

new correct version 2015

FIGURE 4.2 Classic normal-form games.

1 \ 2	H	T
H	1, -1	-1, 1
T	-1, 1	1, -1

Matching Pennies

1 \ 2	C	D
C	2, 2	0, 3
D	3, 0	1, 1

Prisoners' Dilemma

1 \ 2	Opera	Movie
Opera	2, 1	0, 0
Movie	0, 0	1, 2

Battle of the Sexes

1 \ 2	H	D
H	0, 0	3, 1
D	1, 3	2, 2

Hawk-Dove/Chicken

1 \ 2	A	B
A	1, 1	0, 0
B	0, 0	1, 1

Coordination

1 \ 2	A	B
A	2, 2	0, 0
B	0, 0	1, 1

Pareto Coordination

1 \ 2	P	D
P	4, 2	2, 3
D	6, -1	0, 0

Pigs

Social Optimum

Nash eq

2 Nash equilibria
1 Equal
Social Optimum

game has the added feature that both players prefer to coordinate on strategy A rather than on strategy B.⁴

The prisoners' dilemma is a well-known example and is motivated by the following story. The authorities have captured two criminals who they know are guilty of a certain crime. However, the authorities have only enough evidence to convict them of a minor offense. If neither crook admits to the crime, then both will be charged with the minor offense and will pay a moderate fine. The authorities have put the prisoners into separate rooms, where each prisoner is asked to fink on the other. Finking corresponds to strategy D (defect), and not finking corresponds to strategy C (cooperate with the other prisoner). Each is told that, if he finks, he will be granted immunity and be released; his testimony, however, will be used to convict the other prisoner of the crime. If each finks on the other, then they both get sent to jail, but their term is reduced because of their cooperation. The best outcome for a prisoner is to defect while

⁴Outcome (A, A) is said to "Pareto dominate" (B, B). This criterion is defined in Chapter 6.