VII. Time Allocation in the household

1. History
   a. Before the Industrial Revolution, households were at subsistence or less
   b. Everyone (mother, father, children) worked

2. Industrial Revolution
   a. Required an agricultural revolution that
      lowered food prices
      raised real urban wages
      freed up rural labor supply for urban work
      improved nutritional status of the populace
      increased life expectancy
   b. Eventually raised incomes, life expectancy sufficiently to
      Give incentives to invest in human capital
      Allow children to go to school rather than work

3. Time path of female labor force participation
   a. Single women work
   b. 1900-1990: steady rise in female labor force participation
   c. U-shaped pattern for married women
      Initially as GDP/capita rises, women drop out of labor force
      As GDP/capita continues to rise, labor force participation rises
   d. Married women
      1900: most married women were homemakers
      Working married women were from poor households
      Rise of the marriage bar
      College-educated women
      remained single, or
      did not work if married
      1970s: start of slow progress on career mothers
      1900-1990: steady rise in married female labor force participation

4. Factors affecting time allocation
   a. rise and decline of market for child labor
   b. household technology
      coal-wood to electricity
      time saving household appliances
      transportation
   c. market wages
      rising wages for both men and women
      rising relative wages for women
   d. Tastes
      economists assume tastes fixed
      Causality?: Do tastes change behavior or does behavior change affect tastes?
e. Fertility and family size
   Causality?: family size is a choice—may change as labor supply changes
   Improvements in fertility control may have an effect
       Delays early pregnancy
       Lowers probability of unplanned large families
f. Definitions:
   Population
   Labor force participation
   Employment
   Unemployment
   Labor Force Participation Rate

5. Household production theory
   a. Isoquants: combinations of time and market goods that yield the same level of utility
       Diminishing marginal productivity implies convex shape
       Flatter implies easier substitution of goods for time
       Slope \( = -\frac{\text{MP}_T}{\text{MP}_G} \)
   b. Budget constraint
       Time budget
       Fixed time
       Flexible time
       Wage
       Nonlabor income
       Slope \( = -\text{real wage} = -W \)
   c. Optimum
       \( W = \frac{\text{MP}_T}{\text{MP}_G} \)
   d. Normal inputs: as output rises, use more of input
   e. Response to change in nonlabor income: pure income effect
   f. Response to change in real wage: Income and substitution effects
       Wage increase implies
       income effect toward home time and market goods
       substitution effect toward goods, away from home time
   g. Wage effects
       For men, income and substitution effects are of roughly equal size
       For women, substitution effect dominates

6. Applications
   a. Impact of rising wages when initially out of labor force
   b. Impact of rising wages on food production
   c. Impact of improved home technology
   d. Children
       Impact of child labor income on adult time allocation
       Impact of public schooling
   e. Fertility: The quantity-quality model
       Rising women’s wages and family size
   f. Leisure demand: Aguiar and Hurst
Rising leisure demand, especially for the least educated
Relationship to changes in average wages by education level
g. Birth control pill
Impact of better fertility control on time allocation
Baily: impact of earlier versus later liberalization of birth control laws by state

7. Time allocation of couples
   a. Patterns over time: men decrease and women increase market time
   b. Patterns compared to other countries
   c. Overall work time versus market time or home time

8. Theory of marriage
   a. Trade model
   b. comparative advantage and gains from trade
   c. Gains from specialization
   d. Implications of equalizing market wages and/or equalizing home time productivity