Last time: Voter-Candidate Model

(cannot choose position)

Lessons:
1. Many NE, not all "at center" (e.g., Downs)
2. Entry can lead to a more distant candidate winning
3. If too far apart, someone will jump into the center
4. How far apart can equilibrium candidates be?

Claim: inside \((1/6, 5/6)\)

\[
\begin{array}{cccc}
 & R & S & P \\
R & 0, 0 & 1, -1 & -1, 1 \\
S & -1, 1 & 0, 0 & 1, -1 \\
P & 1, -1 & -1, 1 & 0, 0 \\
\end{array}
\]

No NE in "pure strategies"

Pure strategies \(\{R, P, S\}\)

Claim: NE each player chooses \((1/3, 1/3, 1/3)\)

Expected payoff of \(R\) vs \((1/3, 1/3, 1/3)\): \(1/6(0) + 1/3(1) + 1/3(-1) = 0\)

\(S\) vs \((1/3, 1/3, 1/3)\): \(1/3(1) + 1/3(-1) + 1/3(0) = 0\)

\(P\) vs \((1/3, 1/3, 1/3)\): \(1/3(0) + 1/3(1) + 1/3(-1) = 0\)

Expected payoff of \((1/3, 1/3, 1/3)\) vs \((1/3, 1/3, 1/3)\): \(1/3(0) + 1/3(1) + 1/3(-1) = 0\)

In RPS, playing \((1/3, 1/3, 1/3)\) against \((1/3, 1/3, 1/3)\) is a BR.

So \([(1/3, 1/3, 1/3), (1/3, 1/3, 1/3)]\) is a NE.

Open Yale courses

© Yale University 2012. Most of the lectures and course material within Open Yale Courses are licensed under a Creative Commons Attribution-Noncommercial-Share Alike 3.0 license. Unless explicitly set forth in the applicable Credit section of a lecture, third-party content is not covered under the Creative Commons license. Please consult the Open Yale Courses Terms of Use for limitations and further explanations on the application of the Creative Commons license.