Introduction to Microeconomics

Class 4

Optimal Choice: The MRS Condition

What determines consumption?

- Indifference curves (ICs)

- Budget constraint (BC)

[Figures 4.1a and 4.1b]

What determines consumption?

- Indifference curves (ICs)

- Budget constraint (BC)

[Figures 4.1a and 4.1b]

- Behavior is optimization

Where is the optimum?

[Figure 4.2]

Result: Optimal allocation

1) on the budget line

2) on difference curve furthest from origin (that touches the budget line)

Result: At the optimal choice IC just touches the BC

[Figure 4.2]

What happens to optimal choice when income increases?

[FIGURES EXTRA 1a, 1b, 1c]

What happens to optimal choice when price of good 1 increases?

[FIGURES EXTRA 2a, 2b, 2c]

Above we pursued a graphical description of the optimum.

- How to describe the optimum formally?

From Class 3 we know that:

Slope of BC: $-\frac{p_1}{p_2}$

Slope of IC: $\frac{\Delta x_2}{\Delta x_1}$

Result: Equal at the optimum!

Result (MRS Condition): At the optimum

$$\frac{\Delta x_2}{\Delta x_1} = -\frac{p_1}{p_2}.$$

(Formal characterization of the optimal choice)

What if

$$\frac{\Delta x_2}{\Delta x_1} = -\frac{p_1}{p_2}.$$

would not hold?

[Figure 4.3]

Summary 1:

- ICs and BC determine choice
- At the optimum

  IC just touches BC
- Optimum is economists'

  prediction/explanation of choice

Summary 2:

- Know how to draw BC

- Know how to draw ICs

- Know how to spot the optimum

(tangent condition!)

Work on Problem Set 2 by Wednesday!