Problem set 2

This problem set is due on October 5 (Friday) at 4pm. Drop your assignment into the dropbox located in front of my office door (Purnell 413). No late homework will be accepted.

I. Search and Unemployment

A. Two-sided model (DMP model)

1) In the DMP model, explain how wages are set through the Nash Bargaining process.

2) Suppose that there is technological change that reduces the cost of recruiting for firms. What are the equilibrium effects of this in the DMP model? (Determine how \( j, Q, u, v, \) \( Y, w, \) and total surplus change.)

3) Suppose that the government decides to give a subsidy \( s \) to firms that hire a new worker. What are the equilibrium effects of this in the DMP model? (Determine how \( j, Q, u, v, \) \( Y, w, \) and total surplus change.)

4) Using the Keynesian DMP model, explain the Beveridge curve relationship.

5) Provide any (one or two) examples which cause Beveridge curve to shift to the right.

6) Show that, in the Keynesian DMP model, if the wage is judged to be inefficiently high, so that unemployment is inefficiently high, the government can pay a subsidy to firms that corrects the problem.

II. Growth Model

1) In the Maltusian model, suppose that the economy is hit by a negative shock. Using diagrams, determine the effects of this in the short-run (in transition) and in the long-run (in steady state) and explain your results.

2) In the Maltusian model, suppose that there is a medical technology improvement that reduces the death rates. Using diagrams, determine the effects of this in the long-run (in steady state) and explain your results.