IS/LM - Models

IS:

$Y = C + I + G$

Sendo:

$C = c_0 + c_1 Y$

$I = I_0 - br$

$G = g_0$

LM:

$\frac{M_s}{P} = eY - fr$

Montando a Matriz-Problema

$$IS:$$
$$Y = c_0 + c_1 Y + I_0 - br + g_0$$
$$Y(1 - c_1) + br = c_0 + I_0 + g_0$$

Podemos determinar:

$$1 - c_1 = \alpha$$
$$c_0 + I_0 + g_0 = A$$

Chegamos a:

$IS: \alpha Y + br = A$

Na LM temos que:

$$LM:$$
$$eY - fr = \frac{M_s}{P}$$

Resolvendo para a matrix:

$$\begin{bmatrix} \alpha & b \\ e & -f \end{bmatrix} * \begin{bmatrix} Y \\ r \end{bmatrix} = \begin{bmatrix} A \\ \frac{M_s}{P} \end{bmatrix}$$

Resolvendo através da equação de cramer, sabemos que:

$$Y_{eq} = \frac{D_1}{D_0}$$
$$r_{eq} = \frac{D_2}{D_0}$$

$$D_0 = \begin{vmatrix} \alpha & b \\ e & -f \end{vmatrix} = -\alpha f - be = -(\alpha f + be) = -\gamma$$

$$D_1 = \begin{vmatrix} A & b \\ \frac{M_s}{P} & -f \end{vmatrix} = -Af - b\frac{M_s}{P} = -(Af + b\frac{M_s}{P})$$

$$D_2 = \begin{vmatrix} \alpha & A \\ e & \frac{M_s}{P} \end{vmatrix} = \alpha\frac{M_s}{P} - Ae$$

Consequentemente:

$$Y_{eq} = \frac{Af+b\frac{M_s}{P}}{\gamma}$$

$$r_{eq} = \frac{Ae-\alpha\frac{M_s}{P}}{\gamma}$$