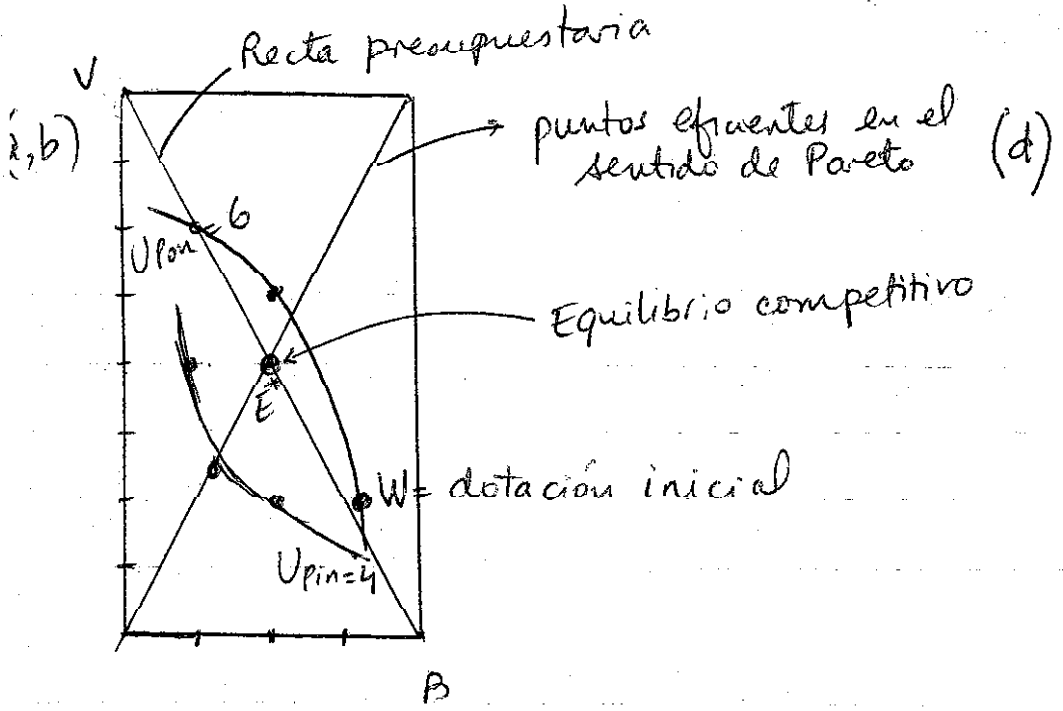
# 1er parcial Micro II - 2006
## Respuestas

Ejercicio 1

$\omega_B^1 = 3 \quad \omega_B^2 = 1$
$\omega_V^1 = 2 \quad \omega_V^2 = 6$

$U(B_1, V_1) = B_1 V_1$
$U(B_2, V_2) = B_2 V_2$




(c) $RMS: \dfrac{dV_i}{dB_i} = -\dfrac{\partial U/\partial B_i}{\partial U/\partial V_i} = \dfrac{V_i}{B_i}$ para $i = 1, 2$

$$\boxed{\frac{V_1}{B_1} = \frac{V_2}{B_2}}$$

(d) ver gráfico

$$\left.\begin{aligned} \frac{V_1}{B_1} &= \frac{V_2}{B_2} \\ V_1 + V_2 &= 8 \\ B_1 + B_2 &= 4 \end{aligned}\right\} \quad \frac{V_1}{B_1} = \frac{8 - V_1}{4 - B_1} \rightarrow V_1 4 - B_1 V_1 = 8B_1 - B_1 V_1$$

$$\boxed{V_1 = 2B_1}$$

Puntos eficientes en el sentido de Pareto

(e) $\frac{\partial V_1}{\partial B_1} = \frac{V_1}{B_1} = \frac{2B_1}{B_1} = 2$

$$\frac{P_b}{P_v} = 2$$

(f) $V_1 = 2B_1$

Asumo $P_v = 1$

$B_1 P_b + V_1 = 3P_b + 2$

Si $P_b = 2 \rightarrow \begin{cases} 2B_1 + V_1 = 8 \\ V_1 = 2B_1 \end{cases}$

$2B_1 + 2B_1 = 8$

$$\boxed{\begin{array}{l} B_1 = 2 \\ V_1 = 4 \end{array}}$$

(g) ver gráfico

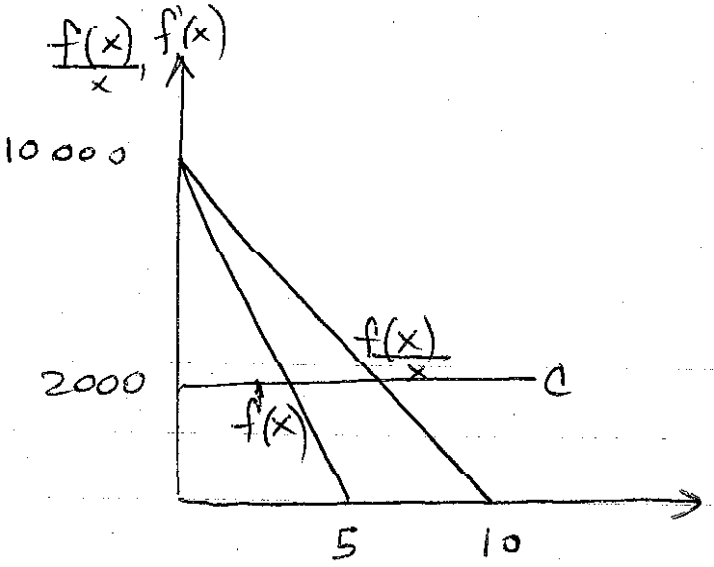
Ejercicio 2

2000 = costo barca

Ingresos: $f(x) = 1000(10x - x^2)$

(a) $PMe(x) = \frac{f(x)}{x} = 1000(10 - x)$

$PMg(x) = f'(x) = 1000(10 - 2x)$




(b) $\frac{f(x)}{x} - 2000 = 0$

$1000(10 - x) = 2000$

$\boxed{x = 8}$

(c) $f'(x) = 2000$

$1000(10 - 2x) = 2000$

$\boxed{x = 4}$

d) $\frac{f(x)}{x} = 2000 + L$

$\frac{f(4)}{4} = 1000 \times 6 = 6000 = 2000 + L \rightarrow \boxed{L = 4000}$

Ejercicio 3

$$U_i(x, Y_i) = X^{3/4} Y_i^{1/4}$$

$I = 1000 \qquad P_x = 1 \qquad P_y = 10$

(a) $RMS_i = -\left.\frac{dY_i}{dX_i}\right|_{\bar{U}} + \frac{\partial U/\partial X}{\partial U/\partial Y} = + \left( \frac{3/4\, X^{-1/4} Y_i^{1/4}}{1/4\, X^{3/4} Y_i^{-3/4}} \right) = \frac{+3Y_i}{X_i}$

~~Equilibrio competitivo~~ : Condición de primer orden

$$RMS_i = \frac{P_x}{P_y}$$

$$\frac{3Y_i}{X_i} = \frac{1}{10} \rightarrow 30 Y_i = X_i$$

Restricción presupuestaria : $P_x X_i + P_y Y_i = 1000$

$$X_i + 10 Y_i = 1000$$

Usando las dos restricciones :

$$30 Y_i + 10 Y_i = 1000$$

$$\boxed{\begin{array}{l} Y_i = 25 \\ X_i = 750 \end{array}}$$

$$U_i = (750)^{3/4} (25)^{1/4}$$

(b) $X_i = 0 \qquad$ para $i = 1, 2$

(c) $\frac{3Y_1}{X} + \frac{3Y_2}{X} = \frac{P_X}{P_Y} = \frac{1}{10}$

$$\begin{cases} 30(Y_1 + Y_2) = X & \text{(condición de óptimo)} \\ X + 10(Y_1 + Y_2) = 2000 & \text{(restricción presupuestaria conjunta)} \end{cases}$$

$$\rightarrow 30(Y_1 + Y_2) + 10(Y_1 + Y_2) = 2000$$

$$Y_1 + Y_2 = \frac{2000}{40} = 50$$

$$\boxed{\begin{array}{l} Y_1 = Y_2 = 25 \\ \\ X = 30(50) = 1500 \end{array}}$$

(d) $U_d = (1500)^{3/4}(25)^{1/4}$

$U^d > U^a$

Sí, se justifica