

Assignment 2

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Quantity	MU_h	MU_c	$\frac{MU_h}{P_h}$	$\frac{MU_c}{P_c}$	choice	remain budget
1	15	12	15	12	h_1, C_1	$7-1=6$
2	11	9	11	9	h_2, C_1	$6-1=5$
3	9	6	9	6	h_2, C_2	$5-1=4$
4	6	5	6	5	h_3, C_2	$4-1=3$
5	4	3	4	3	h_3, C_3	$3-1=2$
6	3	2	3	2	h_4, C_3	$2-1=1$
7	1	1	1	1	h_5, C_3	$1-1=0$

(a) If Belle has \$7 budget and both ham and cheese cost \$1 each, how many units of ham and cheese she should purchase to maximize her utility? Explain your method clearly.

Belle choose 1 more unit; it will provide her net benefit, so Belle buy the amount which net benefit for each product equal to each other

$\frac{MU_h}{P_h} = \frac{MU_c}{P_c}$ she can choose to buy 4 ham and 3 cheese to maximize

her utility and spend all of her budget.

(b) Provide a clear explanation why her utility will not be maximized if the condition that you apply in part a. is not yet satisfied.

To maximize the utility, it should be $MU=0$ which is not presented in the table and the budget would be insufficient.

$$\textcircled{2} \quad |MRS_{xy}| = \left| \frac{\Delta y}{\Delta x} \right| = \frac{MU_x}{MU_y} \quad \text{from point A to B} = \frac{MU_x}{MU_y} = \frac{9}{2}$$

(a) Measured from point A to B, assumed P_y is 10 baht per unit, how much P_x must be to make you conclude that the consumer's equilibrium is on point B?

$$\text{If A and B are on consumer's equilibrium} \quad \frac{MU_x}{P_x} = \frac{MU_y}{P_y}$$

$$\frac{9}{P_x} = \frac{2}{10}$$

$$P_x = 45 \quad \therefore P_x \text{ is } 45 \text{ baht / unit}$$

(b) Measured from point A to B, assumed P_x is 180 baht per unit, how much budget does this consumer has to achieve the equilibrium on point B?

$$\begin{aligned} \text{From } \frac{MU_x}{P_x} &= \frac{MU_y}{P_y} \quad ; \text{ if } P_x = 180 \text{ then } P_y = \frac{MU_y}{MU_x} \cdot P_x \\ &= \frac{2}{9} \cdot 180 \\ &= 40 \text{ baht / unit} \end{aligned}$$

Point B (4, 9)

$$\begin{aligned} \text{The budget should be } I &= P_x \cdot x + P_y \cdot y \\ &= (180 \cdot 4) + (40 \cdot 9) \\ &= 1080 \text{ baht} \end{aligned}$$

(c) Measured from point C to point D, how much is the average marginal utility per unit of avocado?

From C to B, the consumer gives up 9 units of nuts, which makes her utility decreased by 4 units from IC_2 to IC_1 .

From B to D, the consumer gained more 4 units of avocado, which makes her utility increased by 4 units from IC_1 to IC_2 .

$$\text{So that the average MU per unit avocado} = \frac{4}{4} = 1$$

(d) Show that this consumer's utility received from consuming avocado is in accordance with the law of diminishing marginal utility, using any essential information from any point. (But highly recommend that you consider all the points)

IC_1 from A to B; consumers gives up 9 units of nuts to have 2 more units of avocado (2 $\rightarrow$ 4 units)

IC_2 from C to D; consumers gives up 9 units of nuts to have 2 more units of avocado (4 $\rightarrow$ 8 units)

On both IC_1 and IC_2 , the $MU_{y(\text{nuts})}$ from 9 to 18 units are equal.

As it can be seen to get the same MU_y , consumer has to consume more avocado.

Therefore, the more avocado consumed, the less marginal utility remained associated to the law of diminishing marginal utility.