Quiz 6 (answers)
ECNS 316 (Spring 2020)

__________________________Name

1.) a.) (10 points) Recall the neighborhood crime model where the gross return from offending in neighborhood *i* is

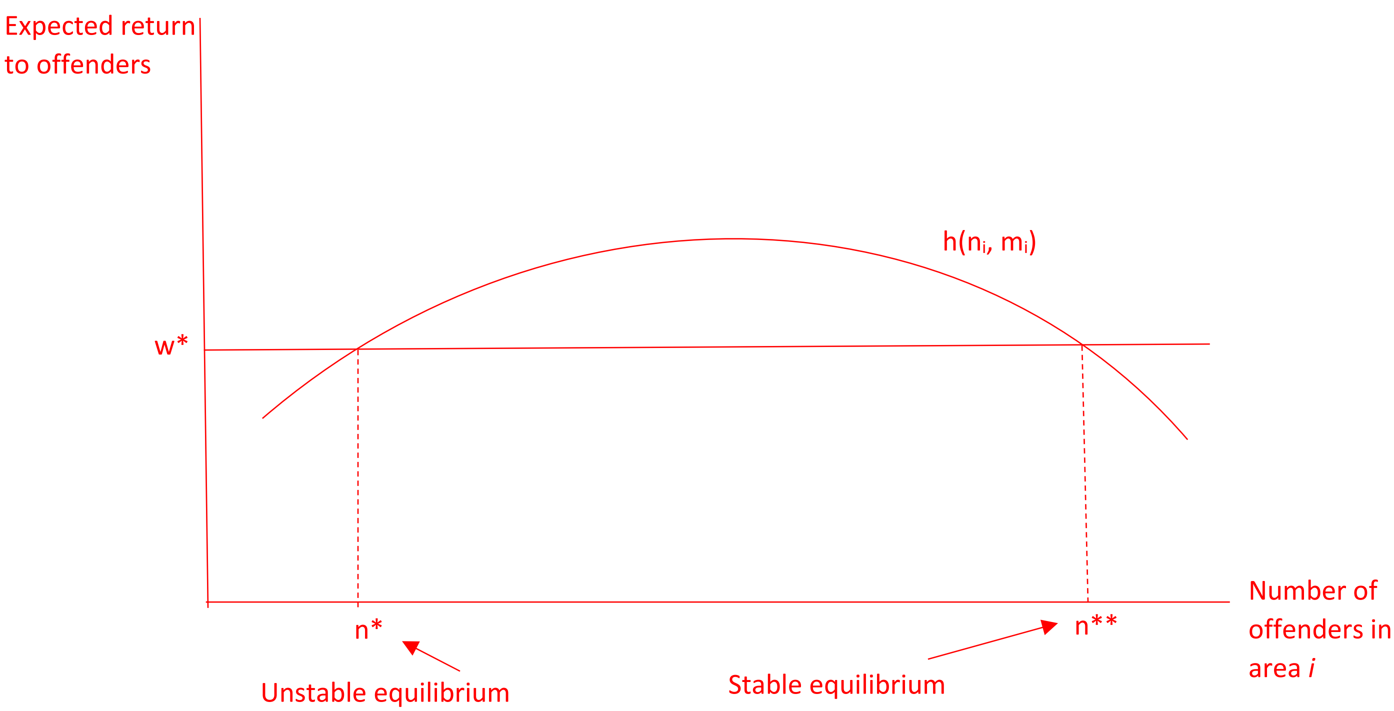
$$\pi_i = f(n_i),$$

where n_i is the number of offenders and $f(\cdot)$ is strictly decreasing in n_i. Expected sanctions,

$$p_{ci} = g(n_i; m_i),$$

are also strictly decreasing in n_i due to the "schooling effect," which lowers the probability of conviction as *n* rises. Police effort is given by m_i. An increase in effort is expected to shift the expected sanctions function upward by increasing the probability of conviction. Assume sanctions, *s*, are constant across neighborhoods. Lastly, the supply of offending depends only on the return net of expected sanctions to offending elsewhere (or on return to legal work) and is a constant denoted w^*.

Graphically illustrate the return-net-of-sanctions curve and the supply of offending. On this graph, indicate the equilibria. Make sure to label your graph correctly!



b.) (5 points) Suppose $w^* < \pi_i - p_{ci}$. What outcome do you expect over time? Be concise in your answer.
Offenders will enter area *i* up to the point where h = w* at the stable equilibrium n**.

c.) (5 points) Suppose $w^* > \pi_i - p_{ci}$. What outcome do you expect over time? What does your answer depend upon? Be concise in your answer.
If we are on the graph to the left of n*, then offenders will leave the area until none are left.

If we start on the graph to the right of n**, then offenders will leave the area until we reach n**, the stable equilibrium.