$$\dot{x} = r \cdot y \cdot \frac{(K-y)}{K} - d_j x - g x.$$

$$\dot{y} = g x - d_a \cdot y - \phi \cdot y$$

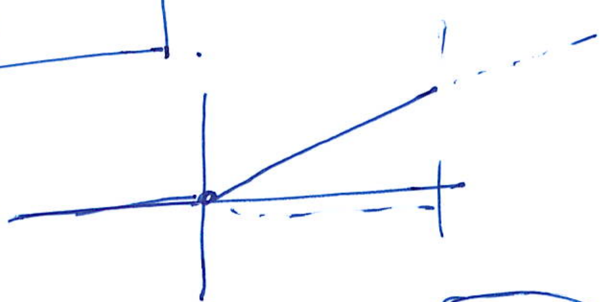
$$x^* = \left(\frac{d_a+\phi}{g}\right) y^* = \frac{B}{g} y^*$$

$$r y^* \left(1 - \frac{y}{K}\right) = (d+g) \frac{d_a+\phi}{g} y^*$$

$$\cancel{= \left(A \frac{B}{rg} y^*\right)} \qquad x^* = 0$$

$\hookrightarrow$ $y^* = 0.$

$$\boxed{y^* = \left[1 - \frac{(d+g)(d_a+\phi)}{rg}\right] K.}$$



A

$$\dot{\delta} = r\varepsilon - (d+g)\delta.$$

$$\dot{\varepsilon} = g\delta - (d_a+\phi)\varepsilon$$

$$\begin{pmatrix} -A & r \\ g & -B \end{pmatrix} \qquad (-A-\lambda)(-B-\lambda) - rg = 0$$

$$\lambda^2 + (A+B)\lambda + AB - rg = 0$$

$$\lambda = \frac{-(A+B) \pm \sqrt{(A+B)^2 - 4(AB - rg)}}{2}$$

$AB - rg < 0 \rightarrow \lambda_+, \lambda_-$.

$AB = rg \Rightarrow \lambda_1 = \lambda_2 = 0$.

$AB - rg > 0$; $(A+B)^2 - 4(AB - rg) > 0$

$\Rightarrow \lambda_-, \lambda_-$

$(A+B)^2 - 4(AB - rg) < 0$

$\Rightarrow \lambda$ complejo; $\lambda_{real} < 0$.

$(d+g)(d_a + \phi^*) = rg$.

$$\phi^* = \frac{rg}{d+g} - d_a.$$

2.