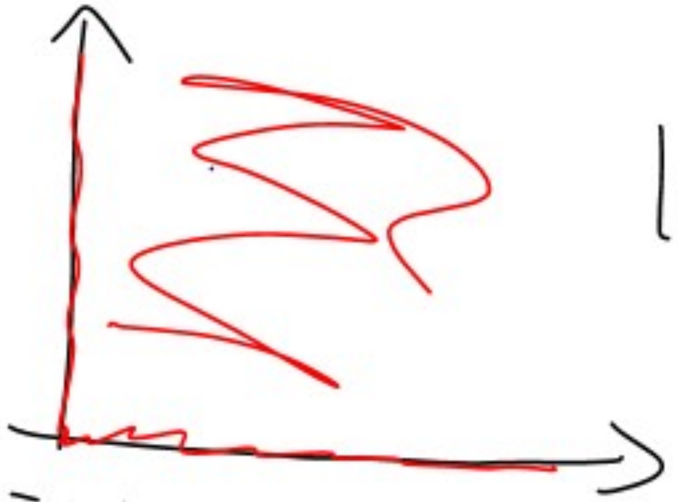
CONSUMIDOR

PREFERENCIAS: $\mathbb{X} \subseteq \mathbb{R}^m_+$

$x \in \mathbb{X}$

$x = \begin{pmatrix} x_1 \\ x_2 \\ \vdots \\ x_m \end{pmatrix} \quad x_i \geq 0$



$i = 1, 2, \dots m$

$\succsim$ RACIONALES $\iff$ (i) COMPLETAS

$\forall x, y \in X: x \succsim y \lor y \succsim x$

(ii) TRANSITIVAS

$\forall x, y, z \in X:$

Si $x \succsim y \land y \succsim z \Rightarrow x \succsim z$

$MB \succ VOLVO \succ AUDI \succ MB$

$\boxed{\text{Si } z \succsim y \land y \succsim z \iff z \sim y}$

$x \succsim y \land \sim(y \succsim x) \iff x \succ y$

$$u_i : \mathbb{X} \longrightarrow \mathbb{R}$$
$$x \longrightarrow u_i(x)$$

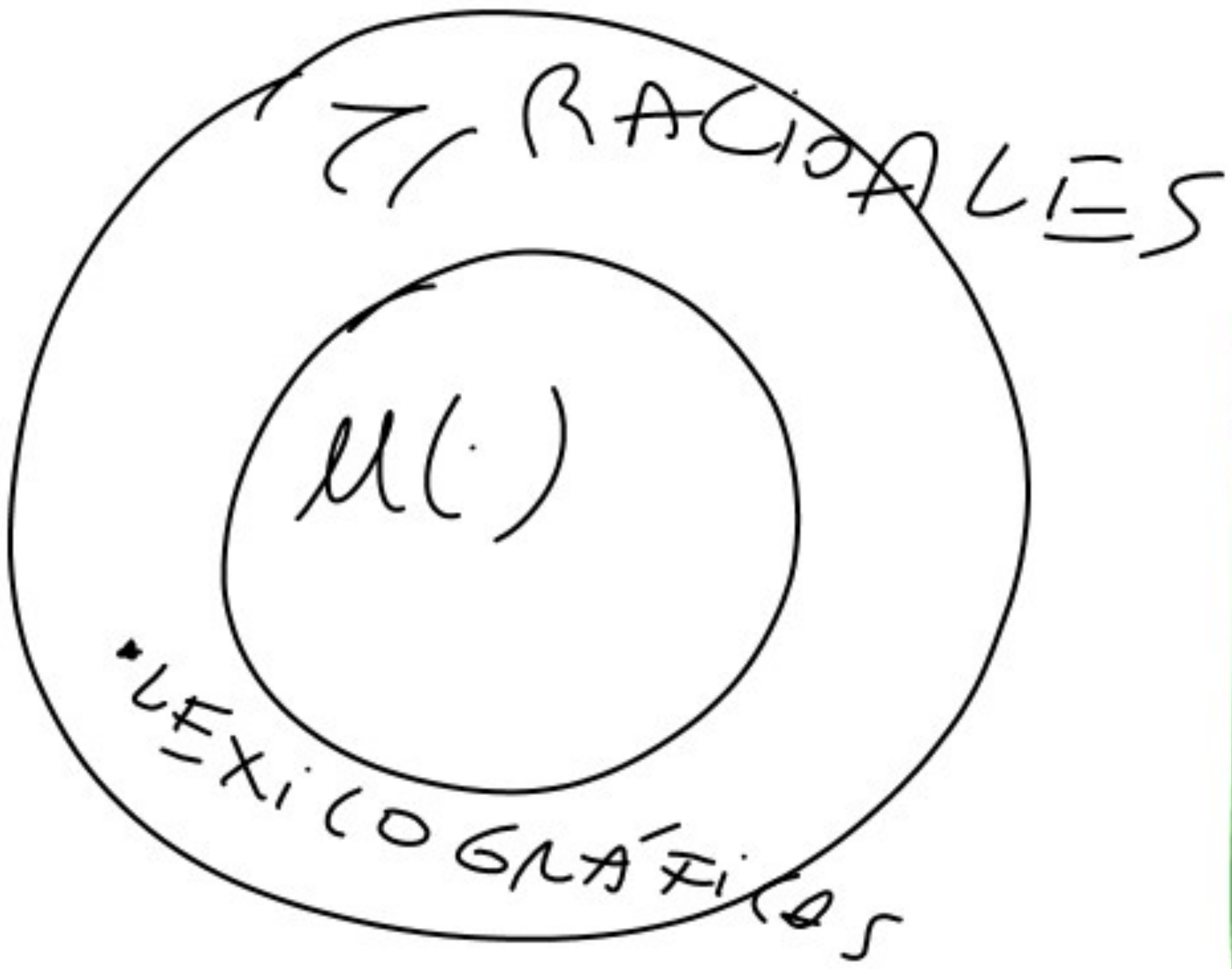
u REPRESENTA $\succsim \iff \left[\begin{array}{l} \forall x, y \in \mathbb{X}: \\ \phi(u_i(x)) \geq \phi(u_i(y)) \iff x \succsim_i y \end{array}\right.$

$i \in I$

ϕ : ESTRICT. CRECIENTE

$$\underset{\{x_1, x_2\}}{\text{MAX}} \; 10^2 u_1(x_1) + u_2(x_2) \cdot 10''$$

S.A.



$X = \mathbb{R}^2_+$

$\begin{pmatrix} a \\ b \end{pmatrix} \succsim \begin{pmatrix} c \\ d \end{pmatrix} \iff \begin{cases} (1)\ a > c \\ \quad \text{ó} \\ (2)\ a = c \wedge b \geq d \end{cases}$

NO SON CONTINUAS

DEF: $\geq$ SON CONTINUAS

$\iff \left\{ \begin{array}{l} \forall \{x_n\}_{n=1}^{\infty}, \{y_n\}_{n=1}^{\infty} \text{ (CUYOS LÍMITES EXISTEN)} \\ \text{CON } x_n, y_n \in X \\ \forall n = 1, 2, \dots \quad x_n \geq y_n \Rightarrow \lim\limits_{n\to\infty} x_n \geq \lim\limits_{n\to\infty} y_n \end{array} \right.$

EN LAS LEXICOGRÁFICAS:

$$\left\{ \begin{pmatrix} 1/n \\ 0 \end{pmatrix} = x_n \right\}_{n=1}^{\infty} \qquad \left\{ \begin{pmatrix} 0 \\ 5 \end{pmatrix} = y_n \right\}_{n=1}^{\infty}$$

$$X_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix} \qquad Y_1 = \begin{pmatrix} 0 \\ S \end{pmatrix}$$

$$X_n = \begin{pmatrix} 1/n \\ 0 \end{pmatrix} \succ Y_n = \begin{pmatrix} 0 \\ S \end{pmatrix}$$

$$\lim_{n\to\infty} X_n = \begin{pmatrix} 0 \\ 0 \end{pmatrix} \prec \lim_{n\to\infty} \begin{pmatrix} 0 \\ S \end{pmatrix} = \begin{pmatrix} 0 \\ S \end{pmatrix}$$

$S = \frac{1}{1-\rho}$

ADA LOVELACE

$$u(x,y) = \left(\alpha x^{\rho} + (1-\alpha) y^{\rho} \right)^{1/\rho}$$

C.E.S.

$0 \leq \alpha \leq 1$

CONSTANT ELASTICITY OF SUBSTITUTION

$S \to \infty$, $\rho = 1$

$\rho \to 0$, $S = 1$

$\rho \to -\infty$, $S = 0$

LINEALES

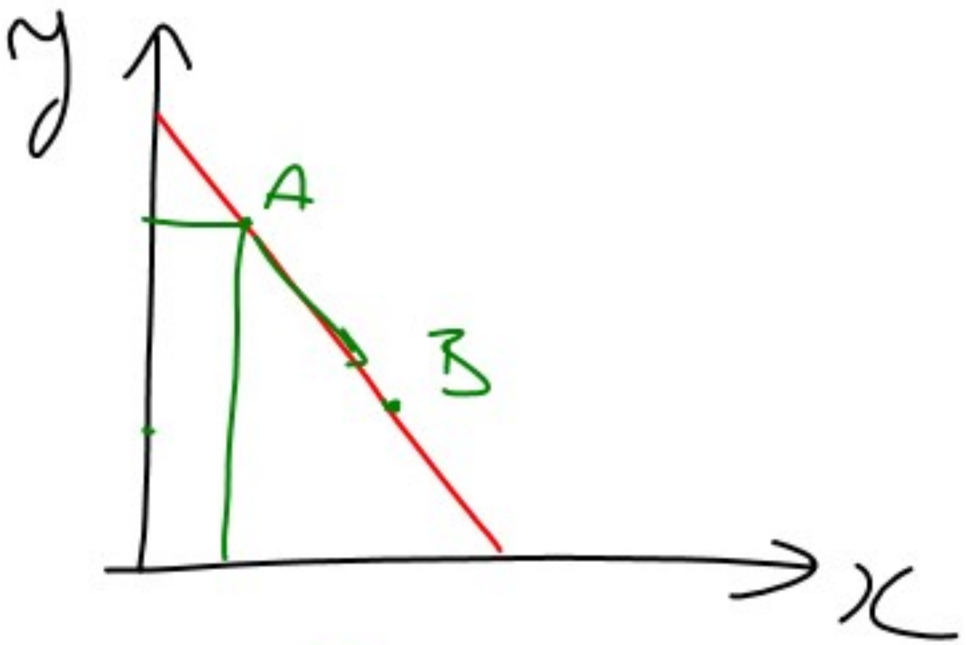
$$u(x,y) = \alpha x + (1-\alpha) y$$

COBB-DOUGLAS

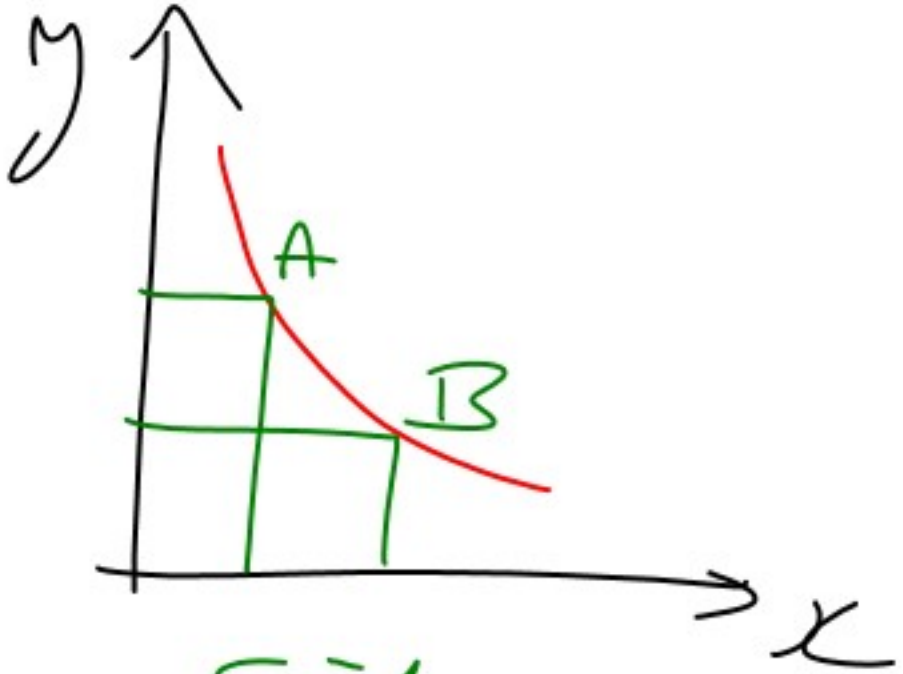
$$x^{\alpha} y^{1-\alpha} = u(x,y)$$

LEONTIEF

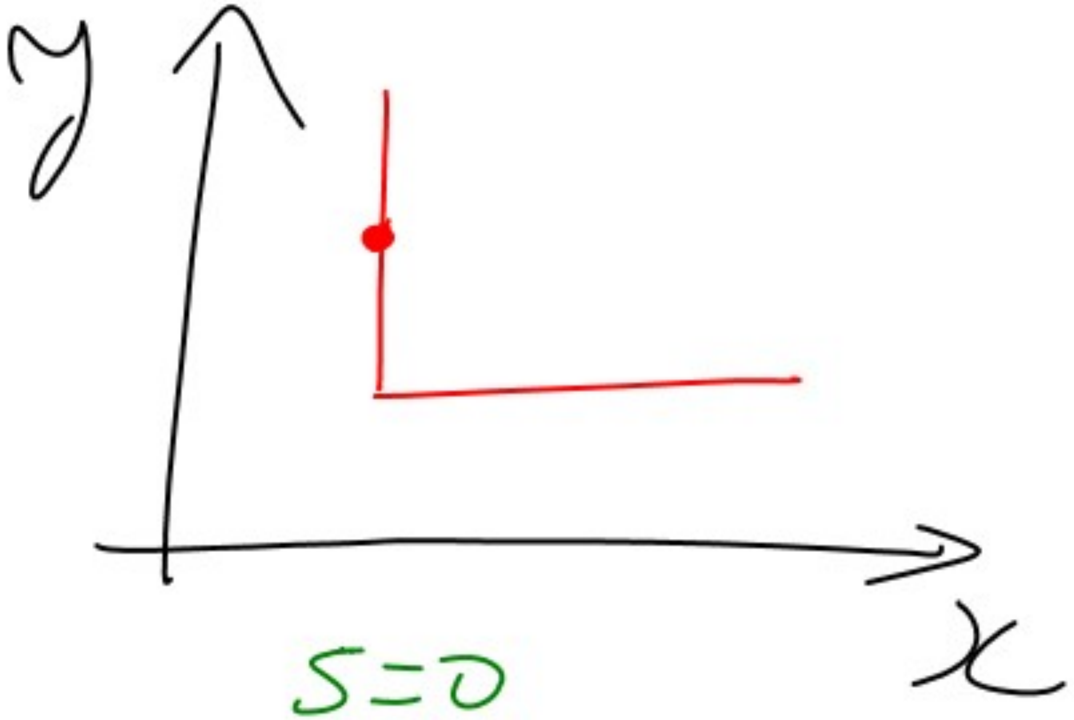
$$u(x,y) = \min\{x, y\}$$



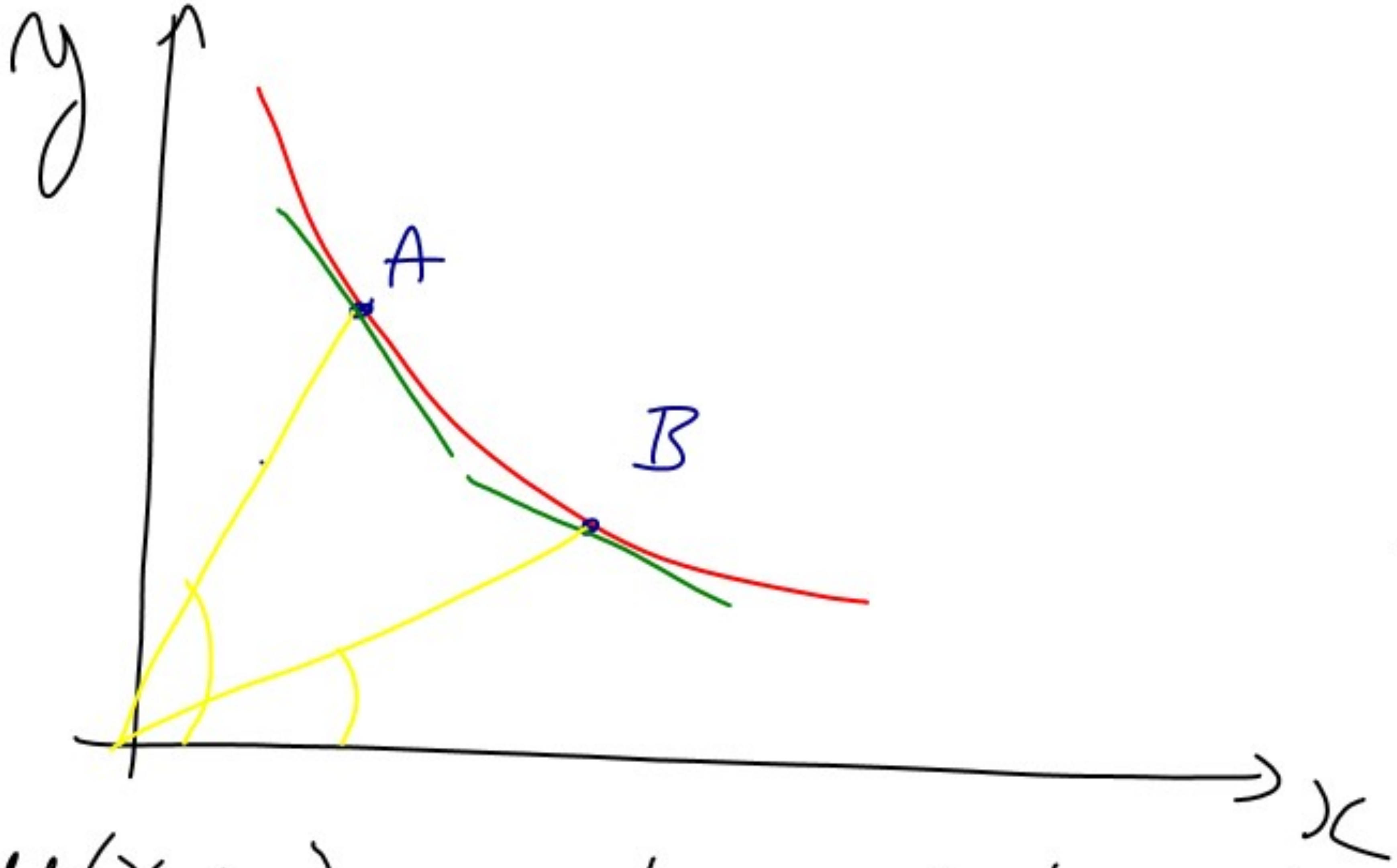
$s \to \infty$

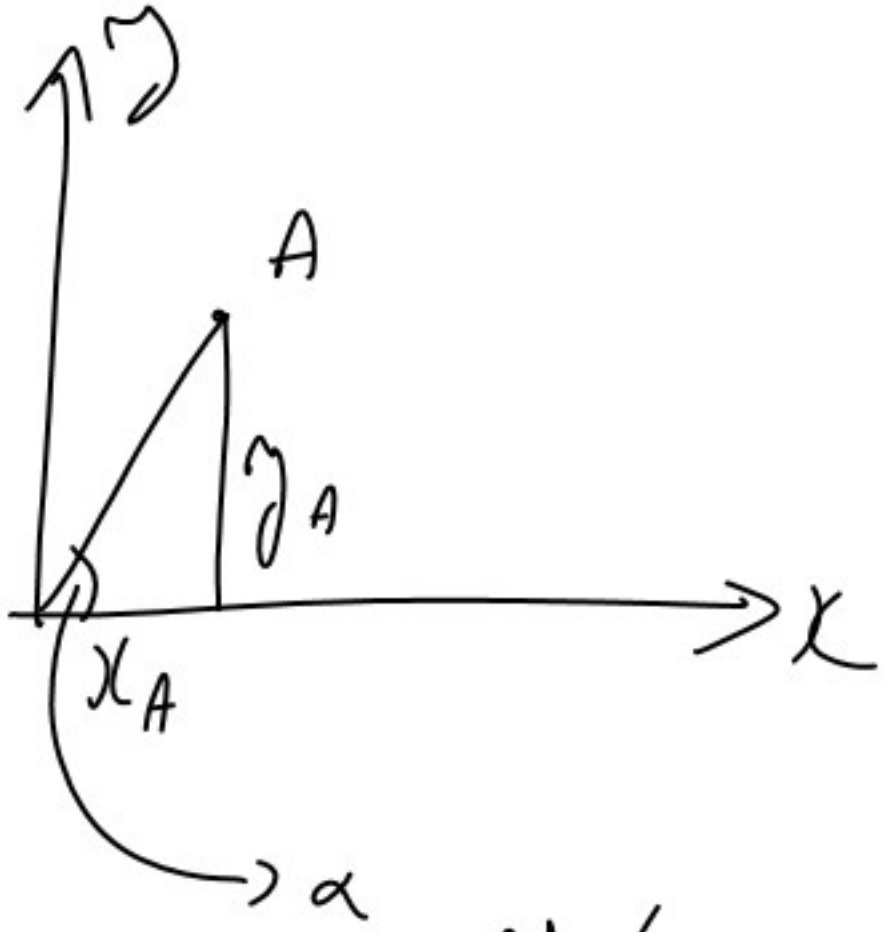


$s = 1$



$s = 0$





$$c = u(x, y)$$

$$dc = 0 = u_x\,dx + u_y\,dy$$

$$\frac{dy}{dx} = -\,u_x / u_y$$

$$t(\alpha) = y_A / x_A$$

$$u_x = \partial u / \partial x$$

$$S = \frac{\Delta\left(y/x\right)\big/ y/x}{\Delta\left(\mu_x/\mu_y\right)\big/ \mu_x/\mu_y}$$

$$\frac{dz}{z} = d\ln z$$

$$S = \frac{d\ln\left(y/x\right)}{d\ln\left(\mu_x/\mu_y\right)}$$

$$u(x,y) = \left(\alpha x^{\rho} + (1-\alpha) y^{\rho}\right)^{1/\rho}$$

$$S = \frac{d \ln (y/x)}{d \ln (u_x/u_y)}$$

$$u_x = \frac{\partial u}{\partial x} = \frac{1}{\rho}\left(\alpha x^{\rho} + (1-\alpha) y^{\rho}\right)^{\frac{1}{\rho}-1} \alpha \rho x^{\rho-1}$$

$$u_y = \frac{1}{\rho}\left(\alpha x^{\rho} + (1-\alpha) y^{\rho}\right)^{\frac{1}{\rho}-1} (1-\alpha) \rho y^{\rho-1}$$

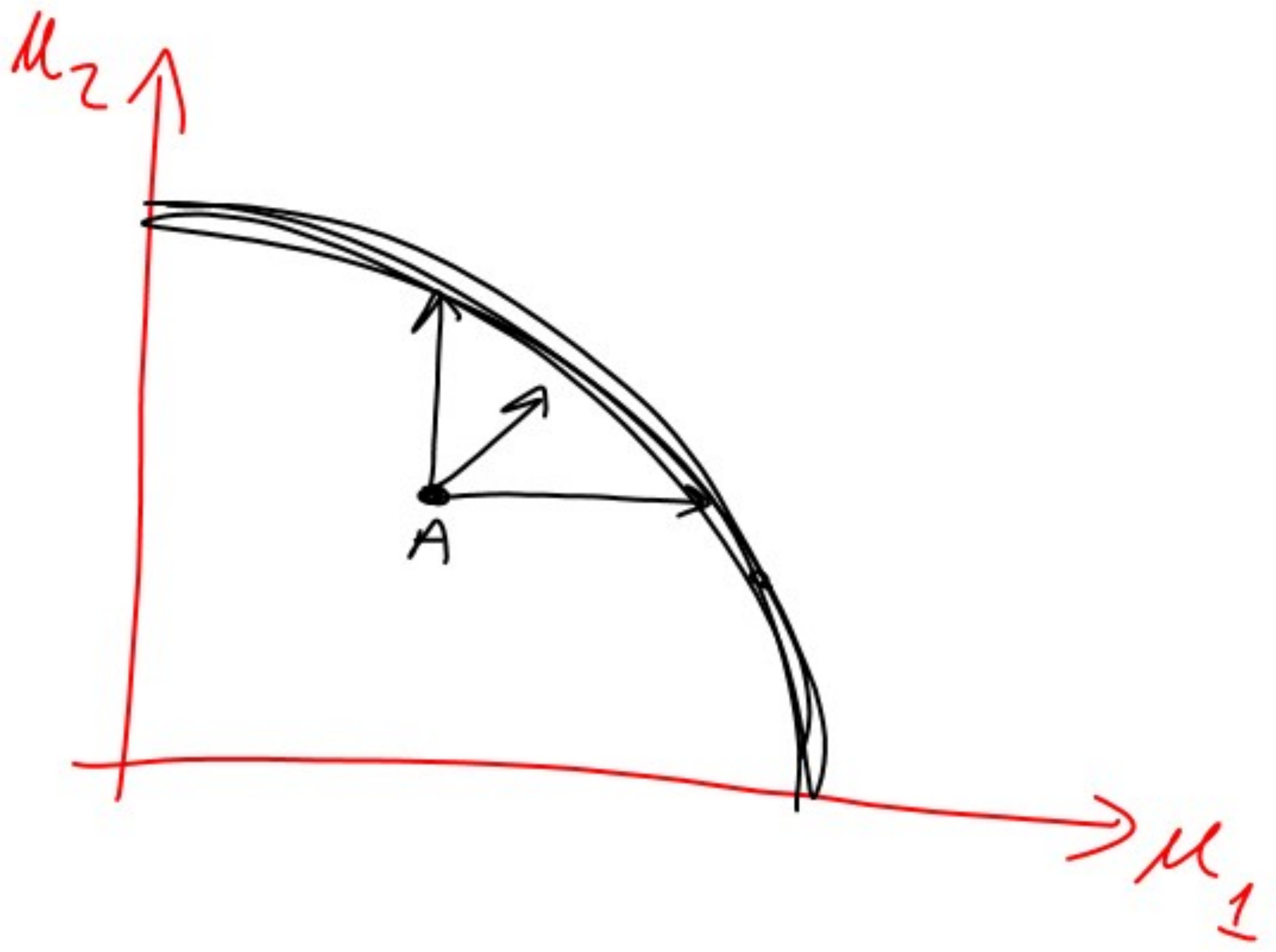
$$\frac{u_x}{u_y} = \frac{\alpha}{1-\alpha}\left(\frac{x}{y}\right)^{\rho-1} = \frac{\alpha}{1-\alpha}\left(\frac{y}{x}\right)^{1-\rho}$$

$$\frac{u_x}{u_y} = \frac{\alpha}{1-\alpha}\left(\frac{x}{y}\right)^{\rho-1} = \frac{\alpha}{1-\alpha}\left(\frac{y}{x}\right)^{1-\rho}$$

$$\ln\left(\frac{u_x}{u_y}\right) = \ln\left(\frac{\alpha}{1-\alpha}\right) + (1-\rho)\ln\left(\frac{y}{x}\right)$$

$$\ln\left(\frac{y}{x}\right) = \frac{1}{1-\rho}\ln\left(\frac{u_x}{u_y}\right) - \frac{1}{1-\rho}\ln\left(\frac{\alpha}{1-\alpha}\right)$$

$$S = \frac{1}{1-\rho}$$


u_2
A
u_1