

**PROBLEM SET 2**  
Due Thursday, March 16

A. Book problems

Problems 1 and 8 in Chapter 3

B. Analytical problems

The US Congress periodically experiments with schemes designed to reduce child care costs for working parents, especially those with low earnings.

1. Compare and contrast the labor supply implications of the following programs:

- (i) A "child allowance," i.e., an annual (non-taxable) lump-sum payment for working families with incomes below the poverty line.
- (ii) A tax deduction for child care expenses for working women (for those with income high enough to pay tax). In-home care is not eligible for the deduction.
- (iii) Free, publicly-provided child care in day care centers, available for women who work outside the home.

Use the model of home production outlined in class, where child care can be purchased or produced at home. Analyze the labor supply consequences of each scheme with a graph. Assume that women who work in the market must obtain child care from day care centers while they are on the job.

2. Recent years have seen a large increase in the number of welfare recipients (primarily unmarried women with children) entering the labor market. But some social critics believe that mother-provided child care is better for child development than day care provided outside the home. Which of the above 3 options do you think is most likely to increase the amount of child care provided at home? Explain your answer with a graph.

C. Data Analysis

An extract from the March 2001 CPS is posted in the assignments section. This data set contains information on working-age women. The variables included are labor force status, hours/week, age, race, marital status, years of schooling, number of own children under age 6, number of own children under age 18, and family unearned income.

1. Using the information provided with the data, construct dummies for employment status and labor force participation, high school and college graduation status, nonwhite race, non-married status, and number of children 6-18. Report descriptive statistics for all variables in your extract. Check your data for implausible or missing values.

2. Run a regressions of LFP and  $\log(\text{hours/week})$  on age, age-squared, the race dummy, dummies for high school and college graduation status, number of children under 6, number of children aged 6-18, the non-married dummy, and unearned income. Are the results of this regression roughly consistent with the time-allocation model discussed in class? Why or why not?