

ALLOCATING INCOME TO MAXIMIZE UTILITY

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Example: Total utility and Marginal utility of Trips to the Club per Week

Trips to the Club	Total Utility	Marginal Utility
1	12	12
2	22	10
3	28	6
4	32	4
5	34	2
6	34	0
7	30	-4

Explanation

- Suppose Individual A loves country music and a country band is playing seven nights a week at a club near his house
- How the utility he derives from the band changes as he goes to the club more and more frequently
- The marginal utility declines and becomes zero at 6th trip

How many times in one week Individual A go to the club to hear his favourite brand?

- Individual A's Income
- The price of admission to the club
- The alternatives available

Case I

- If the price of admission were zero and no and no alternatives existed
- How many times he would go to the club
- If the price of admission was \$4, how many nights he would go

- $MU_x = P_x$

Case II- Alternative is available

- Individual A is also a basketball fan
- His city has many good high school and college teams
- He can go to games six nights a week if he wants to

Law of Equi-marginal Utility (Gossen's Second Law)

Allocation of Fixed Expenditure per week between two Alternatives

Trips to Club	Total Utility (TU)	Marginal Utility (MU)	Price	MU per Price
1	12	12	3	4.0
2	22	10	3	3.3
3	28	6	3	2.0
4	32	4	3	1.3
5	34	2	3	.7
6	34	0	3	0
Basketball	Total Utility (TU)	Marginal Utility (MU)	Price	MU per Price
1	21	21	6	3.5
2	33	12	6	2.0
3	42	9	6	1.5
4	48	6	6	1.0
5	51	3	6	.5
6	51	0	6	0

No entry fee.....

- Assume that admission to both the country music club and the basket ball games is free
- There is no price/income constraint
- There is a time constraint

No entry fee.....

- First night- The decision is easy. Individual A will go to a basketball game
- Second night- The decision is not so easy. 12 utils as compared to 21 for the first basketball game
- In fact it is worth exactly the same as first trip to the club
- Individual A is indifferent-splits the next two nights
- To maximise total utility- Individual A is splitting his time between two activities that yields the most marginal utility

Let's introduce the entry cost....

- Suppose it costs \$3 to get into the club and \$6 to go to a basketball game
- Second assumption is suppose after paying rent and taking care of other expenses only \$21 left over to spend on entertainment
- Consumers allocate limited incomes or budgets over a large set of goods and services

- Income= \$21
 - Prices = \$3 & \$6
- } Budget
Constraint

Let's introduce the entry cost....

- Two activities are now having different costs- marginal utility per dollar spent on each activity needs to be calculated
- Utility maximising rule: $\frac{MU_x}{P_x} = \frac{MU_Y}{P_Y}$ for all goods