## IS/LM - Models

IS:

$$Y = C + I + G$$

Sendo:

$$C = c_0 + c_1 Y$$

$$I = I_0 - br$$

$$G = g_0$$

LM:

$$rac{M_s}{P} = eY - fr$$

## 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:

$$1-c_1=lpha$$

$$c_0 + I_0 + g_0 = A$$

Chegamos a:

$$IS: \alpha Y + br = A$$

Na LM temos que:

LM:

$$eY-fr=rac{M_s}{P}$$

Resolvendo para a matrix:

$$egin{bmatrix} lpha & b \ e & -f \end{bmatrix} * egin{bmatrix} Y \ r \end{bmatrix} = egin{bmatrix} A \ rac{M_s}{P} \end{bmatrix}$$

Resolvendo através da equação de cramer, sabemos que:

$$Y_{eq}=rac{D_1}{D_0}$$

$$r_{eq}=rac{D_2}{D_0}$$

$$egin{aligned} D_0 &= egin{array}{c|c} lpha & b \ e & -f \ \end{array} = -lpha f - be = -(lpha f + be) = -\gamma \ D_1 &= egin{array}{c|c} A & b \ rac{M_s}{P} & -f \ \end{array} = -Af - brac{M_s}{P} = -(Af + brac{M_s}{P}) \ D_2 &= egin{array}{c|c} lpha & A \ e & rac{M_s}{P} \ \end{array} = lpha rac{M_s}{P} - Ae \end{aligned}$$

Consequentemente:

$$Y_{eq}=rac{Af+brac{M_{s}}{P}}{\gamma}$$
  $r_{eq}=rac{Ae-lpharac{M_{s}}{P}}{\gamma}$