Repaso Parcial 1c

Tuesday, September 24, 2019 4:04 PM

- Monopolista $\pi(q) = P(q)q - C(q)$

CPO $\frac{\partial P}{\partial q} \cdot q + P(q) - cmg = 0$

$P\left(\frac{\partial P}{\partial q} \cdot \frac{q}{P} + 1\right) = cmg$

$\varepsilon = \frac{\partial q}{\partial P} \cdot \frac{P}{q}$

$P\left(\frac{1}{\varepsilon_{q,P}} + 1\right) = cmg$

$P = \frac{cmg}{\left(\frac{1}{\varepsilon} + 1\right)}$

P^0

$P' = \frac{cmg + 10}{\left(\frac{1}{\varepsilon} + 1\right)} = \left(\frac{cmg}{\frac{1}{\varepsilon} + 1}\right) + \left(\frac{10}{\frac{1}{\varepsilon} + 1}\right)$

4 MARZO 2017 — 1 ABIERTA.

$U(x,y)$

$\bar{L} = 48$

$f_x(L_x)$

$f_y(L_y, X_y)$

a) PARETO:

$$\underset{X,Y,\,L_x,L_y,X_y}{\text{MAX}}\ U(x,y) \quad \text{S.t}$$

No es RELEVANTE

4

(1) NADIE ESTÉ PEOR

(2) Q' SEA FACTIBLE

$$X + X_y \leq f_x(L_x)$$

$$Y \leq f_y(L_y, X_y)$$

$$Y \leq f_Y(L_Y, X_Y)$$

$$L_X + L_Y \leq \bar{L} = 40$$

(b) EQUILIBRIO:

$$(X^*, Y^*, L_X^*, L_Y^*, X_Y^*) ; (P_X^*, P_Y^*, W^*) \quad \text{T.Q}$$

① EMPRESAS MAXIMIZAN:

$$L_X^* = \text{ARG} \max_{L_X} \pi_X = f_X(L_X) P_X^* - W^* L_X$$

$$(L_Y^*, X_Y^*) = \text{ARG} \max_{L_Y, X_Y} \pi_Y = f_Y(L_Y, X_Y) P_Y^* - W^* L_Y - P_X^* X_Y$$

② CONSUMIDORES MAXIMIZAN:

$$(X^*, Y^*) = \text{ARG} \max_{X,Y} \; U(X,Y) \quad \text{S.t.} \quad P_X^* X + P_Y^* Y \leq \bar{L} W^* + \pi_X^* + \pi_Y^*$$

X, Y

③ VACIEN LOS MERCADOS

$$X^* + X_Y^* = f_X(L_X^*)$$

$$Y^* = f_Y(L_Y^*, K_Y^*)$$

$$L_X^* + L_Y^* = \bar{L} = 40$$

APRIL 2009

$$A \rightarrow P_A = 100 - L_A \rightarrow L_A = 100 - P_A$$

$$B \rightarrow P_B = 60 - L_B \rightarrow L_B = 60 - P_B$$

1 EMPRESA $\quad C = \frac{1}{2} L^2 = \frac{1}{2}(L_A + L_B)^2$

1 EMPRESA $C = \frac{1}{2}L^2 = \frac{1}{2}(L_A + L_B)$

a) MONOPOLISTA CLÁSICO → 1 PRECIO (SOLO)

$L_A = 100 - P_A$

$L_B = 60 - P_B$

~~160 − 2P~~

$$L = \begin{cases} 160 - 2P & P \le 60 \\ 100 - P & 60 \le P \le 100 \\ 0 & P \ge 100 \end{cases}$$

SI $P \le 60$

$\Pi = (160 - 2P)P - \frac{1}{2}(160 - 2P)^2$

CPO

$\frac{\partial \Pi}{\partial P} = 160 - 4P + 2(160 - 2P) = 0$

SI $60 \le P \le 100$

$\Pi = (100 - P)P - \frac{1}{2}(100 - P)^2$

$\frac{\partial \Pi}{\partial P} = 100 - 2P + (100 - P) = 0$

$\frac{\partial \Pi}{\partial P} = 160 - 4P + 2(160 - 2P) = 0$

$160 - 4P + 320 - 4P = 0$

$480 = 8P$

$60 = P$

$\Pi^e(60) = (160-120)60 - \frac{1}{2}(160-120)^2$

$= 40(60) - \frac{1}{2}(40)^2$

$= 1600$

$\frac{\partial \Pi}{\partial P} = 100 - 2P + 2(100 - 2P) = 0$

$200 - 3P = 0$

$\frac{200}{3} = P$

$66.6 = P$

$\Pi^e(66.6) = (100-66.6)66.6 - \frac{1}{2}(100-66.6)^2$

$= (33.3)(66.6) - \frac{1}{2}(33.3)^2$

$= 1,666$

$P = 66.6$

b) 1er GRADO

$CMg = L_A + L_B$

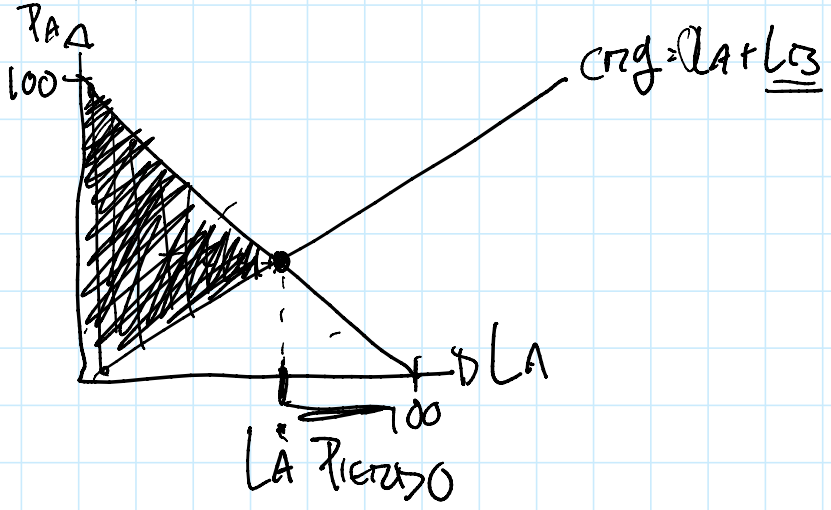
$CT = \frac{1}{2}L^2 = \frac{1}{2}(L_A + L_B)^2$

(2)

(b) 1er MERCADO

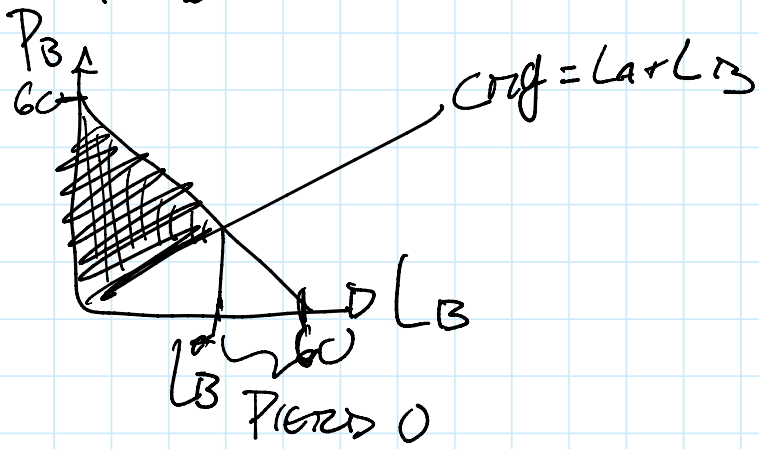
(A)

$P_A = 100 - L_A$



(B)

$P_B = 60 - L_B$



$100 - L_A = L_A + L_B$

$60 - L_B = L_A + L_B$

$\Rightarrow 100 = 2L_A + L_B$

$60 = L_A + 2L_B$ $\cdot(-2)$

$-200 = -4L_A - 2L_B$

$-140 = -3L_A$

$\frac{140}{3} = L_A = 46.6$

$P_B = 100 - 2L_A = 100 - 46.6(2)$

$$L_B = 100 - 2L_A = 100 - 46.6(2)$$

$$\boxed{L_B = 6.6}$$

3er Grado

$$\underset{P_A, P_B}{\Pi} = (100 - P_A)P_A + (60 - P_B)P_B - \frac{1}{2}\left(\underbrace{100 - P_A}_{L_A} + \underbrace{60 - P_B}_{L_B}\right)^2$$

CPO

$$\frac{\partial \Pi}{P_A} = 100 - 2P_A + (100 - P_A + 60 - P_B) = 0$$

$$\frac{\partial \Pi}{\partial P_B} = 60 - 2P_B + (100 - P_A + 60 - P_B) = 0$$

$$\Rightarrow 260 - 3P_A - P_B = 0$$

$$\Rightarrow 220 - P_A - 3P_B = 0 \quad \Big) \; (3)$$

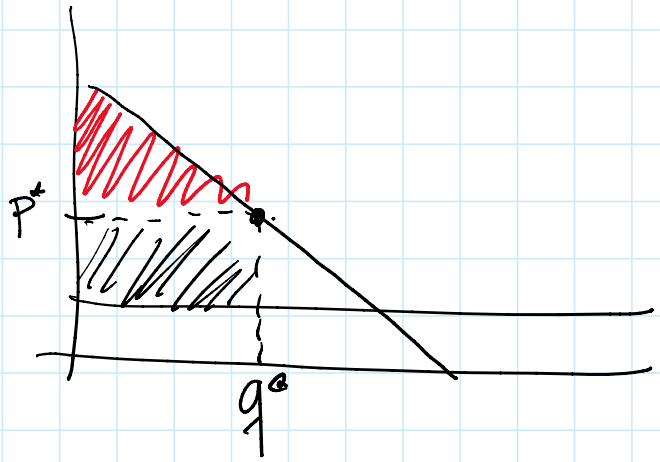
$$\Rightarrow 220 - P_A - 3P_B = 0$$

$$-780 + 9P_A + 3P_B = 0$$

$$-560 + 8P_A = 0$$

$$P_A = \frac{560}{8} = 70$$

$$P_B = 260 - 3P_A = 260 - 210 = 50$$



$$\text{MAX} \quad \pi + \text{FEE} = \int_0^{q^*} P^* - C + \int_0^{q^*} P(q) - P^*$$

$$= \int_0^{q^*} (P(q) - C)\,dq$$

$$\frac{\partial \pi}{\partial q^*} = P(q^*) - C = 0$$

$$P(q^*) = C$$

$P(\not{q}) = C$

//

29 Sep 2018 → 0 0,M.

$P_x = 10$ $\quad Z_x = 10$

$P_y = 5$

$P_z = 1$

$P \cdot Z = 0$

$P_x Z_x + P_y Z_y + P_z Z_z = 0$

$10(10) + 5 Z_y + 1 Z_z = 0$

$5 Z_y + Z_z = -100$

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OTOÑO 2018 (2)

OTOÑO 2018 (2)

- $U_M = X_M Y_M$

  $U_6 = X_6 Y_6$

  $W_M = (100, 300)$

  $W_6 = (100, 100)$

a) **O.P.:**

$$\underset{X_M, X_6, Y_M, Y_6}{\text{MAX}} \; X_M Y_M \quad \text{S.a.} \quad \left.\begin{array}{l} X_6 Y_6 \geq \overline{U_6} \\ X_M + X_6 \leq 200 \\ Y_M + Y_6 \leq 400 \end{array}\right\} (200 - X_M)(400 - Y_M) \geq \overline{U_6}$$

POR MONOTONÍA

$$\mathcal{L} = X_M Y_M + \lambda\left((200 - X_M)(400 - Y_M) - \overline{U_6}\right)$$

$$\frac{\partial \mathcal{L}}{\partial X_M} = Y_M - \lambda(400 - Y_M) = 0$$

$$\frac{\partial f}{\partial X_m} = Y_m - \lambda\left(400 - X_m\right) = 0$$

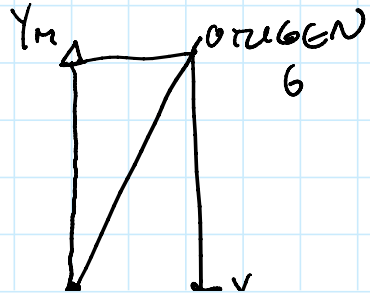
$$\frac{\partial f}{\partial Y_m} = X_m - \lambda\left(200 - X_m\right) = 0$$

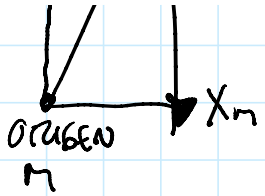
$$\frac{Y_m}{X_m} = \frac{400 - Y_m}{200 - X_m}$$

$$200 Y_m - Y_m X_m = 400 X_m - Y_m X_m$$

$$\boxed{Y_m = 2 X_m}$$

CURVA CONTRATO / OPTIMOS PARETO





D $\left(x_m^*, y_m^*, x_c^*, y_c^*, P_x^*, P_y^*\right)$ T.G. ① M y C MAXIMIZAN ② VACIAN MERCADOS

$$\text{MAX } xy \quad \text{S.t. } P_x x + P_y y \leq \underbrace{P_x W_x}_{\text{DOTACION}} + \underbrace{P_y W_y}_{\text{DOTACION}}$$

$$\mathcal{L} = xy + \lambda\left(P_x W_x + P_y W_y - P_x x - P_y y\right)$$

CPO

$$\frac{\partial \mathcal{L}}{\partial x} = y - \lambda P_x = 0$$

$$\frac{\partial \mathcal{L}}{\partial y} = x - \lambda P_y = 0$$

$$\frac{y}{x} = \frac{P_x}{P_y} \Rightarrow y = \frac{P_x}{P_y} x$$

$$\frac{y}{x} = \frac{P_x}{P_y} \Rightarrow y = \frac{P_x}{P_y} x$$

$$P_x W_x + P_y W_y = x P_x + y P_y$$

$$= x P_x + \frac{P_x}{P_y} x P_y$$

$$= 2 P_x X$$

$$\frac{P_x W_x + P_y W_y}{2 P_x} = X^R$$

$$\frac{P_x W_x + P_y W_y}{2 P_y} = Y^R$$

$$X_M = \frac{P_x 100 + P_y 300}{2 P_x}$$

$$X_6 = \frac{100 P_x + 100 P_y}{2 P_x}$$

$$X_C = \frac{300 P_x + 100 P_y}{2 P_x}$$

PARTE ©

② VACIEN MCDOS:

$$\frac{100 P_x + 300 P_y}{2 P_x} \qquad \frac{100 P_x + 100 P_y}{2 P_x} \qquad 200$$

$$\underbrace{\frac{100P_x + 300P_y}{2P_x}}_{X_m} + \underbrace{\frac{100P_x + 100P_y}{2P_x}}_{X_o} = 200$$

$$\frac{200P_x + 400P_y}{2P_x} = 200$$

$$200P_x + 400P_y = 400P_x$$

$$400P_y = 200P_x$$

$$\boxed{\frac{P_y}{P_x} = 1/2}$$

$$X_m = \frac{100P_x + 300P_y}{2P_x} = 50 + 150\frac{P_y}{P_x} = 50 + \frac{150}{2}$$

$= 50 + 75 = 125$

(c) $V_c = X_c Y_c$

$W_c = (300, 100)$

$$\underbrace{\frac{300P_x + 100P_y}{2P_x}}_{X_c} + \underbrace{\frac{100P_x + 300P_y}{2P_x}}_{X_m} + \underbrace{\frac{100P_x + 100P_y}{2P_x}}_{X_o} = 200 + 300$$

$$\frac{500P_x + 500P_x}{2P_x} = 500$$

$P_x + P_y = 2P_x$

$P_y = P_x$ → $X^m =$

$X^o =$

$P_Y = P_X$ → x^0 =

x^c =

(d)