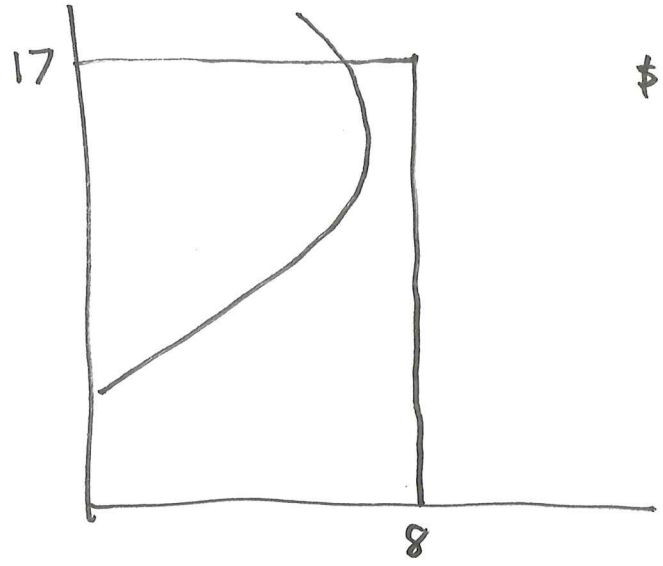
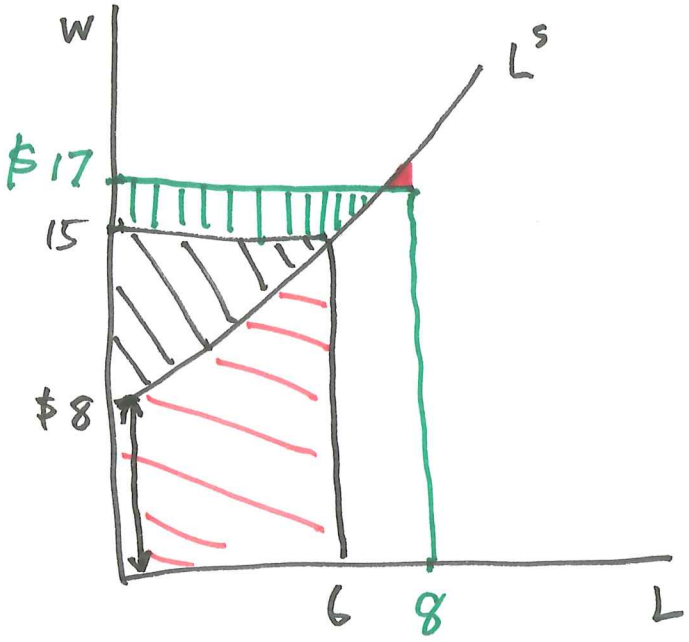
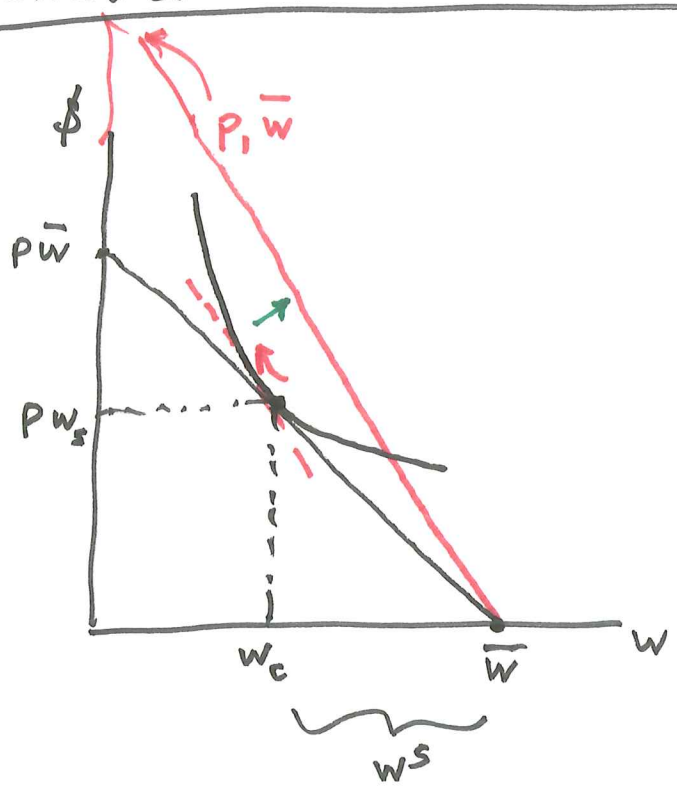
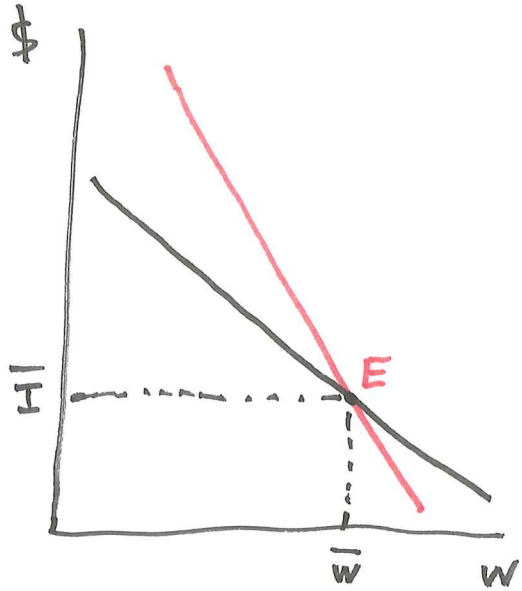
Salaried jobs





Demand with Home Production





Intertemporal Choice

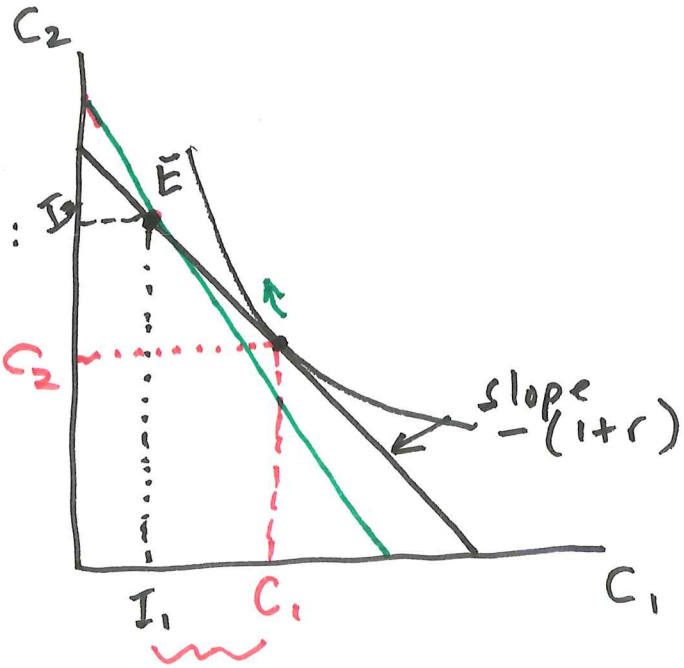
$$U(C_1, C_2)$$

Lifetime Budget Constraint:

$$C_1(1+r) + C_2 = I_1(1+r) + I_2$$

$$\bar{I} = I_1(1+r) + I_2$$

$$I_2 = \bar{I} - I_1(1+r)$$

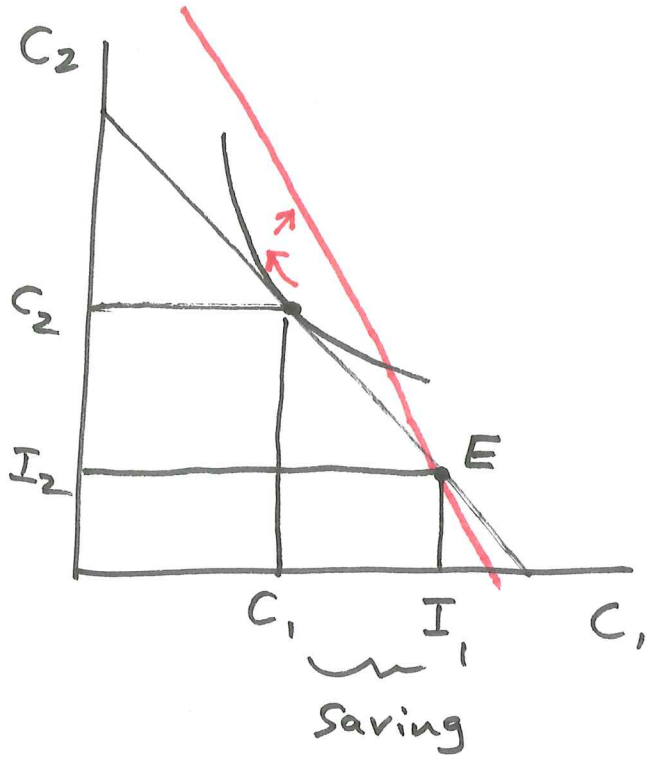


$$I_2 - C_2 = (C_1 - I_1)(1+r)$$

$r \uparrow \rightarrow C_1 \downarrow, C_2$?

Lender:

$r\uparrow \rightarrow C_1\ ?\ ,C_2\uparrow$



PRODUCTION

$$q = F(K, L, E, M)$$

max q possible "

— we assume technical efficiency

$$q = F(K, L)$$

$$\frac{\partial q}{\partial K} = MP_K \quad , \quad \frac{\partial q}{\partial L} = MP_L$$

Average Product:

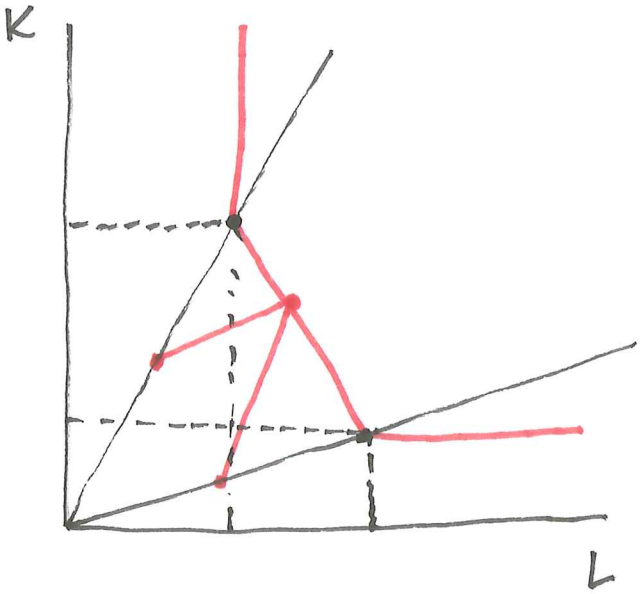
$$AP_K = \frac{q}{K} \quad ; \quad AP_L = \frac{q}{L}$$

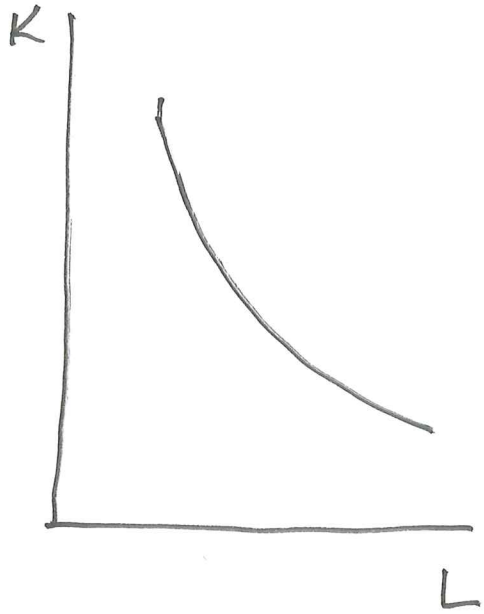
$$\frac{\partial AP_L}{\partial L} = \frac{L\frac{\partial q}{\partial L} - q}{L^2}$$

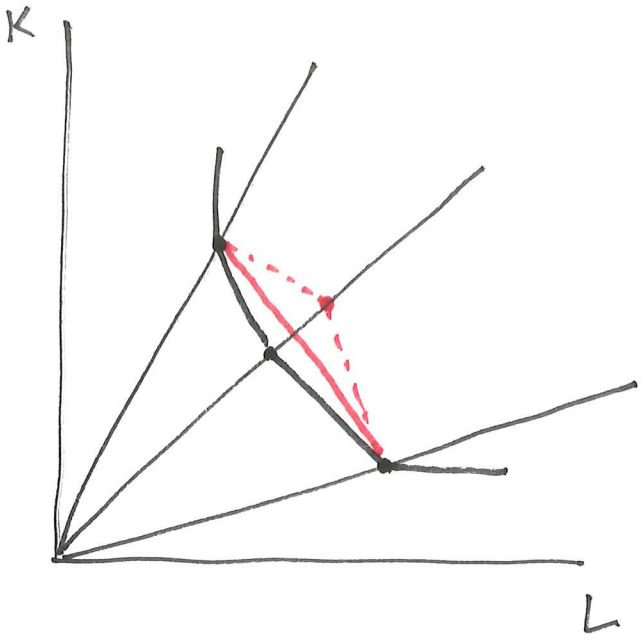
$$= \frac{\frac{\partial q}{\partial L} - \frac{q}{L}}{L}$$

$$= \frac{MP_L - AP_L}{L}$$

isoquants







slope of isoquant:

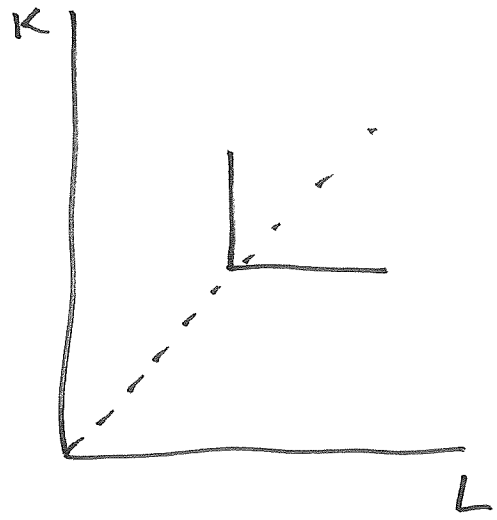
$$\left.\frac{dK}{dL}\right|_{\bar{q}} = -\frac{MP_L}{MP_K}$$

$\left|\left.\frac{dK}{dL}\right|_{\bar{q}}\right|$: Marginal Rate of Technical Substitution

Elasticity of Substitution

$$\sigma = \frac{\partial(K/L)}{\partial(MRTS)} \cdot \frac{MRTS}{(K/L)}$$

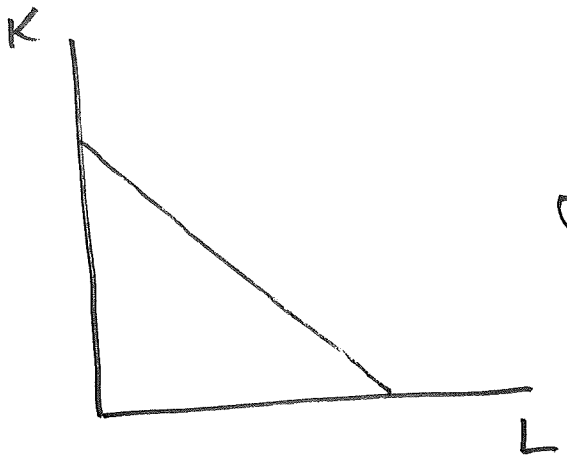
Leontief:



$$q = \min\left[\frac{K}{\beta_1}, \frac{L}{\beta_2}\right]$$

$\sigma = 0$

Linear



$\sigma \to \infty$

Cobb-Douglas