Problem Set 6 – Immigration

Question 1. Natalie lives in a poor country where she earns 6,000 € per year. She has the opportunity to move to a rich country as a temporary worker for five years. Doing the same work, she will earn 30,000 € per year in the rich country. The cost of moving is 2,000 € and it would cost her 8,000 € more per year to live in the rich country. Natalie’s discount rate is 10 percent. In the end, Natalie decides not to move because she will be separated from her friends and family. Estimate the psychic costs of Natalie’s move.

Question 2. (Borjas, Q. 4-6) An economy consists of two regions, the North and the South. The short-run elasticity of labor demand with respect to wages in each region is −0.5. Labor supply is perfectly inelastic within both regions. The labor market is initially in an economy-wide equilibrium, with 600,000 people employed in the North and 400,000 in the South at a wage of $15 per hour. Suddenly, 20,000 people immigrate from abroad and initially settle in the South. They possess the same skills as the native residents and also supply their labor inelastically.

(a) What will be the effect of this immigration on wages in each of the regions in the short run (before any migration between the North and the South occurs)?

(b) Suppose 1,000 native-born persons per year migrate from the South to the North in response to every dollar differential in the hourly wage between the two regions. What will be the ratio of wages in the two regions after the first year native labor responds to the entry of the immigrants?

(c) What will be the effect of this immigration on wages and employment in each of the regions in the long run (after native workers respond by moving across regions to take advantage of whatever wage differentials may exist)? Assume labor demand does not change in either region.

Question 3. (Borjas Q. 8-3) Mickey and Minnie live in Orlando. Mickey’s net present value of lifetime earnings in Orlando is $125,000, while Minnie’s is $500,000. The cost of moving to Atlanta is $25,000 per person. In Atlanta, Mickey’s net present value of lifetime earnings would be $155,000, while Minnie’s would be $510,000. If Mickey and Minnie choose where to live based on their joint well-being, will they move to Atlanta? Is Mickey a tied-mover or a tied-stayer or neither? Is Minnie a tied-mover or a tied-stayer or neither?
Question 4. (adapted from Borjas, Q. 8-4) Suppose a population consists of 100 workers and that each worker’s skill level is captured by her efficiency units of labor. The distribution of efficiency units in the population is such that worker 1 has 1 efficiency unit, worker 2 has 2 efficiency units, and so on up until worker 100 who has 100 efficiency units. In deciding whether to migrate to the European Union, these workers compare their weekly earnings at home ($w_0$) with their potential earnings in the EU ($w_1$). The wage-skills relationship in each of the two countries is given by:

$$w_0 = 700 + 0.5s,$$
$$w_1 = 670 + s,$$

where $s$ is the number of efficiency units the worker possesses.

(a) Assume there are no migration costs. What is the average number of efficiency units among immigrants? Is the immigrant flow positively or negatively selected? (Note: Immigrants are positively selected from their home country population if their average skill level is higher than the average skill level of the stayers.)

(b) Suppose it costs $10 to migrate to the United States. What is the average number of efficiency units among immigrants? Is the immigrant flow positively or negatively selected?