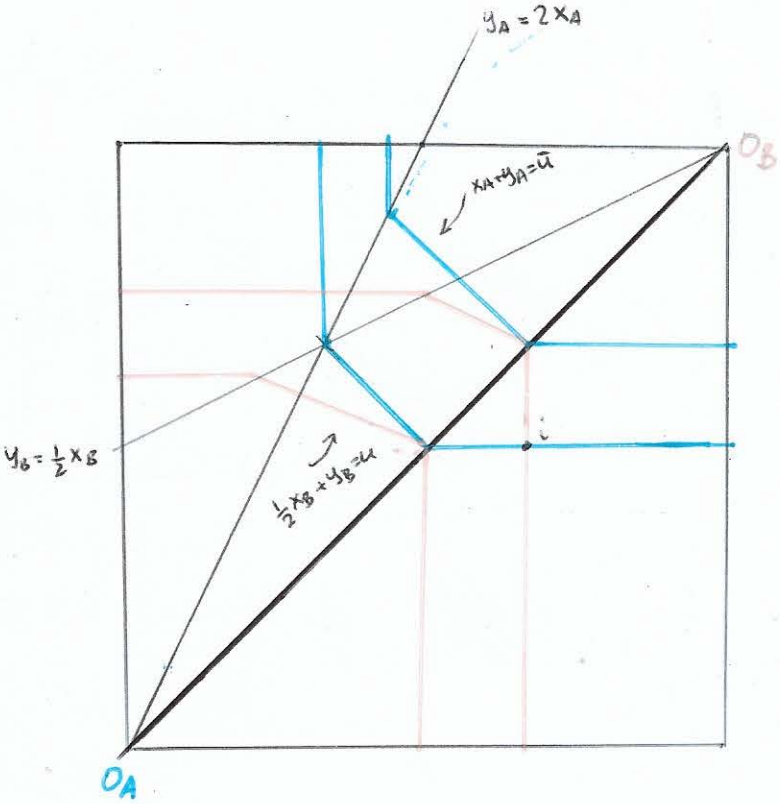
1A)



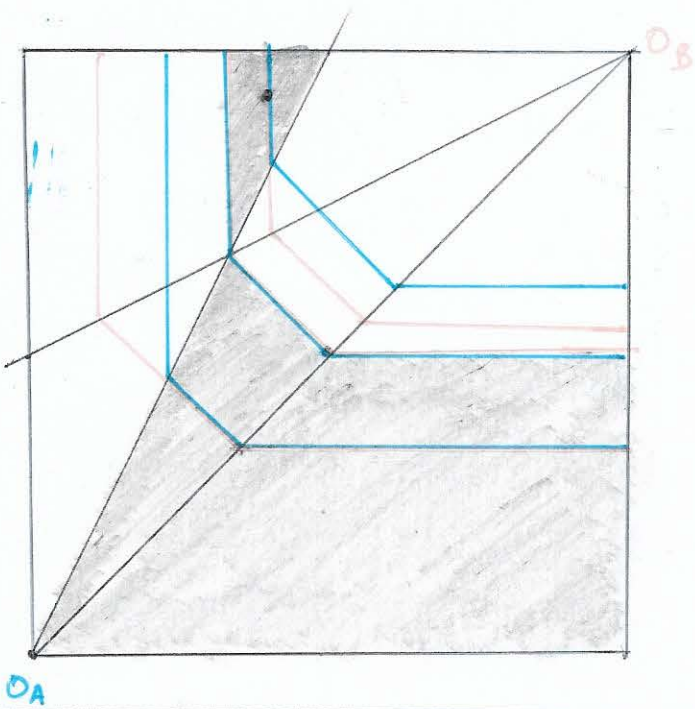
$u_A = \min(2x_A, y_A) + \min(x_A, y_A)$

$u_B = \min\left(\frac{2x_B}{2}, y_B\right) + \min(x_B, y_B)$

$0 \leq \frac{P_x}{P_y} < \infty$ en un punto como:

Si parte de un punto dentro de la CC $\Rightarrow$ $\frac{1}{2} \leq \frac{P_x}{P_y} \leq 1$

CC $\Rightarrow y_A = x_A$



$u_A = \min(2x_A, y_A) + \min(x_A, y_A)$

$u_B = \max\left(\frac{x_B}{2}, y_B\right) + \min(x_B, y_B)$

Si parte fuera de la zona de contrato

$0 < \frac{P_x}{P_y} < \infty$

Si parte un óptimo de Pareto $\frac{P_x}{P_y} = 0, 1, \infty$

1.B. Precios relativos

$\frac{u_{ij}}{u_{ij}} = x_{ij} = \frac{P_i}{P_i} \Rightarrow \sum_{j=1}^{2} x_{ij} = \bar{x}_i \Rightarrow 2\frac{P_i}{P_i} = \bar{x}_i \Rightarrow \frac{P_i}{P_i} = \frac{\bar{x}_i}{2}$, $i = 2, \dots, n$; $\frac{P_i}{P_j} = \frac{\bar{x}_j}{\bar{x}_i}$ $i \neq j \neq 1$

Curva de Contrato

$x_i^A = x_i^B$, $x_i^A + x_i^B = \bar{x}_i \Rightarrow x_i^A = \bar{x}_i/2$

$\frac{x_j^A}{x_i^A} = \frac{x_j^B}{x_i^B}$; $x_i^A + x_i^B = \bar{x}_i$, $x_j^A + x_j^B = \bar{x}_j$ $\Rightarrow$ $x_j^A = \frac{\bar{x}_j}{\bar{x}_i} x_i^A$

2.1

$x = K^{1/2} L^{1/2}$; $x = L^{1/2}\left(\frac{w_L \cdot L}{w_K}\right)^{1/2} = L\left(\frac{w_L}{w_K}\right)^{1/2} \Rightarrow L_x = X\left(\frac{w_K}{w_L}\right)^{1/2}$

$\frac{K}{L} = \frac{w_L}{w_K}$ $\qquad CT_x = 2 w_L \cdot L = 2X (w_L w_K)^{1/2}$

$y = K^{3/4} L^{1/4}$

$\frac{K}{3L} = \frac{w_L}{w_K}$; $y = L^{1/4}\left(\frac{3 w_L \cdot L}{w_K}\right)^{3/4} = L\left(3\frac{w_L}{w_K}\right)^{3/4} \Rightarrow L_y = y\left(\frac{w_K}{3 w_L}\right)^{3/4}$

$CT_y = 4 w_L \cdot L = y\, 4\, \frac{w_L^{1/4} w_K^{3/4}}{3^{3/4}}$

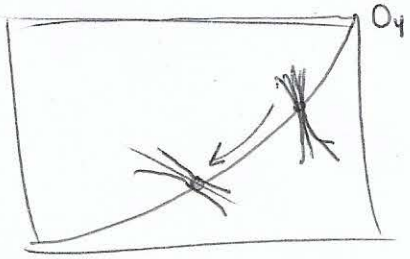
Curvas de nivel

a) $CT_{x(1)} = 2(w_L w_K)^{1/2}$

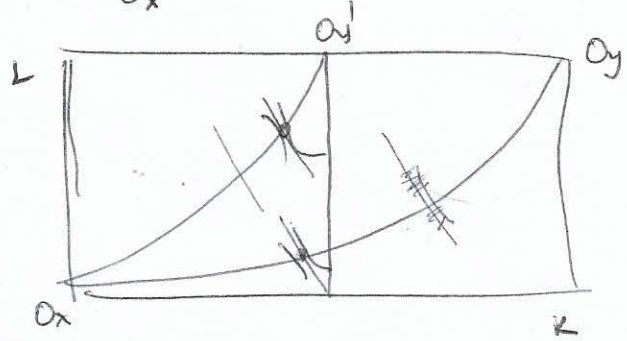
$CT_{y(1)} = \frac{4}{3^{3/4}} w_L^{1/4} w_K^{3/4}$

b) $\frac{2(w_L w_K)^{1/2}}{\frac{4}{3^{3/4}} w_L^{1/4} w_K^{3/4}} = \frac{3^{3/4}}{2} \frac{w_L^{1/4}}{w_K^{1/4}} = 3 \Rightarrow \frac{w_L}{w_K} = 48$

c) $\frac{3^{3/4}}{2}\left(\frac{w_L}{w_K}\right)^{1/4} = 1 \Rightarrow \frac{w_L}{w_K} = \frac{16}{27}$



d) Disminuye y porque el sector K-intensivo, ↑x.
No para nada con w_L/w_K



2.2

$TMST_x = \frac{K}{L}$; $TMST_y = \frac{K}{3L}$

a) $\frac{w_L}{w_K} = \frac{300}{100} = 3$ Solo x

$\frac{w_L}{w_K} = \frac{300}{300} = 1$ Solo y.

b) $\frac{w_L}{w_K} = 2 \Rightarrow \frac{K_x}{L_x} = 2 \Rightarrow K_x = 2L_x$

$\frac{K_y}{3L_y} = 2 \Rightarrow K_y = 6L_y$

$K_x + K_y = 2L_x + 6L_y = 300$

$L_x + L_y = 100$

$2(100 - L_y) + 6L_y = 300$

$L_y = 25$, $K_y = 150$

$L_x = 75$, $K_x = 150$

$X = (75)^{1/2}(150)^{1/2} = 75\sqrt{2}$

$y = (25)^{1/4}(150)^{3/4} = 25(6)^{3/4}$

c) $\frac{w_L}{w_K} = 3 \Rightarrow K_x = 3L_x$

$\frac{K_y}{3L_y} = 9 \Rightarrow K_y = 9L_y$

$K_x + K_y = 3L_x + 9L_y = 300$

$L_x + L_y = 100$

$3(100 - L_y) + 9L_y = 300$

$L_y = 0$, $L_x = 100$

$K_y = 0$, $K_x = 300$

$X = (300 \cdot 100)^{1/2} = 100\sqrt{3}$

$y = 0$