Economics 152 – Wage Theory and Policy

Problem Set #2
– Due Friday 9/28/2007 –

1. Imagine an economy where the normal working time is 35 hours a week, without any possibility for either part-time or over-time work. The wage rate is fixed at $20/hour. Draw an indifference curve of an individual who would like to work more hours. Now imagine that this individual can find another (illegal) part-time job that pays $15/hour. Will he take this opportunity of a second job?

2. Explain why a lump sum government welfare benefit provides an incentive for some workers to stop working (and no incentive to start working) while the earned income tax credit provides an incentive for some people who otherwise would not work to start working (and no incentive to stop working).

3. In 1999, 4,860 TANF recipients were asked how many hours they worked in the previous week. In 2000, this group of recipients was again subject to the same TANF rules and was again asked about their hours of work during the previous week. However, 468 of them had been randomly assigned to a “Negative Income Tax” (NIT) experiment which gave out financial incentives for welfare recipients to work and were subject to its rules. For the remaining 4,392 nothing had changed compared to the year before. The data from the experiment are contained in the table below.

<table>
<thead>
<tr>
<th></th>
<th>Total Number Of Recipients</th>
<th>Total Hours Of Work By All Recipients in the Survey Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>TANF</td>
<td>4,392</td>
<td>1,217</td>
</tr>
<tr>
<td>NIT</td>
<td>468</td>
<td>131</td>
</tr>
<tr>
<td>Total</td>
<td>4,860</td>
<td>1,348</td>
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(a) What effect did the NIT experiment have on the employment rate of public assistance recipients? Develop a standard difference-in-differences table to support your answer.
(b) What effect did the NIT experiment have on the weekly hours worked of public assistance recipients who worked positive hours during the survey week? Develop a standard difference-in-differences table to support your answer.
4. Consider two workers with identical preferences, Phil and Bill. Both workers have the same life cycle wage path, meaning they face the same wage at every age and they know what their future wages will be.

(a) Explain how the life cycle path of wages will influence their hours of work decisions over time. How does this intertemporal model differ from the static model of labor supply?

(b) Compare the life cycle path of hours of work of the two workers if Bill receives a one-time, unexpected inheritance at age 40. Draw a graph and explain the result.

(c) Compare the life cycle path of hours of work of the two workers if Bill had always known that he would receive (and in fact does receive) a one-time inheritance at the age of 40. Draw a graph and explain the result.

[Assume that both leisure and consumption are normal goods.]

5. Consider the following household production decision: James and Jennifer are planning to get married. In maximizing utility of their future household, they face the following situation: Both James and Jennifer have 10 hours a day to allocate to either the household sector or the market sector. James's wage rate is $40 and his marginal product of time in the household sector is $24. Jennifer's wage rate is $30 and her marginal product of time in the household sector is $18.

(a) Derive the household's opportunity frontier in a "Market Goods – Household Goods" diagram. How many $ of market goods could the two consume if they devoted all their time to working on the labor market? How many $ of household goods could the two consume if they devoted all time to household production?

(b) Suppose James and Jennifer initially allocate all their time to the household sector. Given they also want to consume market goods, who of the two should allocate the first hour to the labor market, and why? What can we say about the "point of specialization" for James and Jennifer, and how much $ worth of market goods and household goods do they consume at this point?