Economics 147: Bargaining Theory and Applications
Fall 2011
Homework 4

1. Union vs. Firm:

A union and a firm bargain over the wage w that the firm will pay to its workers. If there is an agreement the firm makes a revenue R and the wage is w. If there is no agreement, then the firm is out of business (profits are zero) and the workers earn an unemployment insurance wage w_u. There are L workers and the utility of the union is the total amount of wages paid to workers (wL). (There is NO bargaining on the number of workers)

a. Graph the set of possible agreement utility pairs (where U_F is the utility of the firm and U_U is the utility of the union) and the disagreement point d.

b. Find the Nash Bargaining solution (NBS) utilities (U_F^{NB}, U_U^{NB}) and wage w^{NB}.

c. Imagine that there will be a presidential election. Candidate D is committed to provide an unemployment insurance of w_u^D while candidate R is committed to w_u^R, with $w_u^D > w_u^R$. Which candidates do you expect the owner of the firm to support? And the union?

2. Solve exercises 488.1 and 489.1 from the textbook.

3. ABC Bargaining:

Consider a bargaining situation with 3 players (A, B and C). They must decide how to split a dollar and their disagreement payoff is (a, b, c). In this case the Nash bargaining solution is the triplet of utilities that maximizes $(u_A - a)(u_B - b)(u_C - c)$ subject to $u_A + u_B + u_C = 1$.

a) Find the Nash bargaining solution.

b) Show that the utility that each player receives can be written as a linear function of her disagreement payoff and the total surplus from agreement.