

Microeconomics

SUBJECT:

Assignment 3

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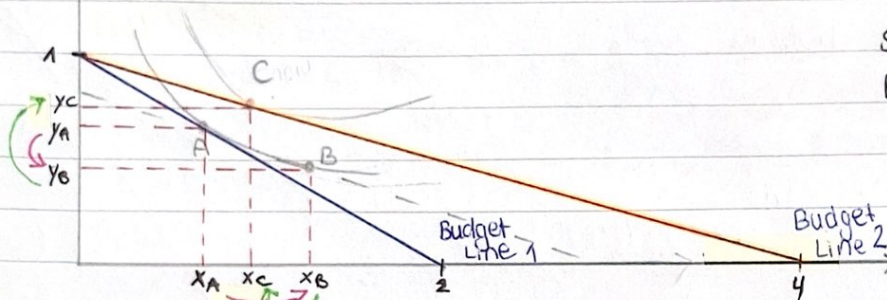
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18.11.21

1. exercise

1a) Pfizer y



$$I = P_x \cdot x + P_y \cdot y$$

$$40 = 20 \cdot x + 40 \cdot y$$

$$\text{If } x/y = 0$$

$$S: 40 = 20x \rightarrow x = 2$$

$$P: 40 = 40y \rightarrow y = 1$$

1b) Sinovac $\rightarrow$ **Inferior good** $P_{x_0} = \$10 \rightarrow 40 = 10x \rightarrow x = 4$
 when the price of x, decreases, x is considered an inferior good while y is a normal good. The price decrease of x depicts a rise in real income $\rightarrow$ more real income leads to less consumption of inferior goods

Substitution effect: $x_A \rightarrow x_B \rightarrow x$ goes up $\oplus$ $\Rightarrow$ IE of x must be $\ominus$
 $y_A \rightarrow y_B \rightarrow y$ goes down $\ominus$

Income effect: $x_B \rightarrow x_C \rightarrow x$ goes down $\ominus$
 $y_B \rightarrow y_C \rightarrow y$ goes up $\oplus$ Inferior goods: SE $>$ IE

2. exercise

2a) The new **short-run equilibrium quantity** is where $P_1 = SRMC_1$ on the Q-axis, it reduces from $Q_0 \rightarrow Q_1$.

$$P_1 \cdot Q_1 = \text{Total revenue}$$

$$SRAC_1 \cdot Q_1 = \text{Total costs}$$

$$\pi = TR - TC$$

Condition: If the price changes in short-run the quantity changes until $SRMC_1 = P_{new}$

$\rightarrow$ Graph on the next side

Double A

Cinnamon Ernst 6406930039

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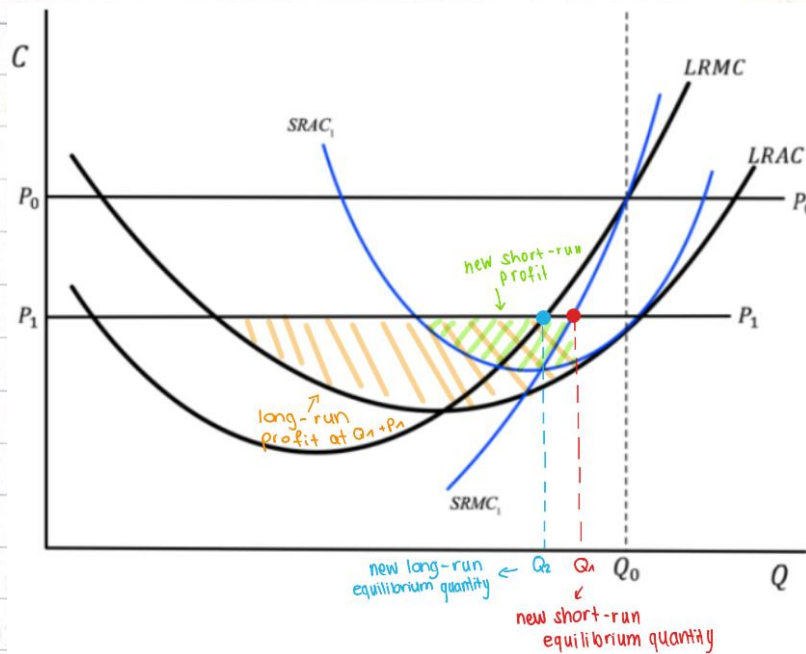
Assignment 3

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2b) As one can see in the graph the LRAC is below the SRAC that indicates that Long-run average costs are lower.

Therefore when having the same quantity Q_1 and Price P_1 in the long-run the profit must be higher.

→ orange profit long run is bigger than green profit short run

2c) The new long-run equilibrium quantity is where $P_1 = LRMC$ on the Q-axis, it reduces from $Q_0 \rightarrow Q_2$.

3. exercise

3a) If GPO wants to maximize profit, they should import 10 million doses, each dose can be sold for \$80. MR = SMC

Demand at MR = SMC

3b) $\pi = TR - TC$

Total revenue TR: $P \cdot q = \$80 \cdot 10 \text{ Mio} = \800 Mio

Total cost TC: $SAC \cdot q = \$65 \cdot 10 \text{ Mio} = \650 Mio

Profit π : $TR - TC = \$800 \text{ Mio} - \$650 \text{ Mio} = \$150 \text{ Mio}$

3c) **Fair Price:** set price at $P = AC/D$

$SAC = D \Rightarrow \$50 \text{ Price}$

$\Rightarrow 80 \text{ Mio doses}$

3d) If the government subsidizes each person only pays \$40 per dose without subvention \$48.

In total the government should subsidize:

$\$48 - \$40 = \$8 \rightarrow \$8 \cdot 20 \text{ Mio} = \160 Mio