

Overview: Game Theory and Competitive Strategy II

- Fun and games with bidding situations
- Games with one play only
 - Simultaneous choice
 - Someone goes first
- Repeated games
- Threats and commitment
- Entry deterrence

A Negotiation: The Rules

- Objective: max **your own** financial position
- 2 people negotiate over the division of \$100, with offers in units of \$1.00
- Person A offers B a division. If accepted, the division is made. End of negotiation.
- If B refuses A's offer, the amount drops to \$90, and B proposes a division. Person A can accept or reject. If rejects, both get \$0.
- Negotiation ends (2 rounds only!)

Dominant Strategies (An Advertising Decision)

		<u>Firm B</u>	
		Advertise	Don't
<u>Firm A</u>	Advertise	10, 5	15, 0
	Don't	6, 8	20, 2

Duopoly From Last Time

		Firm 2 (competitor)			
		15	20	22.5	30
Firm 1 (you)	15	450, 450	375, 500	338, 506	225, 450
	20	500, 375	400, 400	350, 394	200, 300
	22.5	506, 338	394, 350	338, 338	125, 150
	30	450, 225	300, 200	150, 125	0, 0

Scheduling a Dinner Party

		<u>Pat</u>	
		Fri. Night	Sat. Night
<u>Chris</u>	Fri. Night	-10, -10	4, 5
	Sat. Night	5, 4	-10, -10

A Legal Dispute (Monetary Payoffs)

		<u>Other</u>	
		Sue	Settle
<u>You</u>	Sue	-10, -10	-1, -2
	Settle	-200, 1	2, 4

The IRS audit

		<u>IRS</u>	
		Audit	Don't audit
<u>Firm</u>	Cheat	-2, 2	2, 0
	Don't cheat	0, -2	0, 0

Review of Concepts

- Nash Equilibrium: Each player doing the best he/she can, given what the other is doing.
- Dominant strategy: Player's best choice doesn't depend on choices of others.
- Maximin Strategy: Choice that maximizes the minimum payoff, avoiding big losses

The Prisoner's Dilemma

		<u>Prisoner B</u>	
		Don't	Confess
<u>Prisoner A</u>	Don't	-2, -2	-10, -1
	Confess	-1, -10	-5, -5

The Pricing of Airline Travel

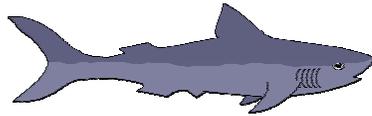
		<u>US Air</u>	
		High Price	Lower Price
<u>Delta</u>	High Price	50, 50	-50, 100
	Lower Price	100, -50	0, 0

Commitment and Credibility (Cortez and His Soldiers)

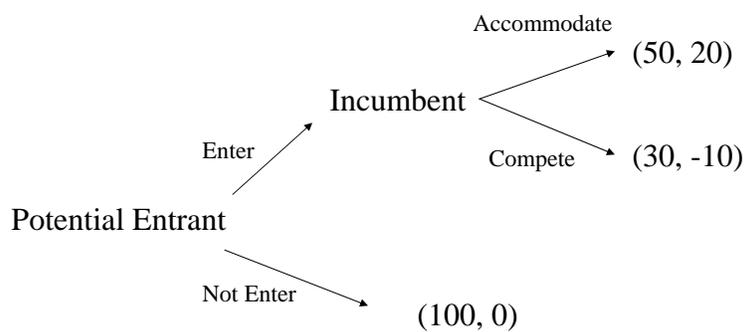
		<u>Soldiers</u>	
		Stay & Fight	Go Home
<u>Cortez</u>	Stay & Fight	10, 5	-10, 10
	Go Home	-10, -10	-5, 15

Selling Beer on the Beach

- Design Characteristic is Location
- Sunbathers are evenly spread. Will walk to *nearest* seller

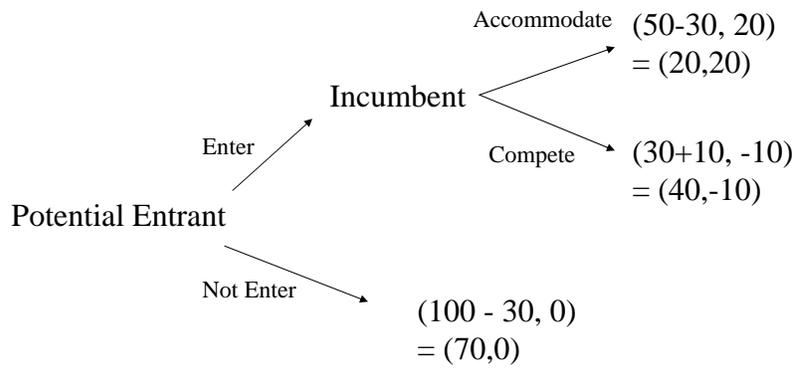


Extensive Form Games: Sequential Moves



Payoffs = (Incumbent payoff, Entrant payoff)

Entry Deterrence: Precommitment



Incumbent: Incurs 30 in costs to prepare for intense competition

Take Away Points

- In strategic situations, think about your competitor's reasoning and incentives. In dynamic situations, this leads to backwards induction.
- Communication can eliminate poor outcomes.
- The prisoner's dilemma is one of the most important strategic situations to understand. Often, the only way out is to change the rules of the game.
- Many strategic moves depend on credibility. Commitment may be key here.

Preparation for Next Time

GE-Westinghouse

- Is this (or could this become) an attractive industry?
- If you were in charge of pricing for GE, what policy changes would you recommend?