

Ricardo-Viner Model

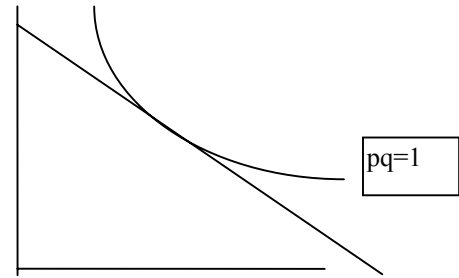
Production Functions

$$q_A = K_A f_A(L_A/K_A) \quad q_B = K_B f_B(L_B/K_B)$$

Marginal Products:

$$MP_L = f'(L/K)$$

$$MP_K = f - (L/K) f'$$



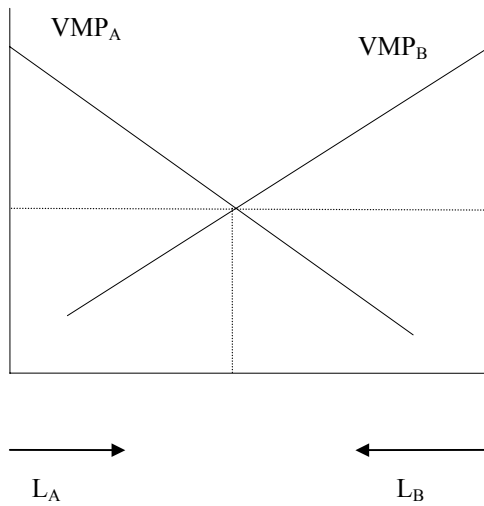
Earnings exhaustion

$$L p MP_L + K p MP_K = L p f' + K p (f - (L/K) f') = K p f = p q$$

Capital is sector specific; labor is mobile between sectors.

Factor market arbitrage condition:

$$w = p_A MP_A^L = p_B MP_B^L$$



Comparative Statics Exercises:

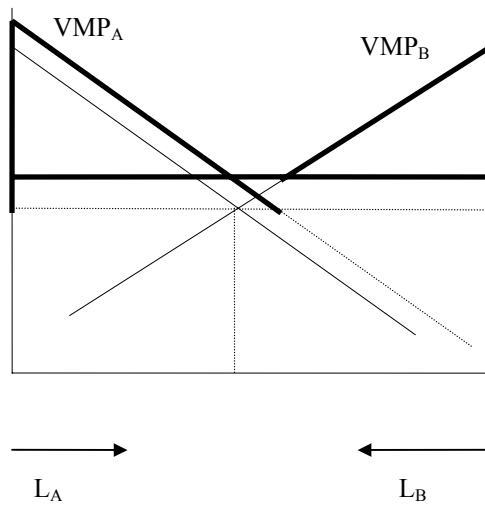
$$L \uparrow \Rightarrow A \uparrow \quad B \uparrow \quad w \downarrow \quad r_A \uparrow \quad r_B \uparrow$$

$$p_A \uparrow \Rightarrow A \uparrow \quad B \downarrow \quad w \uparrow \quad w/p_B \uparrow \quad w/p_A \downarrow \quad r_A \uparrow \quad r_A/p_A \uparrow \quad r_B \downarrow$$

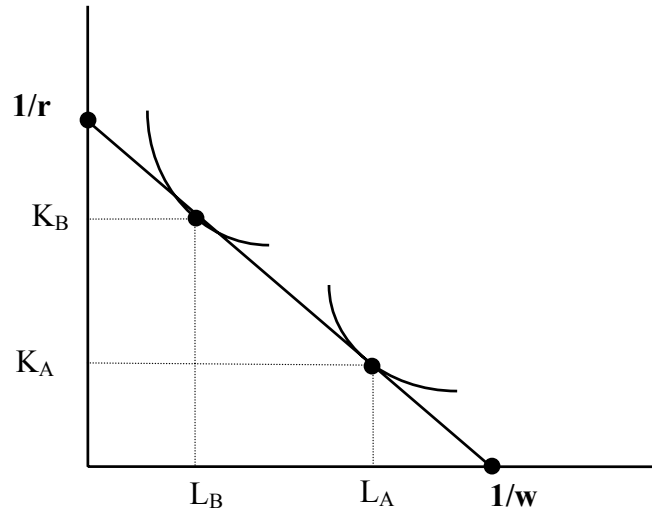
In this second case, labor is moved into the A sector which increases the capital intensity in B and lowers the B marginal product. The increased labor in the A sector lowers the capital intensity and therefore increases the marginal product of capital.

$$K_A \uparrow \Rightarrow A \uparrow \quad B \downarrow \quad w \uparrow \quad r_A \downarrow \quad r_B \uparrow$$

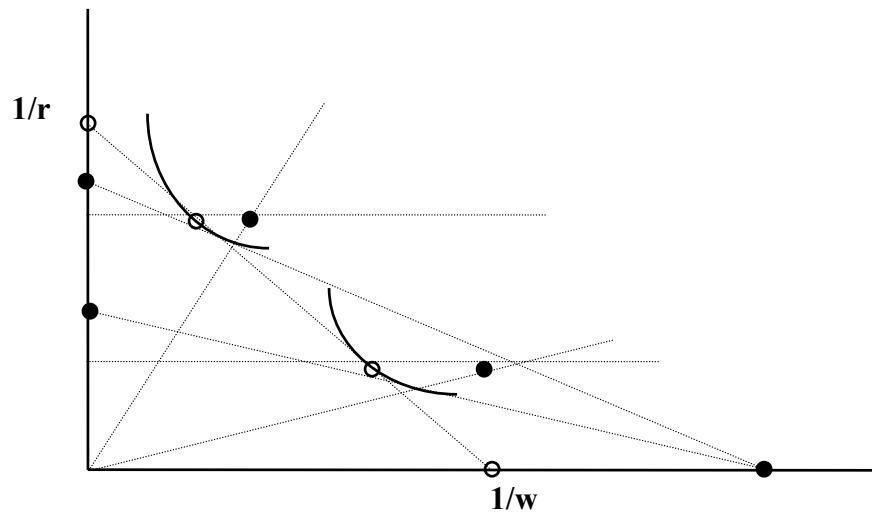
Here is a picture that might help:



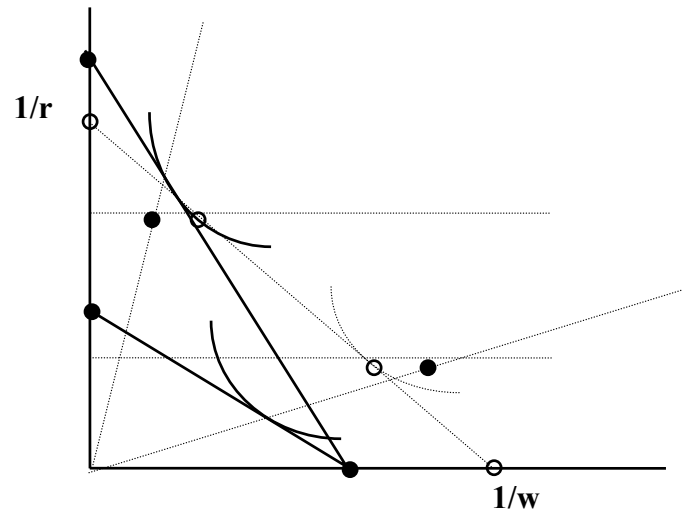
Initial Equilibrium



Increase in Labor Force



Increase in price of A



Capital Accumulation at the Edge of the Diversified Cone in a Ricardo-Viner Model

