

**Problem Set # 8**

**Due 11/16/09**

1. Text Problem 13.5.
2. Text Problem 13.11
3. **Exercises with the General Equilibrium Simulation**

Here are three exercises to complete using the general equilibrium model described in the Nicholson/Westhoff paper.

**Exercise 1**

One important phase of any analysis using a mathematical model is called “calibration”. In this phase the parameters of the model are adjusted so that the model’s results more closely approximate data from the actual economy. Although it would probably be impossible to calibrate the N/W model in any realistic way, it should be possible to explore how the choices of parameters in the model matter. For that purpose you are to take the model specified in illustration 1 (without taxes) and describe how you would change one of its basic parameters in an interesting way. You are then to make this change and describe your results.

**Exercise 2**

Person 1 is the rich person in the base case simulations because he/she owns 80 percent of the capital. Suppose a government wishes to institute a tax on wages accompanied by a redistribution of the proceeds to person 2 with the end goal of equalizing the utility of these two people:

1. Is it possible to do this? Explain
2. Run a few more simulations to describe the “equity-efficiency tradeoff” in this model.

**Exercise 3**

Use your own imagination to extend one of the first three “illustrations” in the N/W paper in some interesting way.