

#1 Demonstrate how PCC with varying price P_y , (P_x 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.

Equilibrium Condition:

Variable conditions:

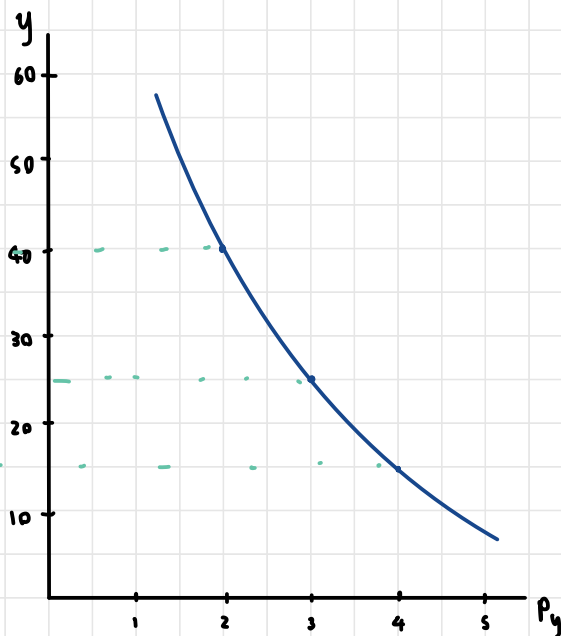
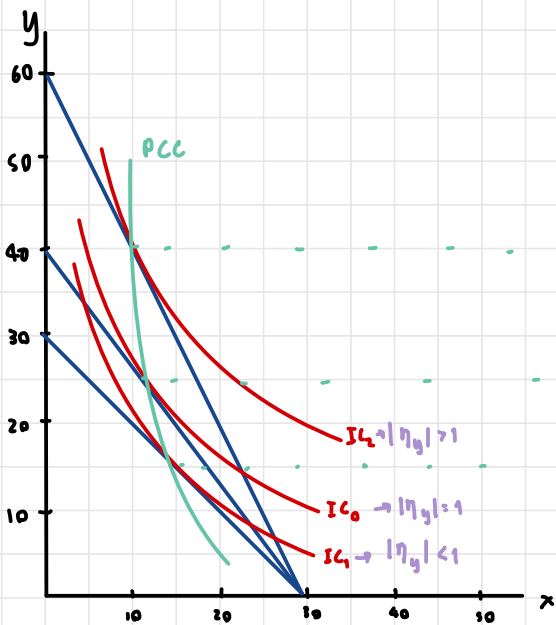
$$1) P_x x + P_y y = 120$$

$$P_x = 4$$

$$B = 120$$

$$2) \frac{MU(x_0, y_0)}{MU(x_0, y_0)} = \frac{P_x}{P_y}$$

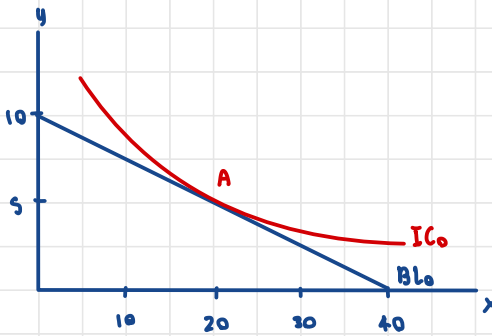
P_y various price = 2, 3, 4



2

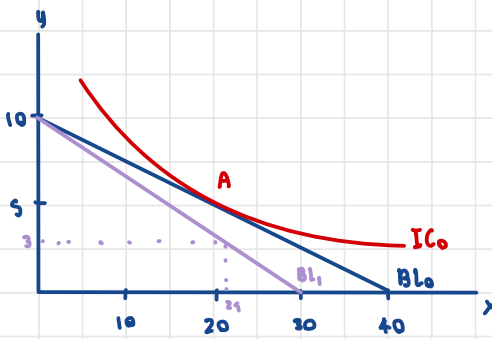
Let dining hall be y
eating a cup of soup x

$$BL_0 = 1.5x + 6y = 60$$



b.

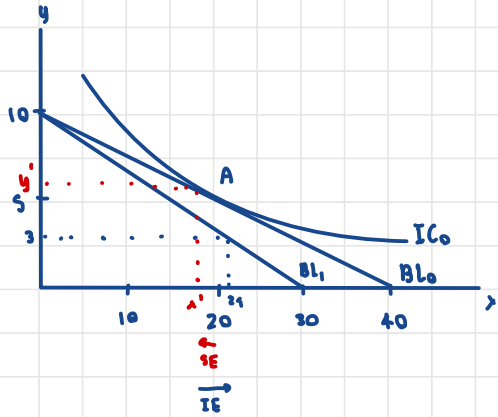
student spend only 30% of income

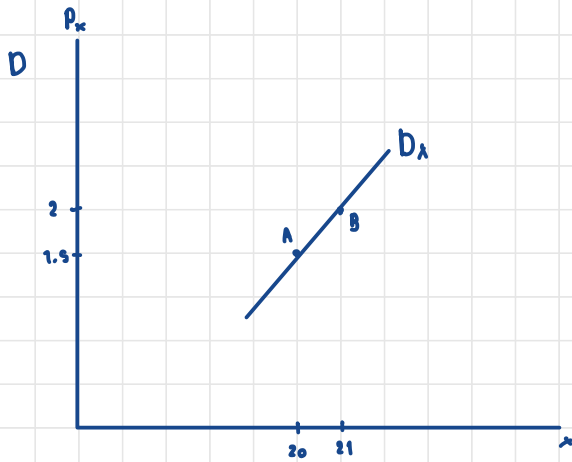


$$\left. \begin{aligned} x_1: 2x &= 60(0.7) \Rightarrow x_1 = 21 \\ y_1: 6y &= 60(0.3) \Rightarrow y_1 = 3 \end{aligned} \right\} B = (21, 3)$$

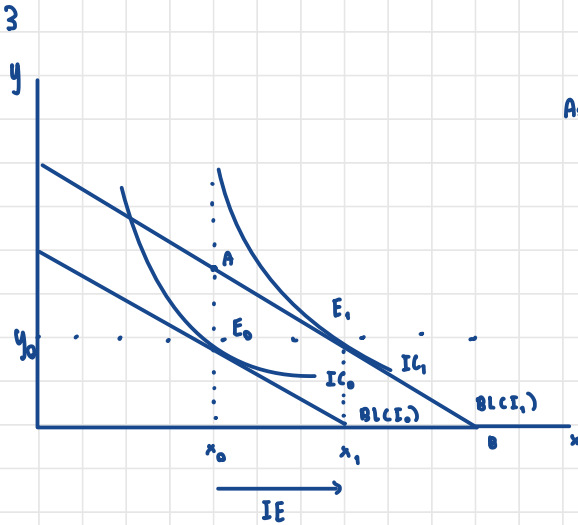
c. The consumption of x is higher when price of x increases

Income effect dominates substitution effect



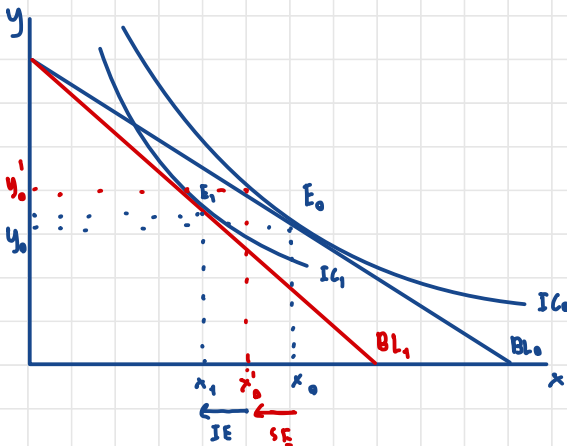


This type of goods is called "Giffen goods"
 (The goods in which the law of demand
 is violated)



Assume the commodity x is being analyzed

The first part of the statement.
 "If consumers do not buy less of a
 commodity when income rises" implicitly
 means that the Income effect is nonnegative
 i.e. $\eta_x > 0$; the goods is normal.



Suppose price of x increases.

It can be seen that the consumer will buy
 less of x . This can be guaranteed by the fact
 that the income effect is nonnegative.
 (substitution effect and income effect
 move in the same direction)