

Seminar 2.

Task 1. The way to the university can be overcome by motorcycle or bus. If the weather is good, a motorcycle trip brings satisfaction (in monetary terms 10 coins/day), and if the weather is bad, then - dissatisfaction (-30 coins/day). The trip by bus regardless of the weather does not bring any satisfaction or dissatisfaction (0 coins/day), a monthly bus ticket costs 100 coins. The statistical probability of bad weather is 30%.

- a) Is it advisable to buy a monthly pass if you travel to the university 30 times a month?
- b) Suppose that before the beginning of the month you already have a monthly bus ticket. Will you use a motorcycle in good weather? What will be your opportunity costs?
- c) Your friend promised to buy your monthly bus ticket for the last 5 days of the month for 60 coins. Will this change your decision on point a)?

Task 2. Mykola spends 120 coins per month for the purchase of cigarettes (5 coins/ pack) and milk (2 coins/litre).

- a) Build the budget constraint, determine the slope of the budget line.
- b) At the suggestion of the Ministry of Health, cigarette prices were increased to 10 coins. How many goods will Mykola be able to consume?
- c) The increase in cigarette prices was criticized and rejected by the Parliament, and the government decided to provide subventions to milk producers: 50% of the price of milk is covered by the state. What are the possibilities of consumption facing Mykola?
- d) The mayor of Kyiv decided to encourage people to buy milk: when buying more than 8 litres of milk, 2 litres are given for free. What impact does this decision have? Illustrate it graphically.

Task 3. The telephone company "Mobile - for students" offers the following tariff: the first 50 minutes - free, the next 100 minutes - 0.25 coins per minute, all subsequent minutes cost 0.50 coins each.

- a) Build a graphical budget constraint, if you have only 400 coins for the phone and all other goods.
- b) How will the diagram change when tariffs are reduced for all minutes after the 150th to 0.25 coins?

Task 4. After classes, Sergiy goes to the cafe to rest. Each time he consumes one bottle of beer (10 coins) and 2 packets of salted nuts (5 coins/packet) and spends, as a rule, 150 coins.

- a) Draw the indifference curves for Sergiy. What is the marginal rate of substitution of these goods? What type are Sergiy's preferences?
- b) Determine the optimal consumption plan for Sergiy. How much does Sergiy spend?

Task 5. The student studies econometrics and economic theory for two semesters. The diploma includes the lowest score in econometrics and the highest in economic theory. Construct indifference curves for two subjects.

Task 6. There is a cup with 26 g coffee and 40 g cream. The addition of cream always increases the utility of the drink. If the amount of coffee exceeds 30 g, the additional coffee does not increase the utility of the drink, and with less coffee, its MRS is 0.5 g of cream / g of coffee.

- a) Construct the indifference curve for this cup.
- b) Is it profitable to exchange this cup for a cup of 28 g of coffee and 38 g of cream? Is it profitable to exchange this cup for a cup of 32 g of coffee and 37 g of cream?

c) The price of 1 g of coffee is 2.5 coins, 1 g cream - 1 coin. If an individual has 100 coins, what is the best drink he will consume?

Task 2.7. Ivan maximizes his utility function $u(x_1, x_2) = x_1x_2$, where x_1 - the number of pairs of jeans, x_2 - fashionable pants. His father gives him 600 coins. Each pair of jeans costs 60 coins, pants - 100 coins.

a) How many clothes should Ivan buy?

b) On the occasion of his birthday, his father promised to double his budget if he successfully passed the next exam. How many clothes will Ivan be able to buy?

c) Ivan did not pass the exam, but he can buy clothes at the store with a 40% discount. How much will he buy?

d) Unfortunately, Ivan missed discount sales. A friend told him that in the remote village of Hapay people sell jeans for only 50 coins. A friend offers to go together in his car, and Ivan needs to pay only half the cost of gasoline - 40 coins. Does Ivan need to go there?