Repaso Parcial 2b

Thursday, October 24, 2019 5:32 PM

4:02 PM

	w	x	y
f	0,2	0,2	10,1
g	-1,-1	3,2	-6,-3
h	0,-1	2,1	4,0

$x >> y$

$P_y = 0$

└ F.B.C No es una opcion

O.P

(f, w) ✓

(f, x) ✓

(f, y) ✓

(g, w) ✗ (f, y) lo Pareto Domina

(g, x) ✗ (f, y) P. Domina

(g, y) ✗ " "

(h, w) ✗ " "

(h, x) ✗ " "

(h, y) ✗ " "

Opcion B

$\sigma_A = \left(0, \frac{1}{3}, \frac{2}{3}\right)$

$\sigma_B = \left(\frac{1}{2}, \frac{1}{2}, 0\right)$

Ana

$\mathbb{E}(U_A(f, \sigma_B)) = \frac{1}{2}0 + \frac{1}{2}0 = 0$

$\mathbb{E}(U_A(g, \sigma_B)) = (-1)\frac{1}{2} + 3\left(\frac{1}{2}\right) = 1$

$\mathbb{E}(U_A(h, \sigma_B)) = 0\frac{1}{2} + 2\left(\frac{1}{2}\right) = 1$

$MR_A(\sigma_B) = (0, q, 1-q)$

Ana si Mejor Responde

Beto

$\mathbb{E}(U_B(\sigma_A, w)) = 2 \cdot 0 + -1\left(\frac{1}{3}\right) + (-1)\left(\frac{2}{3}\right) = -1$

$\mathbb{E}(U_B(\sigma_A, x)) = 2 \cdot 0 + (-2)\left(\frac{1}{3}\right) + 1\left(\frac{2}{3}\right) = 0$

$MR_B(\sigma_A) = (0, 1, 0)$

No es E.N.

$= 0$ No es E.N.

$\mathbb{E}(U_B(\sigma_A, X)) = 2\cdot 0 + (-2)(\frac{1}{3}) + 1(\frac{1}{3})$

a) $\boxed{\sigma_A = (0, \frac{2}{3}, \frac{1}{3}) \quad \sigma_B = (\frac{1}{2}, \frac{1}{2}, 0)}$

ANA

$\mathbb{E}(U_A(f, \sigma_B)) = \frac{1}{2}0 + \frac{1}{2}0 = 0$

$\mathbb{E}(U_A(g, \sigma_B)) = (-1)\frac{1}{2} + 3(\frac{1}{2}) = 1$

$\mathbb{E}(U_A(h, \sigma_B)) = 0\frac{1}{2} + 2(\frac{1}{2}) = 1$

$MR_A(\sigma_B) = (0, q, 1-q)$

ANA SI MEJOR RESPONDE

BETO

$\mathbb{E}(U_B(\sigma_A, W)) = 0\cdot 2 + -1(\frac{2}{3}) + (-1)(\frac{1}{3}) = -1$

$\mathbb{E}(U_B(\sigma_A, X)) = 0\cdot 2 + -2(\frac{2}{3}) + 1(\frac{1}{3}) = -1$

$MR_B(\sigma_A) = (P, 1-P, 0)$

BETO SI ESTA MEJOR RESP.

LARGO $\sigma_B = (P_W, 1-P_W, 0)$

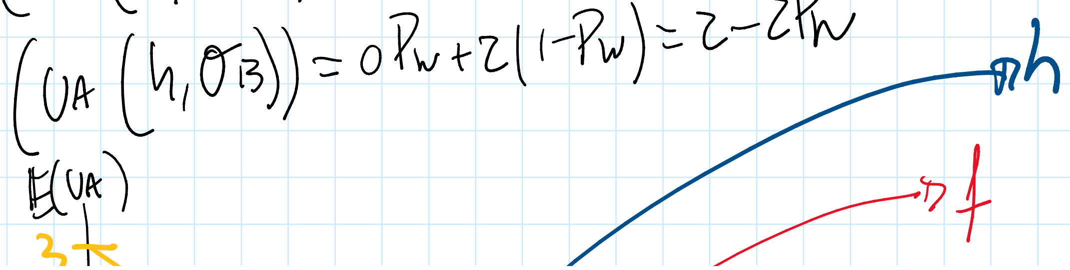
$\mathbb{E}(U_A(f, \sigma_B)) = 0P_W + 0(1-P_W) = 0$

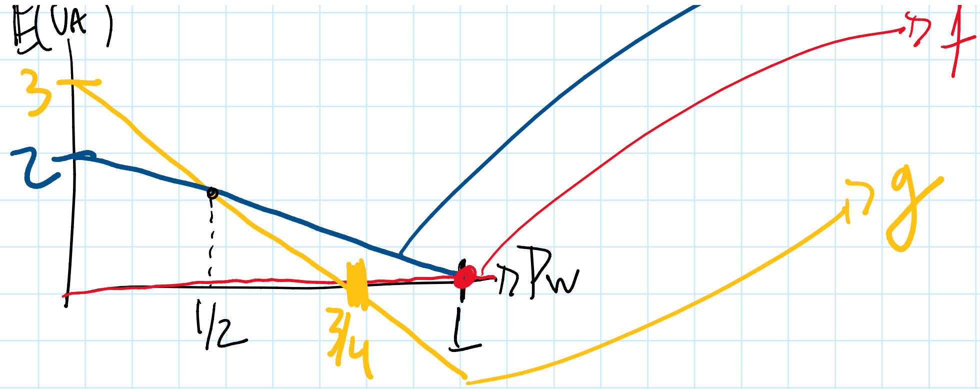
$\mathbb{E}(U_A(g, \sigma_B)) = -1P_W + 3(1-P_W) = 3 - 4P_W$

$\mathbb{E}(U_A(h, \sigma_B)) = 0P_W + 2(1-P_W) = 2 - 2P_W$

$3 - 4P_W = 2 - 2P_W$

$1 = 2P_W$





$1 = 2P_w$

$\frac{1}{2} = P_w$

$$MR_A(\sigma_B) = \begin{cases} (0,1,0) & \text{si } P_w \le 1/2 \\ (0,P,1-P) & P_w = 1/2 \\ (0,0,1) & 1/2 < P_w < 1 \\ (P,0,1-P) & P_w = 1 \end{cases}$$

<u>Beto</u> $\sigma_A = (P_f, P_g, 1-P_f-P_g)$

$$\mathbb{E}(U_B(\sigma_A, W)) = 2P_f + (-1)P_g + (-1)(1-P_f-P_g)$$
$$= 2P_f - P_g - 1 + P_f + P_g = 3P_f - 1$$

$$\mathbb{E}(U_B(\sigma_A, X)) \Rightarrow 2P_f + (-2)P_g + (1)(1-P_f-P_g)$$
$$= 2P_f - 2P_g + 1 - P_f - P_g$$
$$= P_f - 3P_g + 1$$

$W >> X$ ssi $3P_f - 1 > P_f - 3P_g + 1$

$$2P_f + 3P_g > 2$$

$$P_f + \frac{3}{2}P_g > 1$$

$W \sim X \qquad P_f + \frac{3}{2} P_g = 1$

$W \prec\prec X \qquad P_f + \frac{3}{2} P_g < 1$

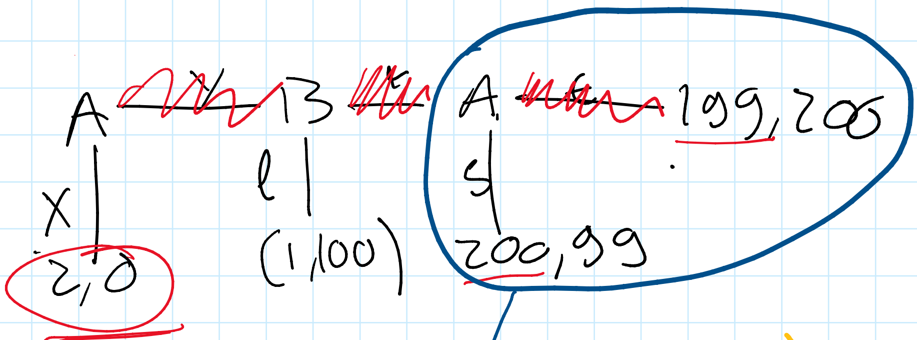
$$MR_B(\sigma_A) = \begin{cases} (1,0,0) & \text{si } P_f + \frac{3}{2}P_g > 1 \\ (q, 1-q, 0) & \text{si } P_f + \frac{3}{2}P_g = 1 \\ (0,1,0) & \text{si } P_f + \frac{3}{2}P_g < 1 \end{cases}$$

Caso 1

¿Es $\sigma_A = (0,1,0)$ un E.N.? $\Rightarrow P_f = 0$, $P_g = 1$, $P_h = 0$

$MR_B(\sigma_A) = (1,0,0)$

$\underbrace{MR_A(1,0,0)}_{P_w = 1} = (P, 0, 1-P)$ $\Rightarrow$ No es E.N.



	l	r
XS	2,0	4,0
XE	2,0	2,0
YS	1,100	200,99
YE	1,100	199,200

O.P.

EN = (XS, l) $\Rightarrow$ EPS

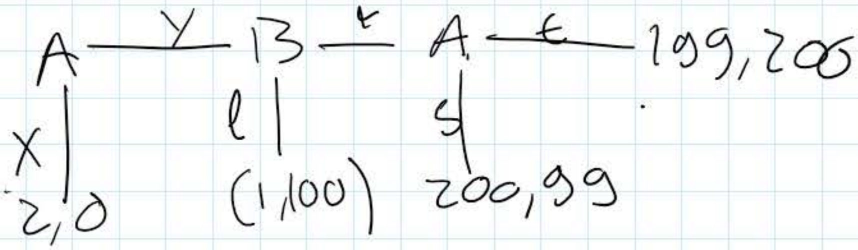
(XE, l)

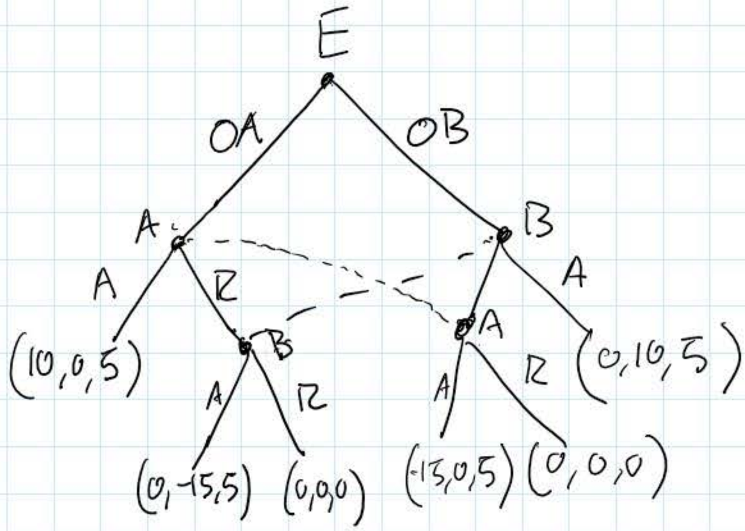
$\Rightarrow$ E no es óptimo

Y s	1,100	200,99
Y t	1,100	199,200

O.P.

ME NO ES OPTIMO





$S_E = \{OA, OB\}$

$S_A = \{A, R\}$

$S_B = \{A, R\}$

$(O_A, \boxed{A, A}) = 10,0,5$

$(O_A, A, R) = 10,0,5$

$(O_A, R, A) = 0,-15,5$

$(O_A, R, R) = 0,0,0$

$(O_B, \boxed{A, A}) = 0,10,5$

$(O_B, A, R) = -15,0,5$

$(O_B, R, A) = 0,10,5$

$(O_B, R, R) = 0,0,0$

EMPRESA ↓ BETO ↓

$MR_A(O_A, A) = A$

$MR_A(O_A, R) = A$

(O_A, A, A) ES UN E.N.

(O_A, A, A) ES UN E.N.

EMPRESA $\quad MR_E(\underset{\text{ANA}}{A}, \underset{\text{BETO}}{A}) = \left\{ \begin{array}{l} \boxed{O_A} \\ O_B \end{array} \right.$ ✓

ANA $\quad MR_A(O_A, \overset{\text{BETO}}{A}) = A$ ✓

BETO $\quad MR_B(O_A, \underset{\text{ANA}}{A}) = \left\{ \begin{array}{l} A \\ R \end{array} \right.$ ✓

SI ES UN EN. TODOS JUEGAN LA MR

$(\sigma_E = (\tfrac{1}{2}, \tfrac{1}{2}), R, R)$ ES UN E.N.

$MR_E(R, R) = (P, 1-P) \quad P \in [0, 1]$ ✓

$\cancel{MR_A(\sigma_E, R) =}$

$E(U_A(\sigma_E, A, R)) = 10\tfrac{1}{2} + (-15)\tfrac{1}{2} = -\tfrac{5}{2}$

$E(U_A(\sigma_E, R, R)) = 0\tfrac{1}{2} + 0\tfrac{1}{2} = 0$

$MR_A(\sigma_E, R) = R$ ✓

$MR_B(\sigma_E, R) = R$ ✓