Economics 2030

Winter 2018 Martin J. Osborne

Problem Set 12

1. Consider the extensive game form (i.e. extensive game without a specification of the payoffs) in Figure 1. Find the behavioral strategy of player 1 that is equivalent to her mixed strategy in which she plays (B, r) with probability 0.4, (B, ℓ) with probability 0.1, and (A, ℓ) with probability 0.5.

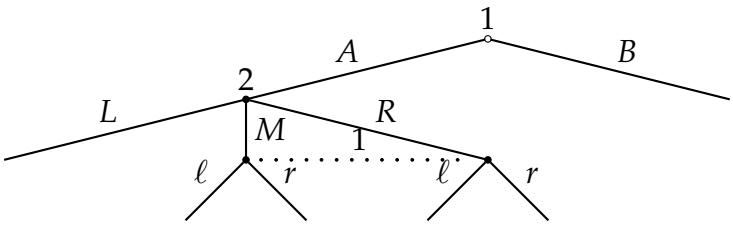

Figure 1. The extensive game form for Problem 1.

2. Find all the weak sequential equilibria of the extensive game with imperfect information in Figure 2.

3. Find all the sequential equilibria of the game in Figure 3.

4. Consider the game in Figure 4. For what values of (a_1, a_2) and (b_1, b_2), if any, does the game have a weak sequential ("separating") equilibrium in which a strong challenger chooses *Ready* and a weak one chooses *Unready*? For what values of these payoffs, if any, does the game have a weak sequential equilibrium in which both types of challenger choose *Unready* (a "pooling" equilibrium)?

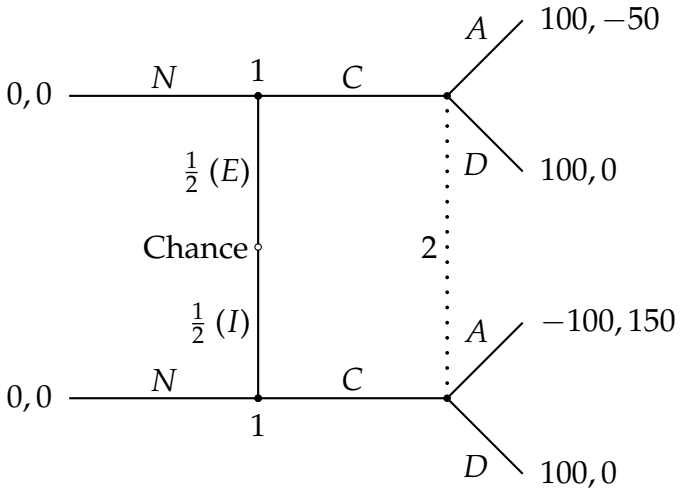

Figure 2. The game in Problem 2.

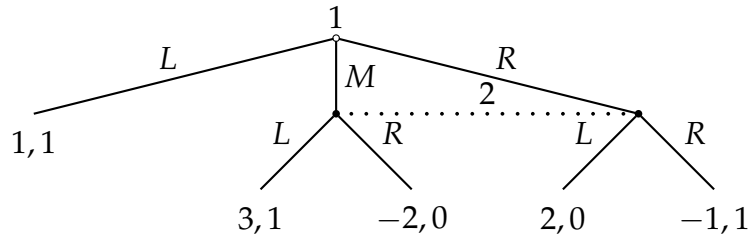

Figure 3. The game in Problem 3.

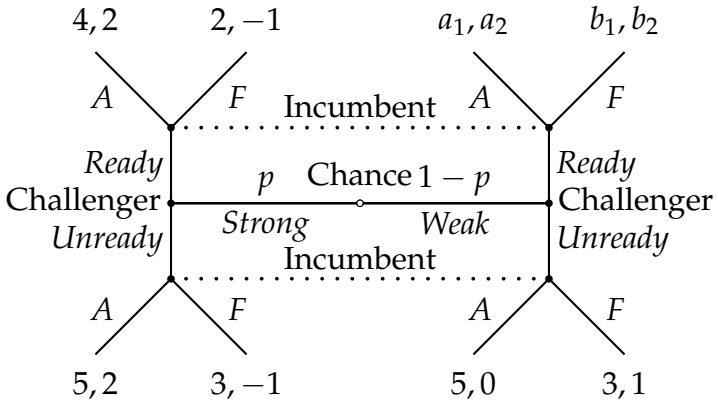

Figure 4. The game in Problem 4. The Challenger's payoff is listed first, the incumbent's second.