

CONSUMER CHOICE:

“Utility Maximization Subject to a Budget Constraint”

or

“Budget Line Meets Indifference Curves”

- Rational consumer approach: highest utility money can buy!

$$\begin{aligned} & \text{Max}_{X,Y} U(X,Y) \\ & \text{subject to: } p_X * X + p_Y * Y \leq I \end{aligned}$$

- Solution:
 - Move out to highest indifference curve without breaking the budget
 - Optimum bundle where an indifference curve is tangent to budget line:

$$\text{MRS} = p_X / p_Y$$

Results presumes both goods are purchased

CONSUMER CHOICE

Recall that:

$$\text{MRS} = - dY / dX = \text{MUX} / \text{MUY}$$

$$\text{slope of BL} = dY / dX = - p_X / p_Y$$

Substituting, we get a condition for the optimum bundle:

$$\text{MU}_X / \text{MU}_Y = p_X / p_Y$$

- Interpreting the Optimum Condition

– Rearrange optimum condition:

$$\text{MU}_X / p_X = \text{MU}_Y / p_Y$$

- $\text{MU}_X (1/p_X)$ gives the utility of last dollar spent on music
- Last dollar spent on music increases utility the same amount as the last dollar spent on movies!

CONSUMER CHOICE (Cont'd)

- Corner Solution
 - “MRS = price ratio” does not hold anywhere along budget line for positive quantities (i.e., no “interior solution”)
 - Caused by indifference curves that are everywhere flatter/steeper than budget line
 - One good is not purchased

CONSUMER CHOICE (Cont'd)



APPLICATION: FOOD STAMPS

- Some Background
 - Food Stamp Act of 1964: vouchers good for food purchases
 - income, asset, employment “tests”
 - pre-1979: stamps purchased by household at a discount
 - post-1979: household receives allotment of stamps (denominated in \$s)
- The Budget Line
 - I is household money income
 - p_F and p_A are prices of food and all other goods
 - S is amount of food stamps
- Consumer Choice
 - Utility will be higher with food stamps than without ...
 - But even higher with cash (equal to $\$S$) in place of food stamps

FOOD STAMPS (Cont'd)



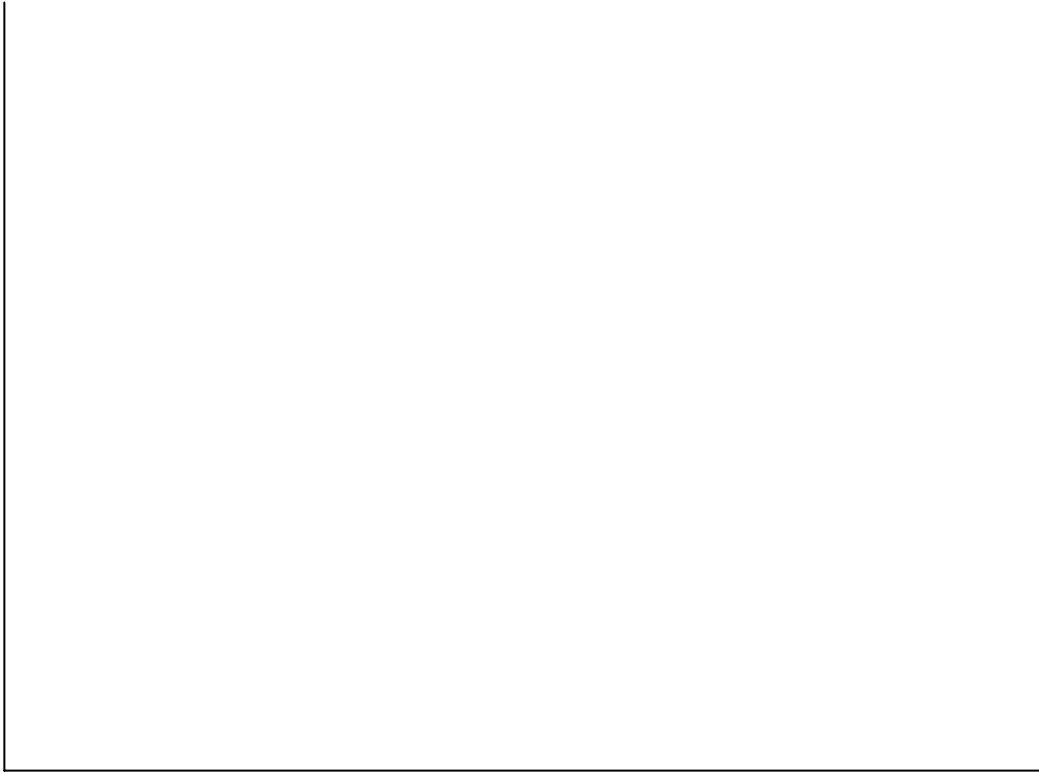
Revealed Preferences

- If we know the choices a consumer has made, we can determine what their preferences are if we have information about a sufficient number of choices that are made when prices and incomes vary.

Revealed Preferences – Two Budget Lines



Revealed Preferences – Two Budget Lines



Revealed Preference

- As you continue to change the budget line, individuals can tell you which basket they prefer to others
- The more the individual reveals, the more you can discern about their preferences
- Eventually you can map out an indifference curve

Revealed Preferences – Four Budget Lines

