



pd

PRISONER'S DILEMMA

An interactive introduction to game theory through the archetypal example of cooperation and defection in a social dilemma.

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begin



Two financial officers at a company have been secretly misreporting their returns for several years.



next →

They have been embezzling the excess returns into an offshore account to which only the two of them have access.



They are able to keep the scam hidden for a few years until the company is audited.



24: +\$112,950	24: +\$112,950	20: -\$24
17: +\$99,010	17: +\$99,010	13: +\$12
10: +\$54,340	20: -\$24,520	24: +\$11
03: -\$21,460	13: +\$12,820	17: +\$99
27: -\$38,590	24: +\$112,950	10: +\$54
20: -\$24,520	17: +\$99,010	24: +\$11
13: +\$12,820	10: +\$54,340	17: +\$99
24: +\$112,950	03: -\$21,460	10: +\$54
17: +\$99,010	27: -\$38,590	03: -\$21
10: +\$54,340	20: -\$24,520	27: -\$38
03: -\$21,460	13: +\$12,820	20: -\$24
27: -\$38,590	24: +\$112,950	13: +\$12
20: -\$24,520	17: +\$99,010	24: +\$11
13: +\$1	10: +\$54,340	17: +\$99
24: +\$	03: -\$21,460	10: +\$54
17: +	27: -\$38,590	03: -\$21
10:	20: -\$24,520	27: -\$38
03:	13: 12,820	20: -\$24
27:	24: 112,950	13: +\$12
20:	17: 99,820	24: +\$11
13:	10: 4,950	17: +\$99
	03: 312,010	10: +\$54
	27: 12,340	03: -\$21
	20: ,460	27: -\$38
	17: ,590	20: -\$24
	10: 820	13: +\$12
	03: 950	20: -\$24
	27: 20	13: +\$12
	24: 50	24: +\$11
	17: 0	17: +\$99
		10: +\$54
		03: -\$21
		13: +\$12
		24: +\$11
		17: +\$99
		10: +\$54
		03: -\$21
		13: +\$12
		24: +\$11
		17: +\$99
		10: +\$54

next 

Investigators notice something suspicious in both of their financial records, but do not have enough evidence to indict either suspect without a confession from at least one of them.



next

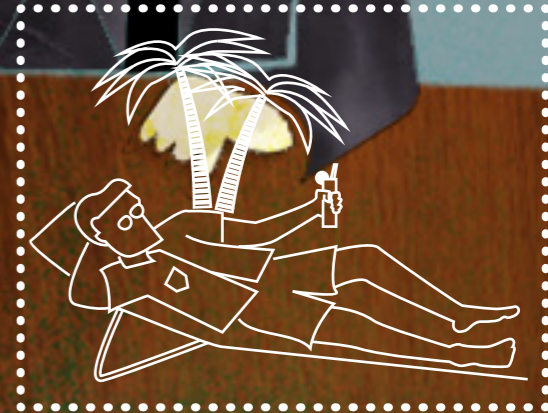


They are both brought in for questioning and given the same offer...



next →

Keep quiet, or implicate the other suspect and be released without charges as a state's witness... unless the other accomplice has also confessed, in which case they both serve reduced sentences.



next

They face a dilemma because each person's fate depends on not just his personal decision, but also the other suspect's decision.





You are one of the embezzlers and you know you can give your partner up but still keep the account secret. What are you going to do?

CHOOSE ONE

keep quiet

confess



You decide that you are in it together. You are going to stay quiet.

Now find out what your partner did... and what's going to happen to you. ...▶



You have to look out for your own interests. You provide information necessary to convict your partner.

Now find out what your partner did... and what's going to happen to you. ...▶

You both stayed quiet.
Neither of you serve time
and you will split the money.



← choose again

compare choices →

You indicted your partner and he stayed quiet. He serves the full sentence and you help yourself to all of the embezzled money.



← choose again



compare choices →

You stayed quiet but your partner indicted you. You will serve the full sentence while he goes free and enjoys all the embezzled money in the secret account.



← choose again

compare choices →

You indicted each other. You will both serve time, but not a full sentence since you aided the authorities. You will both split the money from the secret account when you get out, but you will no longer trust each other.



← choose again

compare choices →

This scenario is a classic example of the **Prisoner's Dilemma** game

cooperate



defect

pd

cooperate



defect



next

For you...



is better than



is better than



is better than



In the **Prisoner's Dilemma** game, the best option for you alone is the worst option for your partner, and vice versa...

P_d

... so, you do best when you defect (by indicting your partner) and your partner cooperates (by staying quiet).

next



For you both as a pair...



is better than



In the **Prisoner's Dilemma** game, the best average option for the both of you is mutual cooperation (you both stay quiet)...

is equivalent to



← choose again

← back to story

... and mutual defection (you both indict each other) leads to the worst overall outcome.

is better than



credits →

Pd

PRISONER'S DILEMMA

Greg Riestenberg's work on this project was supported by a Pratt Institute Graduate Research Assistant stipend.

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evolutionary games
infographics project



This interactive introduction to game theory is one of many free graphics available from the Evolutionary Games Infographic Project. To download more free graphics and learn about the project, please navigate to <http://egip.christopherxjensen.com>.

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