

Last time

	my pair			
		α	F	
we	×	B-, B-	A,C	
	β	C, A	$\beta^{\dagger}_{i}\beta^{\dagger}_{j}$	

outcome matrix

outcomes + payoffs
payoffs matter

possible payoffs

	ł	١	-, 3	my pair		
ne		α	ſ	00	31	
		β		-1,3	1,1	1
			- 1			_

Lesson Do not play a strictly dominated strategy

Lesson Put yourself in others's hoes to figure out what they will do

Prisoners Dilemna

examples

-joint project

incentive to shirk

-price competition «collusion >>

incentive to undercut price

- common resource

incentive to "overfish" or pollute

Remedies

not joint Communication

contracts
treaties
regulations
repeated play
education - change payoffs

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<< Today >>

Formal Stuff: Ingredients of a game

· players

notation

game

•strategies

(Si) a particular strategy of player i

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Si the set of possible strategies of player i

{1,2,3,...,100}

(5) a particular play of the game

the spreadsheet

a strategy profile

</or vector, or list>>>

Assume known

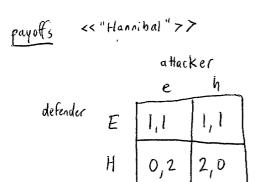
one more notation

S-i a choice for all except person i

Ui(si,si) «useful way to think of this:

players 1,2 strategy sets $S' = \{T,B\}$ $S' = \{L,C,R\}$ payoffs eg U,(T,C)=11 $U_2(T,C)=3$

Defn player is strategy si is strictly dominated by player is strategy si if U; (Si, S-i) > U; (Si, S-i) for all s:



<< e,E = easy , h,H = hard >>
<< payoffs are how many battalions he'll arrive with >>
<< no dominant strategy >>
<< why'd they all Choose E? >>

Defn player i's strategy S_i is weakly dominated by her strategy S_i if $u_i(s_i,s_{-i}) \ge u_i(s_i',s_{-i})$ for all s_{-i} $u_i(s_i,s_{-i}) \ge u_i(s_i',s_{-i})$ for some s_{-i}

4 Game from last time 77

767 weakly dominated

rationality

6775; 745 not weakly dominated in original game, but weakly dominated once we delete 68-100 "in shoes"

rationality, t knowledge that others are rational

45 > 5: 730 "inshoes, in shoes"

R,KR, KKR

30 75; 720 "in shoes, in shoes, inshoes" R, KR, KKR,

KKKR

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Common Knowledge

Rationality - takes out >67 $44 \text{ Average } 13\frac{1}{3} >7$ $44 \frac{2}{3} \text{ Average } 9 > 7$

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Klt is mutual knowledge that someone wears α pink hat,
but not common knowledge

Mutual
Common 77

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