Fulbright Economics Teaching Program – Fall 2015

Microeconomics II – MPP8

Assignment 2

Modern Labor Market

Due: Nov 11, 2015

1. Suppose the adult population of a city is 9,823,000, and there are 3,340,000 persons who are not in the labor force and 6,094,000 who are employed.
   a. Calculate the number of adults who are in the labor force and the number of adults who are unemployed.
   b. Calculate the labor force participation rate and the unemployment rate.

2. Suppose that the supply curve for school teachers is $L_s \square 20,000 \square 350W$ and the demand curve for school teachers is $L_d \square 100,000 \square 150W$, where $L \square$ the number of teachers and $W \square$ the daily wage.
   a. Plot the demand and supply curves.
   b. What are the equilibrium wage and employment level in this market?
   c. Now suppose that at any given wage 20,000 more workers are willing to work as school teachers. Plot the new supply curve and find the new wage and employment level. Why doesn't employment grow by 20,000?

3. Suppose that all employers in the internet industry currently allow their programmers and web designers to work from home – which appeals to those with childcare or other responsibilities that can be accomplished at less cost than if they had to leave home and commute to work. Now suppose that these employers become convinced that they can increase the productivity of their programmers and designers by requiring them to work together in company offices. That is, the internet employers come to believe that both creativity and a more positive company culture will be stimulated among their workers if working from home is no longer allowed. Analyze the likely labor-market effects of this new policy on the internet industry.

4. The table below shows the number of cakes that could be baked daily at a local bakery, depending on the number of bakers.

Number of Bakers	Number of Cakes
0	0
1	10
2	18
3	23
4	27

   a. Calculate the marginal product of labor.
   b. Do you observe the law of diminishing marginal returns? Explain.

    c. Suppose each cake sells for $10. Calculate the marginal revenue product of labor.

    d. Draw the marginal revenue product of labor curve, which is the demand curve for bakers.

    e. If each baker is paid $80 per day, how many bakers will the bakery owner hire, given that the goal is to maximize profits? How many cakes will be baked and sold each day?

5. The demand curve for gardeners is $G_D = 19 - W$, where $G =$ the number of gardeners and $W =$ the hourly wage. The supply curve is $G_S = 4 + 2W$.

    a. Graph the demand curve and the supply curve. What is the equilibrium wage and equilibrium number of gardeners hired?

    b. Suppose the town government imposes a $2 per hour tax in all gardeners. Indicate the effect of the tax on the market for gardeners. What is the effect on the equilibrium wage and the equilibrium number of gardeners hired? How much does the gardener receive? How much does the customer pay? How much does the government receive as tax revenue?

6.   In 2002, a French law went into effect that cut the standard work week from 39 to 35 hours (workers got paid for 39 hours even though working 35), while at the same time prohibiting overtime hours from being worked. (Overtime in France is paid at 25% above the normal wage rate.) (a) Draw the old budget constraint, showing the overtime premium after 39 hours of work. (b) Draw the new budget constraint. (c) Analyze which workers in France are better off under the 2002 law. Are any worse off? Explain.