Problem Set 1

Due 2/18/97 in Class

(Last Chance: to Michael Kreutz, cubicle in E52-251, by 5pm on 2/18)

Theory: Nicholson Chps. 1-2.

1. Nicholson 2.8.
2. Suppose that the equation $F(U,x_1,..,x_n)=0$ implicitly defines a utility function $U=f(x_1,..,x_n)$. Find the expressions for $\partial U/\partial x_2$ and $\partial x_2/\partial x_n$, and interpret their economic meanings.
3. Let a consumer's utility be given by $U(x,y,z) = x^{.5}y^{.5}(1+z)^{.5}$. The consumer has a budget constraint of $.25\ x + y + 2\ z = 10$. (a) What are the optimal choices for this consumer? (b) What if the income is \$2, so that the constraint is $.25\ x + y + 2\ z = 2$? Explain any differences in how you obtain your answer to (b). (c) What is the value of the Lagrange multiplier on the budget constraint in each case? Interpret your answer.
4. Relate the following statement to the history of economic thought as described in Chp. 1 of Nicholson, and critique it: Doctors train many more hours than lawyers, and their services are more necessary. Thus, doctors should earn more.

Applications: Minimum Wage Review Articles

Instructions: Full credit goes to complete, correct answers. Think your answers through and be concise.

1. Freeman breaks the world into the BR's and the SR's. Applying this logic to a change in the minimum wage in a "competitive" model of labor supply and demand, (a) give an example of a labor market where you think that the BR's are most likely to be correct, and (b) give an example where the SR's are most likely to be correct. What is your reasoning in each case? Illustrate your answer with diagrams that show clearly what features of supply and demand curves make the diagrams correspond to BR's and SR's.
2. One important feature of a "natural experiment" is exogeneity of the treatment: the choice of which group experiences the treatment is not related to the effectiveness of the treatment for that group. Consider the case of Card and Krueger's natural experiment approach to the minimum wage change in New Jersey. (a) Identify and discuss a possible reason why this assumption would not hold. (b) Carefully explain how this would effect your interpretation of Card and Krueger's conclusion that the change in the minimum wage did not have adverse effects on employment.
3. (a) Do you believe that fast food companies can hire as many workers as they wish at the fast food market wage, or do you believe that they must pay each worker more in order to increase their employment substantially? Explain why. (b) With a diagram, illustrate why monopsony power in the labor market can reverse the standard competitive market analysis that minimum wages decrease employment.
4. Suppose that you believe Card and Krueger's results. State your favorite theoretical explanation for their finding, and construct an argument to defend this explanation.
5. Union workers often make wages greater than the minimum. Yet, they still support minimum wage increases, sometimes devoting substantial resources to lobbying for higher minimum wages. Propose an explanation for this phenomenon. Recall that firms also make choices about what equipment to buy, and that different equipment requires different skill levels to operate.