5.

MERCHANDISE, UTILITY AND VALUE

PROBLEMS OF THIS THEME:

- *Goods, economic goods and merchandise*
- *Types of economic goods*
- *Economic utility and its measurement*
- *Individual – total – marginal utility*
- *The law of diminishing utility and saturation law*
- *Utility and disutility*
- *Measurement of utility*
- *Utility and value*
- *Theories regarding value*
- *Individual labor time and needed social time*

THEORETICAL FUNDAMETATIONS:

Economic good – a good that has certain qualities: result of economic activity, useful, rare, an effort is needed to get it, available and accessible.

Merchandise – an economic good without use value for its producer and useful for its non-producer and passes from the producer to the consumer by exchange in the market.

Economic utility – express the capacity of an economic good (real or supposed) to satisfy a human need. The measurement has a subjective basis, but also contains objective causes.

Individual utility – the satisfaction that one single unit is providing into a certain moment in time.

Total utility – is the satisfaction obtained as a result of the consumption of more than one unit from a good.

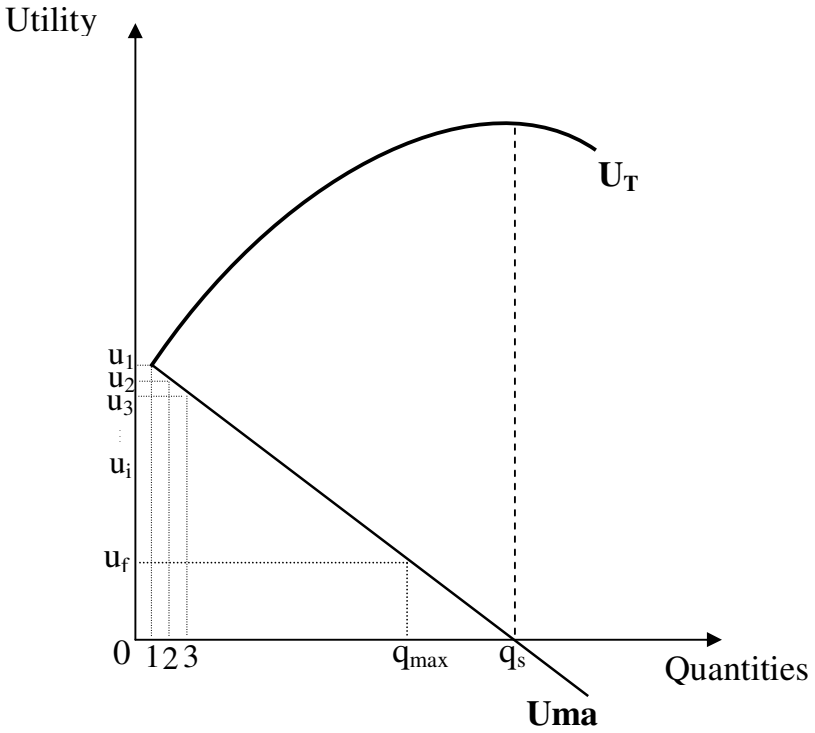
Marginal utility – the additional satisfaction, the increase in total utility, obtained when the quantity in consumption increases.

Marginal final utility – is the satisfaction given by the last unit consumed from one good.

QUESTIONS:

1. Reply at the next questions:
   a) A good is useful because it has value or it has value because it is useful?
   b) What are the differences between public and private goods?
   c) Can we have a society without public goods?
   d) What is the double determination of goods?
   e) What is and implies the economic utility?
   f) How can you explain the decrease of individual and marginal utility?
   g) The law of diminishing marginal utility is true in all cases?
   h) When the total utility obtained by the consumption of units from a certain good will be maximum?
   i) What are the main limits of the cardinal theory of value?
   j) Is the objective theory of value completely not compatible with the subjective theory?
   k) What kind of relation we can establish between the available quantity and its value according with the utility-value theory?

2. Analyze the next graph:



3. Is it possible to have cases when one and the same good can be at a certain moment or place useful and in another time and another place harmful? Explain.

4. Comment on: "The price is the money expression of the merchandise value"

RELATIONS, EXAMPLES AND MODELS

1. Formulas:

Total utility: $U_T = \sum u_i$

Total utility for more than one good: $U_T = \sum_j \sum_i u_{ij}$

Marginal utility: $Uma = \frac{\Delta U_T}{\Delta q}$ or $Uma = (U_T)'$

where: Δq = additional quantity.

If $\Delta q = 1$, then $Uma = \Delta U_T$ şi

$$Uma = U_T(k) - U_T(k\text{-}1) = \sum_1^k u_i - \sum_1^{k-1} u_i = u_k$$

where u_k is the individual utility of the k unit.

2. The evolution of the utility (individual, marginal, total) expresses the relations that come between needs and the utility of each unit consumed and sets the law of diminishing marginal value (Gossen).

Individual utility is decreasing:

$$u_1 > u_2 > \ldots > u_n$$

And the result is that marginal utility is decreasing, while the total utility will increase, and that increase will be smaller and smaller.

Example:

Assuming that individual utility from a certain good is appreciated by a consumer like:

Units	***1***	***2***	***3***	***4***	***5***	***6***	***7***
u_i *(utils)*	*50*	*40*	*30*	*20*	*10*	*0*	*(-2)*

In according with the diminishing marginal utility law successive quantities from the same good will generate satisfactions which will be smaller and smaller (50,40,30,..), arriving at a certain moment into a point

at which the satisfaction is 0 or negative. The saturation level comes for that moment at the consumption for which the total utility does not increase anymore.

3. Social needed time and social value:

Example:

Categories	***A***	***B***	***C***	***Total***
Nr of companies	30	60	80	170
Total production (units)	100000	750000	150000	1000000
Individual time (hours)	3	4	6	-
Individual value (hours)	3	4	6	-
Social needed time (hours)	*4*			-
Social value (hours)	*4*			-

- *Average producing time of 1 unit:*

a) As average of individual times:

$$\overline{m} = \frac{3+4+6}{3} = 4{,}33 \text{ hours, that means 4 hours and 20 minutes } \textbf{=> NU}$$

b) As average regarding the production:

$$mp = \frac{(100000*3)+(750000*4)+(150000*6)}{1000000} = 4{,}2 \text{ hours,}$$

That means 4 hours and 12 minutes ***=> NO***

- ***Social needed time = 4 hours****,*

Because most of the production is made in this time

4. The quantitative exchange rate between two goods is:

x merchandise A = y merchandise B

Determined according with the labor theory of value.

The social needed time for the production of A it is *y/x* times higher than that necessary for the production of B. The market prices will reflect the normal condition that exchange rate.

Example:

If the product A is realized in 10 hours and B in 20 hours than the exchange rate will be 20/10 (hours), so that:

2 unit. merchandise A = 1 unit. merchandise B

And normally the price for B will be double in comparison with the one for A.

PROBLEMS SOLVED

1. Assuming that we express the utility of a certain good as:

quantities	***1***	***2***	***3***	***4***	***5***	***6***	***7***
u_i *(utils)*	50	40	30	20	10	0	(-2)

A) Find the total and marginal utility considering the data's from the table above

B) What will be the final utility if we want and there are available 3 units from that good? What about the case with 4 units?

C) Starting from the results of the previous point and supposing that another good B has the final utility 20 which will be the exchange rate between those two goods?

SOLUTION:

A) See the table

B) $U_f = Uma(q^*)$,

From the table: $U_f = Uma(3) = 30$ *(utils)*

From the table: $U_f = Uma(4) = 20$ *(utils)*

Q.	1	2	3	4	5	6	7
u_i	50	40	30	20	10	0	(-2)
U_T	*0+50 =50*	*40+50 =90*	*90+30 =120*	*120+20 =140*	*140+12 0=150*	*150+0 =150*	*150-2 =148*
Uma	$\frac{50-0}{1-0}$ *=50*	$\frac{90-50}{2-1}$ *=40*	*=30*	*=20*	*=10*	*=0*	*=(-2)*
U_f	-	-	**30*	-	-	-	-
U_f	-	-	-	***20*	-	-	-

C) If Uf (A) = 30 utils and Uf (B) = 20 utils:

=> 1 unit. A = 1,5 unit. B

So, normally the price of A will be with 50% higher than the one for B.

if Uf (A) = 20 utils and Uf (B) = 20 utils:

=> 1 unit. A = 1 unit. B

So, normally the prices of those two goods will be equal

2. The function of the total utility is:

$$U_T = 80q - 10q^2.$$

A) What is the marginal utility in this case

B) What is the marginal utility of the 4^{th} unit?

C) What will be the maximum utility?

solution:

A) Uma = $(U_T)' = (80q - 10q^2)' = 80 - 20q$
*B) q = 2, Uma(2) = 80 - 20*2 = 40*
C) U_T = max when Uma = 0 => 80 - 20q = 0, de where q = 4
$U_T = 80*4 - 10*4^2 = 320 - 160 = 160.$

PROBLEMS TO BE SOLVED:

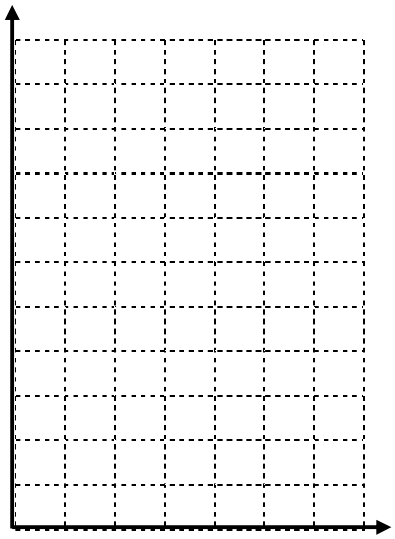
1. We know the following data's:

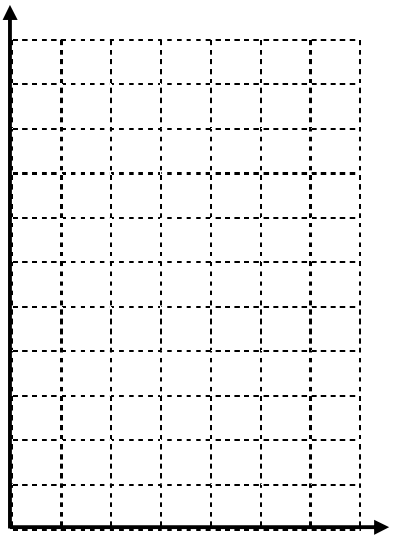
- *utils* -

Quantities	***1***	***2***	***3***	***4***	***5***	***6***
$\mathbf{u_i}$ (A)	60	50	40	30	20	10
$\mathbf{u_i}$ (B)	30	25	20	15	10	5

A) Find the total and marginal utility for each good. Draw the graph.

Quantities	***1***	***2***	***3***	***4***	***5***	***6***
$\mathbf{u_i}$ (A)	60	50	40	30	20	10
U_T (A)						
Uma (A)						
$\mathbf{u_i}$ (B)	30	25	20	15	10	5
U_T (A)						
Uma (A)						





B) What is the total utility that comes after the consumption of 4 units from A and 1 unit from B? What about 5 units from A and 3 units from B

C) If those are the available quantities what is the final utility in the case of each good?

D) What will be the exchange rate according with the value theory of good?

2. What will be the marginal utility from a certain good if with the consumption of one additional unit the utility increases from 55 to 60 (utils). What if the total utility will drop from 55 to 52(utils)?

3. Fill in the missing data's from the below table:

- utils -

Quantities	***1***	***2***	***3***	***4***	***5***	***6***
Uma	320	160		40		10
U_T			560		620	

4. The of the individual utility of different units from a certain good is is:

$$u_i = 60 - 10q$$

where: q = quantity in consumption

A) Fill in the missing data's:

- utils -

	1	***2***	***3***	***4***	***5***	***6***	***7***
u_i							
U_T							
Uma							

B) Draw the graph

C) What will be the maximum utility?

5. The function for the total utility for a certain good is:

$$U_T = 96q - 3q^2 - 3n$$

where: $n = [q]$, that means the natural part of q.

A) What will be the maximum utility that is possible to be achieved?

B) What is the marginal utility of the 4^{th} unit?

C) What is the marginal utility of the 7^{th} unit?

6. The function for the marginal utility is:

$$Uma = 200 - 20q$$

A) Find the total utility (function)
B) What will be the maximum utility that can be obtained?
C) What will be the total utility if the consumption is 4 units?

7. If the level of the final utility in the case of 3 goods is 50 utils for product A, 25 for B and 20 for C, what will be the exchange rate according with the value theory. In the situation that product B will be sold for 100 USD, what should be the prices for the other 2 goods?

8. If for realizing 3 products we need regularly: 50 hours for product A, 25 for B and 20 for C, what will be the exchange rate between the goods according with the labor theory of value. In the situation that product B will be sold for 100 USD, what should be the prices for the other 2 goods?

9. We know the following data's regarding the production conditions from a certain field of production:

Categories	**A**	**B**	**C**	**D**
Nr of companies	30	90	40	20
Total production (units)	10000	25000	45000	20000
Individual time (hours)	11	12	12,5	13
Individual value (hours)				
Social needed time (hours)				
Social value (hours)				

A) What will be in this case the needed social time and social value?
B) What kind of exchange rates can we establish?
C) What should be the price of the product in this case?