

HOMEWORK 3

GAME THEORY PhD 2023

December 5, 2022

1 Exercise 1

Consider the following signalling game in extensive form.

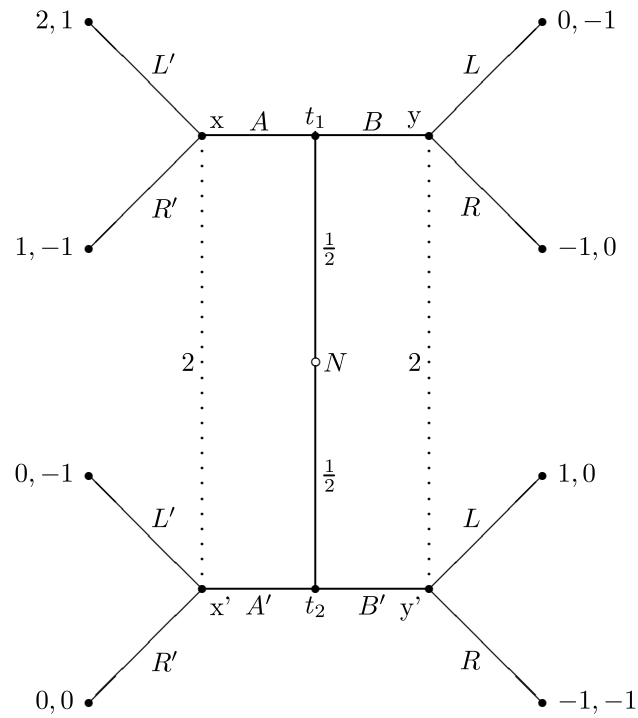


Figure 1

For this game:

1. construct the strategic form and calculate the set of Bayes-Nash Equilibria;

2. calculate the set of Sequential Equilibria in pure strategies;
3. refine the set of Sequential Equilibria in pure strategies using Forward Induction arguments.

2 Exercise 2

Consider the signalling game of figure 2.

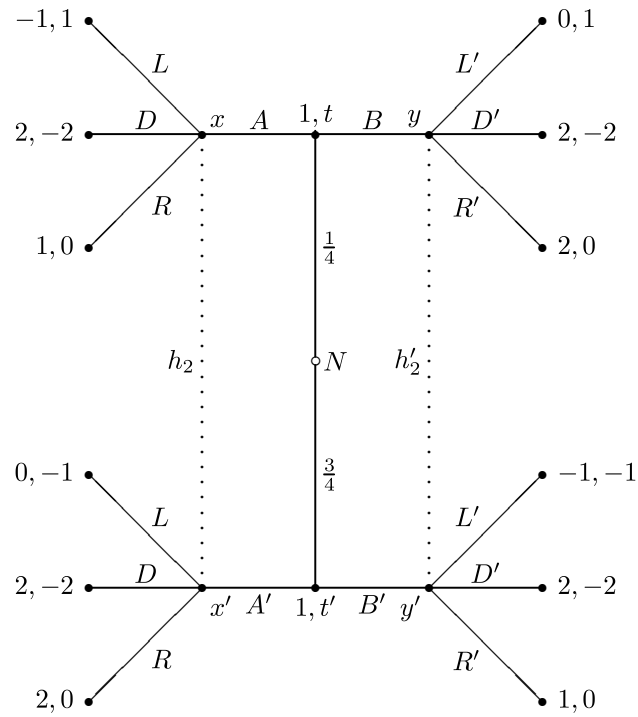


Figure 2

1. Construct the strategic form and calculate the set of Bayes-Nash equilibria in pure strategies;
2. Calculate the set of Subgame Perfect Equilibria in pure strategies;
3. Calculate the set of Weak Perfect Bayesian Equilibria in pure strategies;
4. Calculate the set of Sequential Equilibria in pure strategies;
5. Refine the set of Sequential Equilibria in pure strategies using the intuitive criterion.

3 Exercise 3

Consider the signalling game of figure 3.

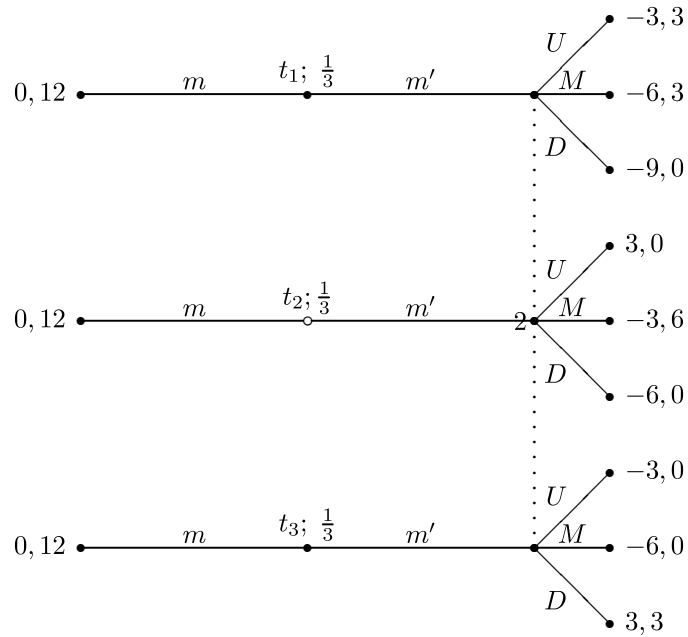


Figure 3

1. Construct the strategic form and calculate the set of Bayes-Nash equilibria in pure strategies;
2. Calculate the set of Subgame Perfect Equilibria in pure strategies;
3. Calculate the set of Weak Perfect Bayesian Equilibria in pure strategies;
4. Calculate the set of Sequential Equilibria in pure strategies;
5. Refine the set of Sequential Equilibria in pure strategies using the intuitive criterion.