Strategy: An Introduction to Game Theory

Week 8: Perfect Bayesian Equilibrium, Axiomatic Bargaining

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Recap

- Dominant Strategies
- Nash Equilibrium
- Mixed Strategies
- Extensive Form Games
- Bayesian Games
- Bayesian Auctions
- Evolutionary Stable Strategy
- Repeated Games

Different Payoff in Bargaining

In an ultimatum game, the responder's payoff is given by $y + a(y - z)$, where y is the responder's monetary reward, z is the offerer's monetary take, and a is a positive constant. That is, the responder cares about how much money he gets and he cares about relative monetary amounts (the difference between the money he gets and the money the other player gets). Assume that the offerer's payoff is as in the basic model. Represent this game in the extensive form, writing the payoffs in terms of m, the monetary offer of the proposer, and the parameter a. Find and report the subgame perfect equilibrium. What is the equilibrium monetary split as a becomes large?

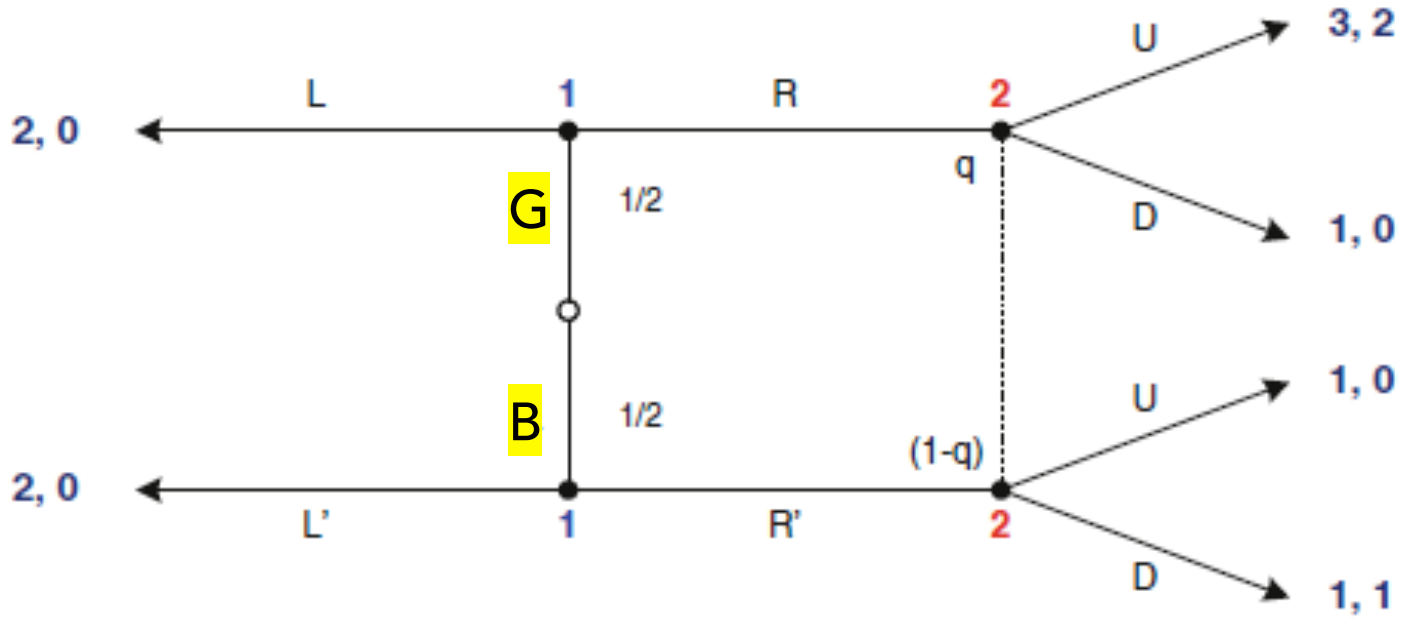
Watson Ch 19, Ex 8

Three Stage Bargaining

Consider the following discounted, three-period bargaining game. The discount factor is δ, where $0 < \delta < 1$. In this game, player 1 makes the first offer. If player 2 rejects this offer, then player 1 makes another offer. If player 2 rejects the second offer, then player 2 makes the final offer. In other words, player 1 makes the offers in periods 1 and 2, whereas player 2 makes the offer only in period 3. Compute the subgame perfect equilibrium of this game.

Watson Ch 19, Ex 6

Perfect Bayesian Eqbm



Find pooling and separating equilibria.

Munoz-Garcia et al Ch 9, Ex 1

Reference Reading

1. ***An Introduction to Game Theory*** by Martin Osborne
2. ***Strategy, An Introduction to Game Theory*** by Joel Watson
3. ***Strategy and Game Theory Practice Exercises with Answers*** by Felix Munoz-Garcia, Daniel Toro-Gonzalez
4. *Game Theory (3e)* by Giacomo Bonanno

If you have questions,

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