

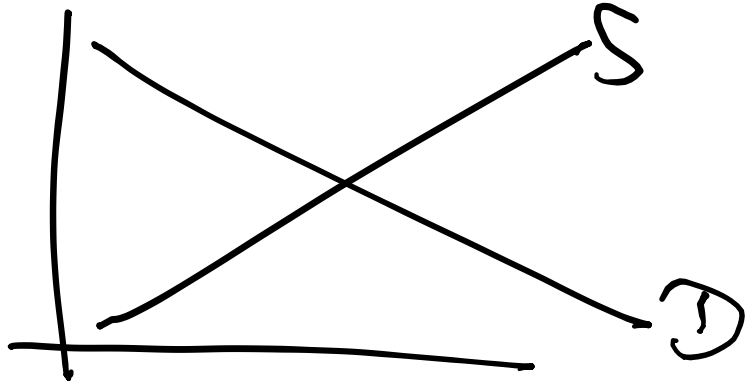
Estimación de Sistema de Oferta e

Demanda -

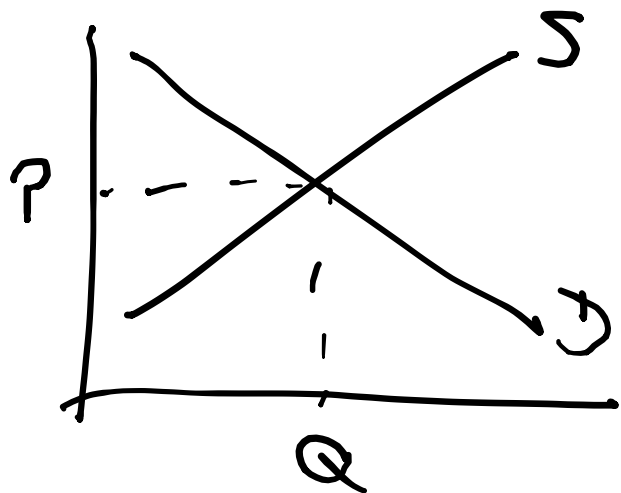
"Simultaneous Equation Econometrics:

The Missing Example"

D. Apple & B. McCallum



Oferta e demanda por frango
nos EUA, de 1960 a 1990.



$$\begin{cases} Q = D(P, Y) & \text{Demanda} \\ Q = S(P, W) \end{cases}$$

↳ preços de
insumos de
produção

Especificação em log:

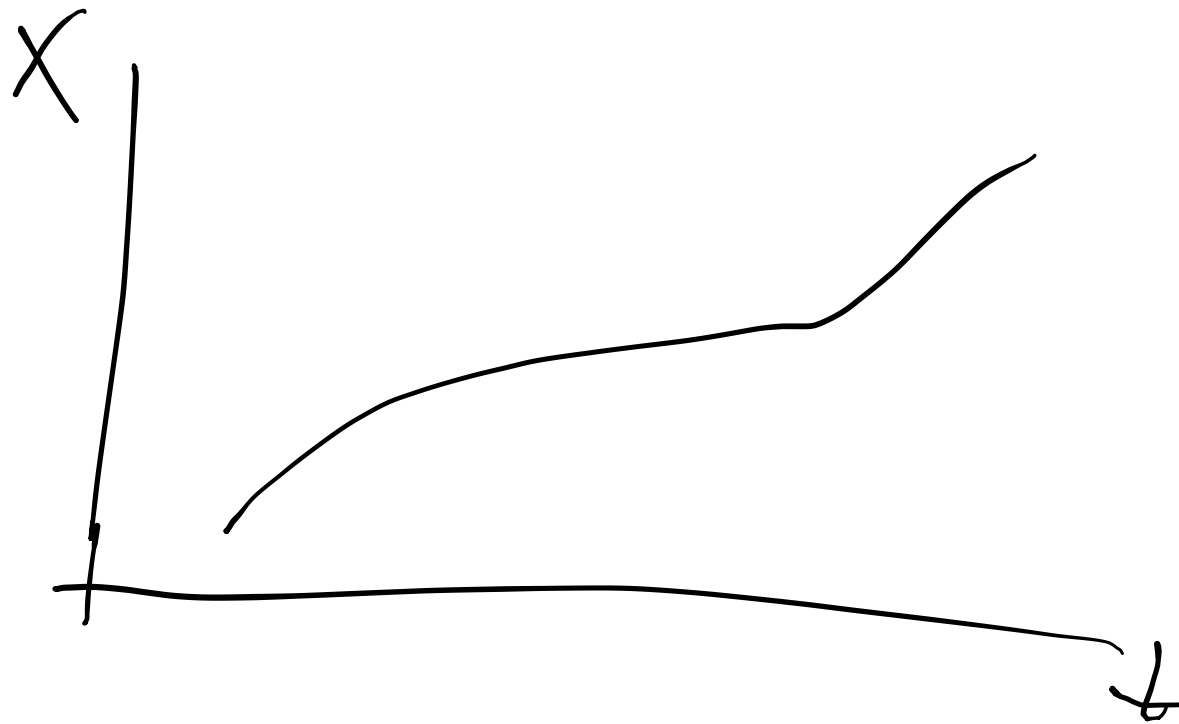
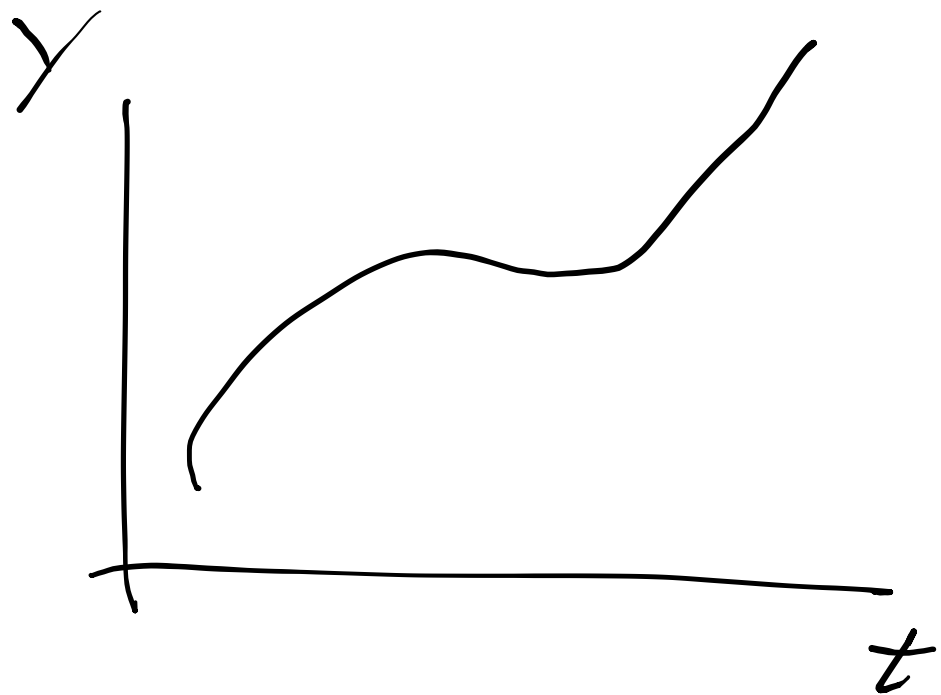
$$q = \log Q, \quad p = \log P, \quad w = \log W, \quad y = \log Y$$

$$q_t = \alpha_0 + \alpha_1 p_t + \alpha_2 w_t + u_t \quad (\text{oferta})$$

$$q_t = \beta_0 + \beta_1 p_t + \beta_2 y_t + v_t \quad (\text{demanda})$$

Hipóteses: $E(u_t) = E(v_t) = 0$, $E(u_t^2) = \sigma_u^2$,
 $E(v_t^2) = \sigma_v^2$.

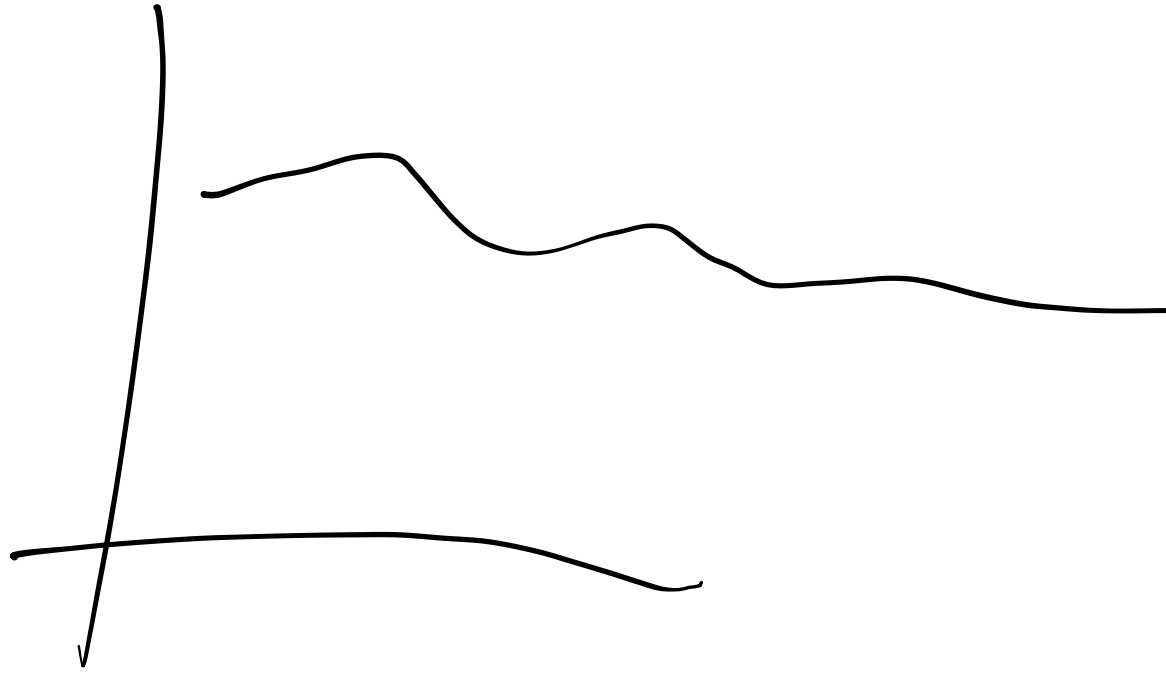
E w_t e y_t não são correlacionados com u_t, v_t .



$$X = \alpha_0 + \alpha_1 X + \epsilon$$

$$R_2 \rightarrow 1$$

1



$$\left\{ \begin{array}{l} q = \alpha_0 + \alpha_1 P + \alpha_2 Y + \epsilon \quad (D) \\ q = \beta_0 + \beta_1 P + \beta_2 W + \epsilon \quad (S) \end{array} \right.$$

Model 2E

$$(D) \quad P = \delta_0 + \delta_1 \underline{W} + \delta_2 \underline{Y} + \epsilon$$

$$(S) \quad P = \delta_0 + \delta_1 Y + \delta_2 W + \epsilon$$

$$\sum_{t=0}^3 \Delta z_t = \Delta z_0 + \Delta z_1 + \Delta z_2 + \Delta z_3$$

$$\cancel{z_1} - z_0 + \cancel{z_2} - \cancel{z_1} + \cancel{z_3} - \cancel{z_2} + z_4 - \cancel{z_3}$$

$$= z_4 - z_0$$

$$Q_t = \alpha_0 + \alpha_1 P + \alpha_2 Q_{t-1}$$

$$Q_t = Q_{t-1}$$

$$Q_t (1 - \alpha_2) = \alpha_0 + \alpha_1 P_t$$

$$Q_t = \frac{\alpha_0 + \alpha_1 P_t}{1 - \alpha_2}$$

