Exercise on Signaling

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1. **Signaling.** Consider Spence’s signalling model. A worker’s type is \( t \in \{0, 1\} \). The probability that any worker is of type \( t = 1 \) is equal to \( \frac{2}{3} \), while the probability that \( t = 0 \) is equal to \( \frac{1}{3} \). The productivity of a worker in a job is \( (t + 1)^2 \). Each worker chooses a level of education \( e \geq 0 \). The total cost of obtaining education level \( e \) is \( C(e|t) = e^2(2 - t) \). The worker’s wage is equal to his expected productivity.

   (a) Characterize all pooling perfect Bayesian equilibrium in which both types of workers choose a strictly positive education level.

   (b) Find all separating perfect Bayesian equilibria.

   (c) Which separating equilibrium survives the intuitive criterion? Is it the one with the lowest education level?