't have to think of this as some random event that occurs at a particular time, like the whimsical assignment of characters to the pre-infants in Soul.
- All that matters is that there is some feature of Sender that Sender knows and Hearer doesn't.
- Well, and that Hearer's probability distribution over the possible types of Sender is common knowledge; this game gets nasty if the initial probability for Tough Guy is under 0.5.

Our Lessons (cont)

- This is also a good example of a non-cooperative, but positive-sum, signaling game.
- And that's the kind of game that we're going to spend more time looking at in future lectures.