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#1 Demonstrate how PCC with varying price Py, (Px and Income are fixed) can give us the price elasticity of Y to be equal to, less than, or greater than 1 in absolute value

#2

7. A college student has two options for meals: eating at the dining hall for $6 per meal, or eating a Cup O' Soup for $1.50 per meal. Her weekly food budget is $60.

   a. Draw the budget constraint showing the trade-off between dining-hall meals and Cups O' Soup. Assuming that she spends equal amounts on both goods, draw an indifference curve showing the optimum choice. Label the optimum as point A.

   b. Suppose the price of a Cup O' Soup now rises to $2. Using your diagram from part (a), show the consequences of this change in price. Assume that our student now spends only 30 percent of her income on dining-hall meals. Label the new optimum as point B.

   c. What happened to the quantity of Cups O' Soup consumed as a result of this price change? What does this result say about the income and substitution effects? Explain.

   d. Use points A and B to draw a demand curve for Cup O' Soup. What is this type of good called?

#3

11. Economist George Stigler once wrote that, according to consumer theory, "if consumers do not buy less of a commodity when their incomes rise, they will surely buy less when the price of the commodity rises." Explain this statement using the concepts of income and substitution effects.

#1 Demonstrate how PCC with varying price Py, (Px and Income are fixed) can give us the price elasticity of Y to be equal to, less than, or greater than 1 in absolute value

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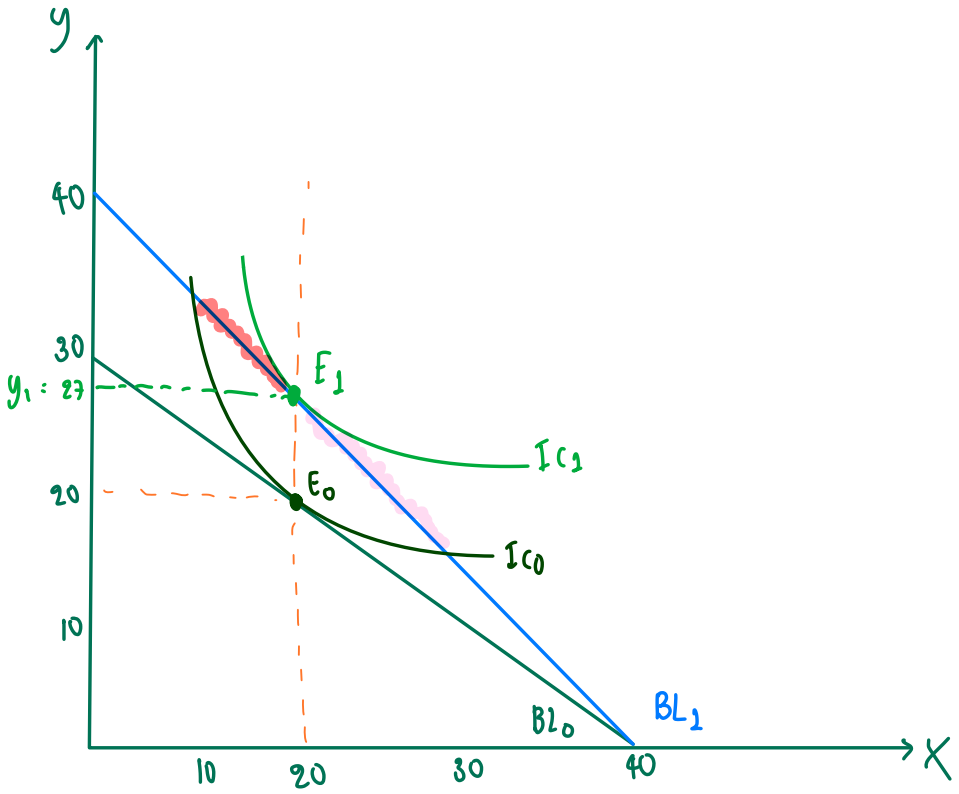
Incase Py increase



There are 2 goods, X and Y

price of X = 3

price of y = 4

Income = 120

$BL_0 = 3X + 4y = 120$

At point E_0 the consumer consumes 20 units of X and Y

Suppose that price of Y decrease to 2, while px and income are unchanged. So, the new BL will change to

$BL_1: 3x + 2y = 120$

The point that $\eta_y = \frac{\% \Delta Q_y}{\% \Delta P_y} = -1 \rightarrow |\eta_y| = 1$

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mid point elasticity

- $\%\Delta P_y = \frac{3-4}{\frac{3+4}{2}} \approx -30\%$, then $\%\Delta Q_y = 30\% \rightarrow |\eta_y| = 1$

↳ $\%\Delta Q_y = \frac{y_1 - y_0}{\frac{y_1 + y_0}{2}} \times 100 = 30$

$= \frac{y_1 - 20}{\frac{y_1 + 20}{2}} \times 100 = 30$, $y_2 \approx 27$

∴ If the consumer consumes 27 units of y, the will also consume 90 units of X, shown in point E_2

- If the Eq. point on [redacted] area, $\%\Delta Q_y$ will be $> 30\%$

then $|\eta_y| = \left| \frac{\%\Delta Q_y > 40\%}{40\%} \right| > 1.$

- If the Eq. point on [redacted] area, $\%\Delta Q_y$ will be $< 30\%$

then $|\eta_y| = \left| \frac{\%\Delta Q_y < 40\%}{40\%} \right| < 1$

#2 y x

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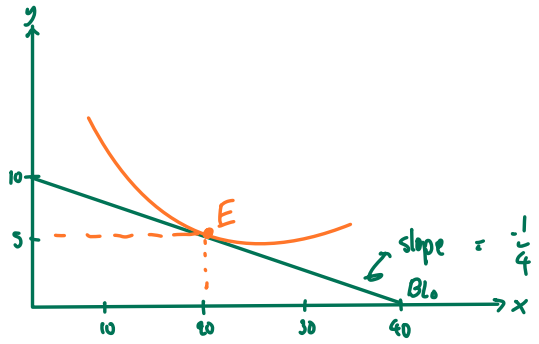
$BL_0 : 1.5x + 6y = 60$

a).



Spending all 60 $ on two goods : 30 for each x and y

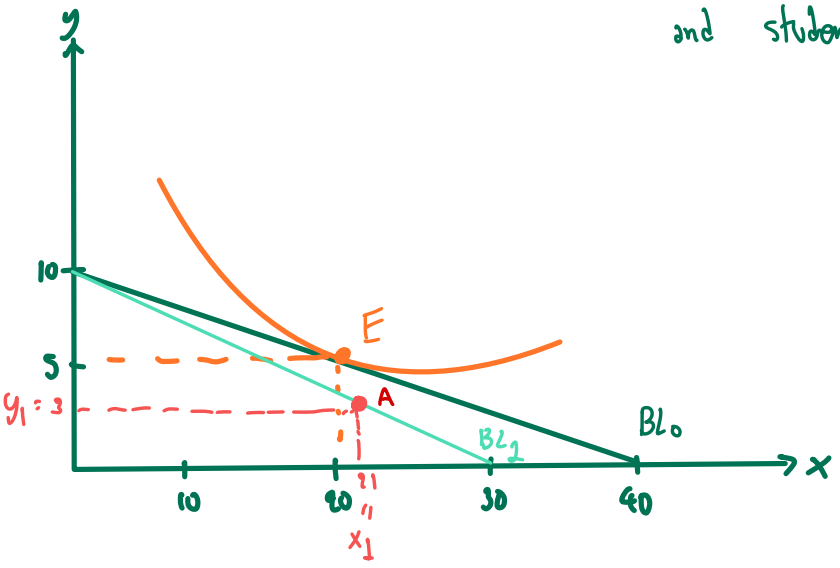
- for $x_0 = \frac{30}{1.5} = 20$
- for $y_0 = \frac{30}{6} = 5$

} $(20, 5)$ = point E

b.)

new $BL_1 : 2x + 6y = 60$

and student spend only 30 % on y



new Eq

$x_1 = \frac{60(0.7)}{2} = 21$

$y_1 = \frac{60(0.3)}{6} = 3$

} $(21, 3)$

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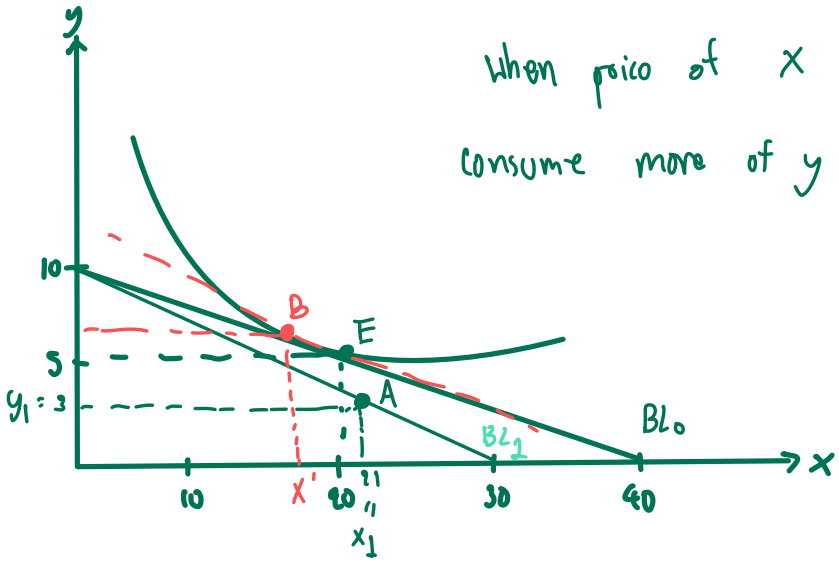
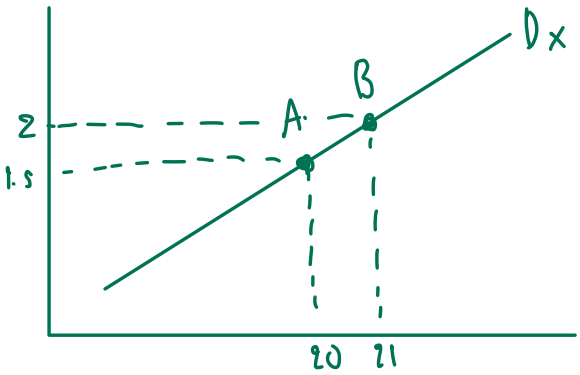
C.)



When price of X increase, people will consume more of y and less of x

d.)



This type of goods call "giffen goods" (violate the law of demand)

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#3

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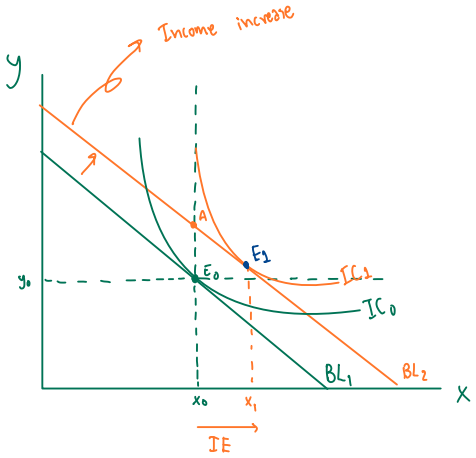
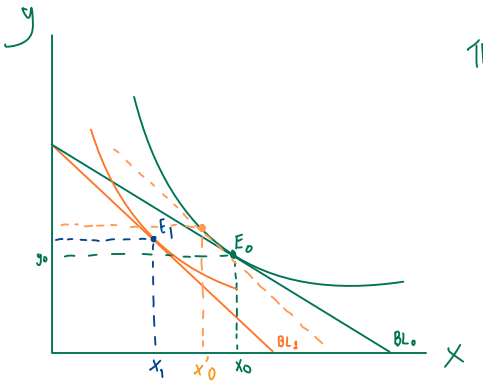


When incomes rise BL will shift to the right.

So, it will effect the Eq. change from E_0 to E_1

As the question mention that " if consumers do not buy less of a commodity when income rises " this sentence imply that the income effect is non negative, $\eta \geq 0$

the goods is normal.



When p_x increase

The buyers will buy less of x. Moreover, the income effect is also non negative, means that substitution effect and Income effect move in the same direction.