LABOR ECONOMICS (EE 471)

☺☺ Optional practice questions ☺☺

Chapter 2

1. What is the effect of an increase in the price of market goods on a worker's reservation wage, probability of entering the labor force, and hours of work?

2. Tom earns $15 per hour for up to 40 hours of work each week. He is paid $30 per hour for every hour in excess of 40. Tom faces a 20 percent tax rate and pays $4 per hour in child care expenses for each hour he works. Tom receives $80 in child support payments each week. There are 168 hours in the week. Graph Tom's weekly budget line.

3. Cindy gains utility from consumption C and leisure L. The most leisure she can consume in any given week is 168 hours. Her utility function is $U(C,L) = C \times L$. This functional form implies that Cindy's marginal rate of substitution is C / L. Cindy receives $630 each week from her great-grandmother, regardless of how much Cindy works. What is Cindy's reservation wage?

4. Shelly's preferences for consumption and leisure can be expressed as

$$U(C,L) = (C - 200) \times (L - 80).$$

   This utility function implies that Shelly's marginal utility of leisure is $C - 200$ and her marginal utility of consumption is $L - 80$. There are 168 hours in the week available to split between work and leisure. Shelly earns $5 per hour after taxes. She also receives $320 worth of welfare benefits each week regardless of how much she works.
   (a) Graph Shelly's budget line.
   (b) What is Shelly's marginal rate of substitution when L = 100 and she is on her budget line?
   (c) What is Shelly's reservation wage?
   (d) Find Shelly's optimal amount of consumption and leisure.

5. Consider two workers with identical preferences, Phil and Bill. Both workers have the same life cycle wage path in that they face the same wage at every age, and they know what their future wages will be. Leisure and consumption are both normal goods.

   (a) Compare the life cycle path of hours of work between the two workers if Bill receives a one-time, unexpected inheritance at the age of 35.
   (b) Compare the life cycle path of hours of work between the two workers if Bill had always known he would receive (and, in fact, does receive) a one-time inheritance at the age of 35.

6. Consider a person who can work up to 80 hours each week at a pre-tax wage of $20 per hour but faces a constant 20% payroll tax. Under these conditions, the worker maximizes her utility by choosing to work 50 hours each week. The government proposes a negative income tax whereby everyone is given $300 each week and anyone can supplement her income further by working. To pay for the negative income tax, the payroll tax rate will be increased to 50%.

(a) On a single graph, draw the worker's original budget line and her budget line under the negative income tax.
(b) Show that the worker will choose to work fewer hours if the negative income tax is adopted.
(c) Will the worker's utility be greater under the negative income tax?