Hand-out week 4

This week: 1.6 Buying and Selling

1.7 Labor Supply

1.8 Welfare Measurement

1.9 Intertemporal Choice

Readings: Varian chapters 9, 10, 14 and DM 4.1, 4.2

Practice Problems:

1. Understand and relate the concepts of endowments, gross, and net demands.

2. Compare the income effect of a price change for normal and inferior goods distinguishing whether the consumer is a net buyer or net seller.

3. Let $U(c, l) = \text{sqrt}(c)\ \text{sqrt}(T - l)$ where c is consumption, l is labor, and T is the total available time. Interprete $T - l$. Let the price of consumption be 1 and the price of labor w (for wage). Determine the budget constraint with and without non-labor income I. Assuming $I = 0$, ie no non-labor income, derive the labor supply function. How does a change in the wage affect labor supply? Which special property of the Cobb-Douglas function is responsible for this?

4. The Stanford bookstore reduces its student rebate from 10 to 6 percent. Depict graphically the lawyers', the Econ1, and the Econ51 measure of your welfare loss (consolation: Kepler's in MP still offers a 10% discount to Stanford students). Express the correct measure mathematically.

5. In an intertemporal context, let x_1 be first period consumption and x_2 second period consumption. What is the interpretation of an endowment point in this context? Set up the budget constraint and calculate its slope. Where would your endowment point be located if the first period were your time in college and the second your working life thereafter? What if the first period were your working life and the second your old age? Show the effects - income and substitution - of a change in the interest rate. Assuming that both goods are normal, how does the interest rate affect savings? Is this result unambiguous for both stories (college/real life and real life/retirement)?