Are all perfect Bayesian equilibria reasonable?

Player 1 has four pure strategies.

PBE w/(LL′)? **YES**

$[(LL'),(DU'),q,r = 1/2]$ where $q \geq 1/2$.
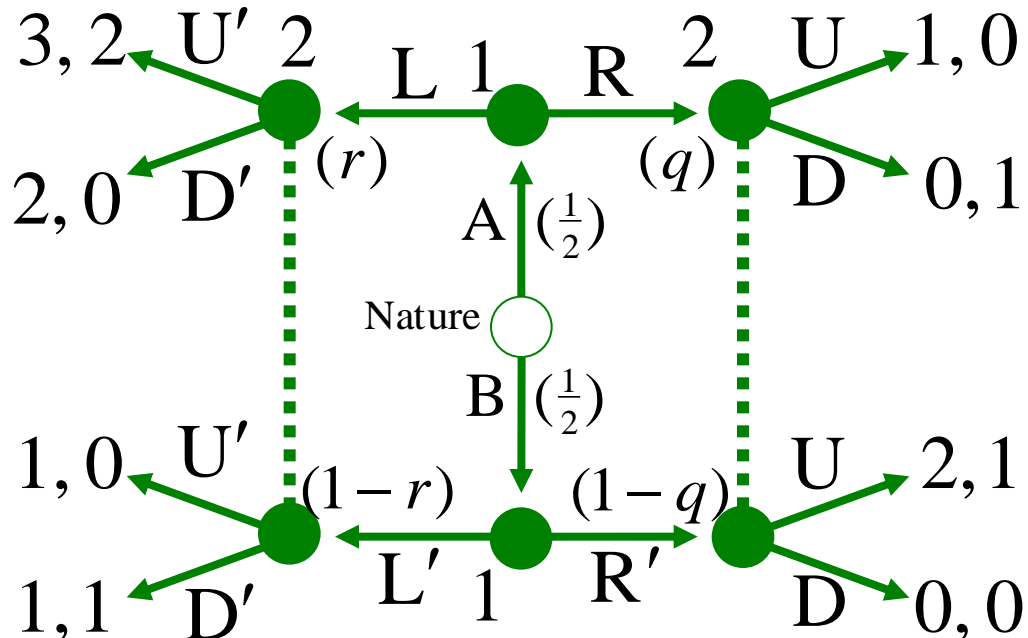
PBE w/(RR′)? **NO**

PBE w/(LR′)? **YES**

$[(LR'),(UU'),q = 0, r = 1]$

PBE w/(RL′)? **NO**

Choosing R is dominated for 1A.

$[(LL'),(DU'),q,r = 1/2]$ is an unreasonable equilibrium, because it requires 2 to have $q \geq 1/2$.

Beer – Quiche game

Player 1 has four pure strategies.

PBE w/(QQ′)? **YES**

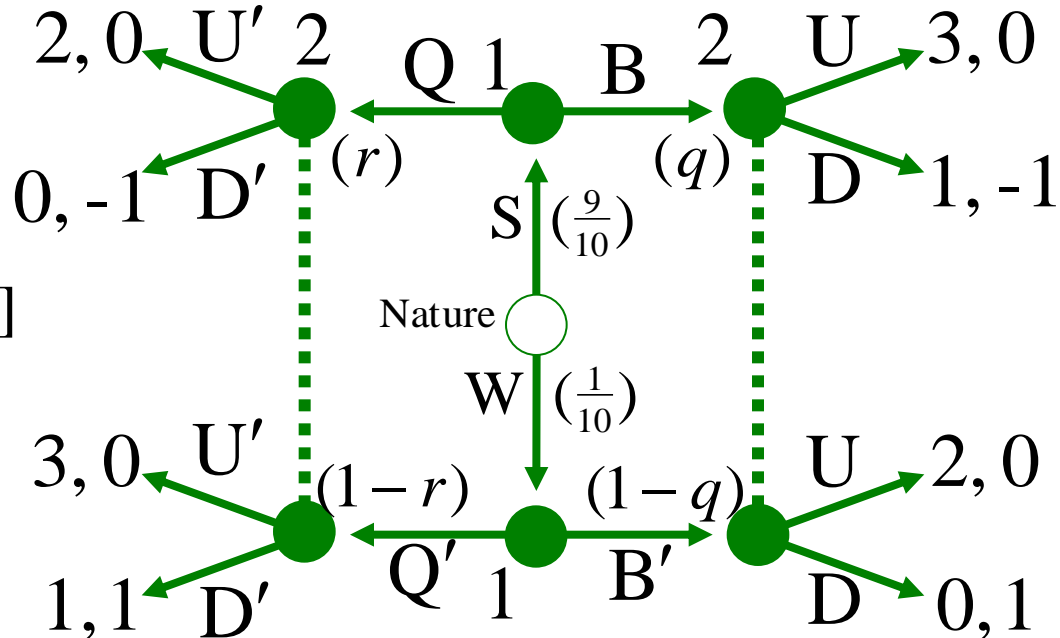$[(QQ'), (DU'), q, r = 9/10]$
where $q \leq 1/2$.

PBE w/(BB′)? **YES**

$[(BB'), (UD'), q = 9/10, r]$
where $r \leq 1/2$.

PBE w/(BQ′)? **NO**

PBE w/(QB′)? **NO**

$2, 0$ U′   2   Q   1   B   2   U $3, 0$

(r) (q)

$0, -1$ D′   S $(\frac{9}{10})$ D $1, -1$

Nature

W $(\frac{1}{10})$

$3, 0$ U′ $(1-r)$ $(1-q)$ U $2, 0$

$1, 1$ D′   Q′   1   B′   D $0, 1$

Is $[(QQ'), (DU'), q, r = 9/10]$ a reasonable equilibrium?

Only 1S has possibly something to gain by choosing B. But $q \leq 1/2$.