

The hiring game (Gibbons?)

There are two firms hiring, each needs one worker. Firm $i = 1, 2$ offers wage w_i with $w_i > w_j/2, i \neq j$ (equivalently $w_1/2 < w_2 < 2w_1$). Two workers are playing: if they apply to different firms they both get the job; if they apply to the same firm each gets the job with probability 0.5, otherwise he gets 0. Draw the (2 by 2) game between the workers and compute the equilibria. To fix notation denote by i the action “apply to firm i ”, for each worker. So for example the profile $(2, 1)$ gives payoffs w_2, w_1 . There are two pure equilibria and one mixed; for the latter let p (resp. q) the probability that player 1 (resp 2) plays 1. (*Answer for mixed equilibrium: $p = q = (2w_1 - w_2)/(w_1 + w_2)$*)