

Lecture VI: Differences in Tastes

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Readings

Allocation of Consumption

Utility as a Cardinal Measure of Well-Being

Readings

- ▶ Becker Lecture 13
- ▶ Landsburg Chapters 16 – 17

Allocation of Consumption

- ▶ Working backward, how is a change in supply allocated – who gains what?
 - ▶ Question: How does the market allocate additional quantities across individuals?
 - ▶ Following Figure 1 we assume that the quantity of good 1 supplied increases from S to S' .

Allocation of Increased Supply

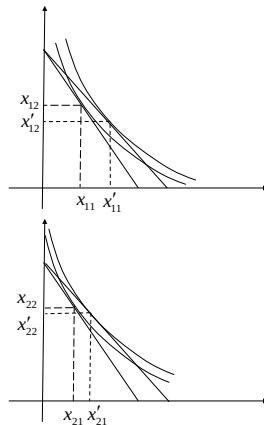
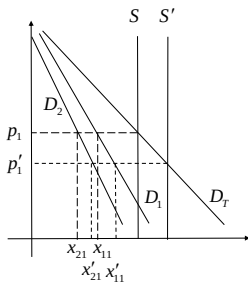


Figure : Allocation of Increased Supply

- ▶ In the supply and demand diagram we see that the price of good 1 falls from p_1 to p'_1 .
 - ▶ Why this amount of decline?
 - ▶ As the price falls, the quantity demanded by each consumer increases – in the individual preference graphs as the price falls the budget line rotates outward (i.e., becomes flatter).
 - ▶ As the budget line becomes flatter each consumer chooses to consume more x_1 (and in this case less x_2).
 - ▶ At some level the increase in quantity demand by each consumer ($x'_{11} + x'_{21}$) balances the additional level of supply.

- ▶ Food Stamps or SNAP.
 - ▶ Food Stamps or SNAP grew out of commodity distribution programs – we had too much butter (butter we couldn't sell) so we gave some butter away to poor consumers.
 - ▶ Over the years cash payments replaced distribution.
 - ▶ Food stamps could be redeemed for certain purchases.
 - ▶ Lately, the food stamps have been replaced with electronic benefits cards.

- ▶ Food Stamps or SNAP (Continued)
 - ▶ SNAP and other nutritional programs are funded as part of the agricultural budget (they now account for over 65 % of the USDA budget).
 - ▶ One question is – what is the impact of these programs on the demand for food?
 - ▶ Figure 2 presents the basic demand derivation for the food stamp program where the consumer can only purchase food.

Effect of Food Stamps on Food Purchases

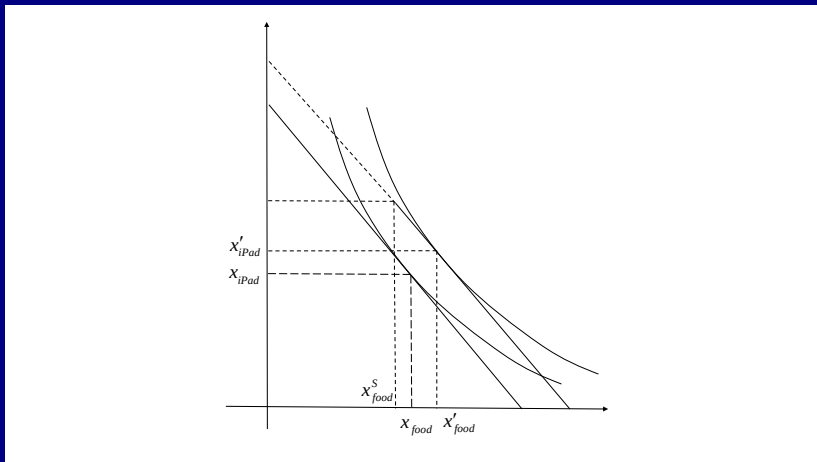


Figure : Effect of Food Stamps on Food Purchases

More Inelastic Demand for Food

- Shifting the utility function slightly, we generate a different impact of the program in Figure 3

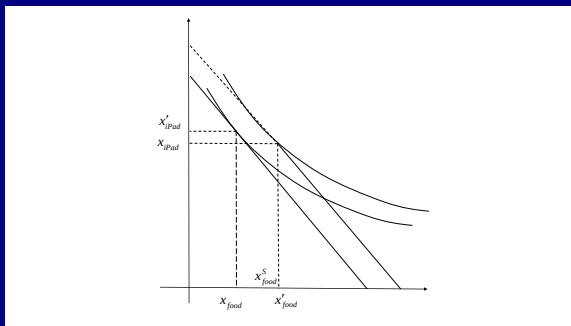


Figure : More Inelastic Demand for Food

Utility as a Cardinal Measure of Well-Being – Introduction to Expected Utility

- ▶ The expected utility hypothesis is a complicated formulation that I develop in some detail in AEB 7182.
- ▶ However, utility or preferences allows us to develop some of the general notions of expected utility.
- ▶ Let us return to derivation of the Engel curves where we trace out the economic decisions resulting from increased income (Figure 4 of Lecture 5) presented in Figure 4.

Engle Curve for Consumption

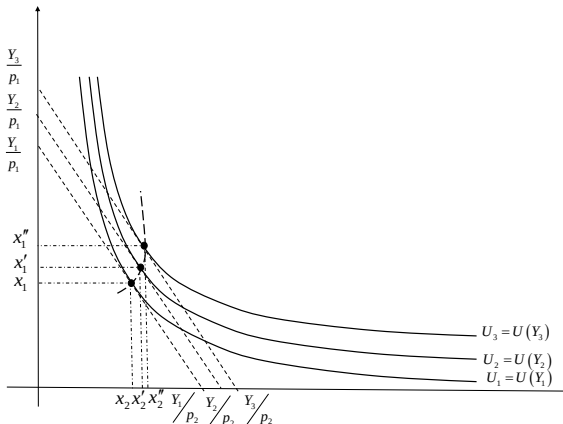


Figure : Engle Curve for Consumption

- ▶ It should be obvious that $U[Y_1] < U[Y_2] < U[Y_3]$ or the consumer always prefers more income to less – shifting the budget constraint out makes the consumer better off.
- ▶ If we graph the levels of utility from Figure 4 as a function of the level of income that generates that level of utility, we produce what is known as the indirect utility function (the level of utility as a function of income and the prices for each good) depicted in Figure 5.

Indirect Utility Function

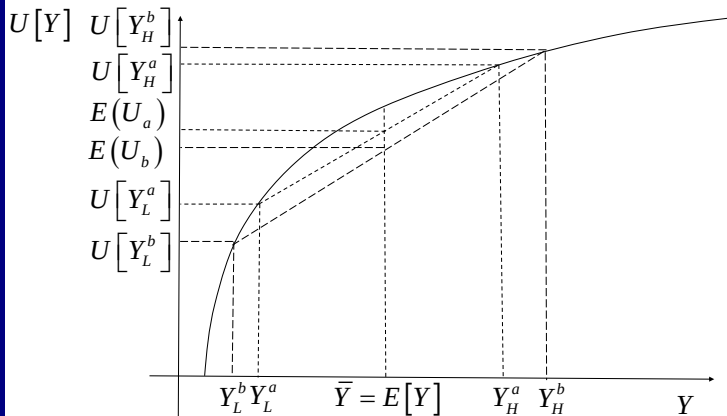


Figure : Indirect Utility Function

- ▶ One of the primary uses of this function is to develop the notions of consumer behavior under risk and uncertainty.
 - ▶ The basic result of the expected utility hypothesis is the economic agents act to maximize their expected utility.
 - ▶ In Figure 5 we have two possible bets or actions – a or b .
 - ▶ Action a pays Y_L^a with some probability π_a and Y_H^a with the probability $1 - \pi_a$.
 - ▶ Action b pays Y_L^b with some probability π_b and Y_H^b with the probability $1 - \pi_b$.
 - ▶ We have constructed the bets so that they have the same expected value – $\pi_a Y_L^a + (1 - \pi_a) Y_H^a = \pi_b Y_L^b + (1 - \pi_b) Y_H^b$.
 - ▶ In this context alternative b is riskier than alternative a .

- The consumer choice is dependent on the expected levels of utility

$$E(U_a) = \pi_a U(Y_L^a) + (1 - \pi_a) U(Y_H^a) \gg \pi_b U(Y_L^b) + (1 - \pi_b) U(Y_H^b) = E(U_b). \quad (1)$$