

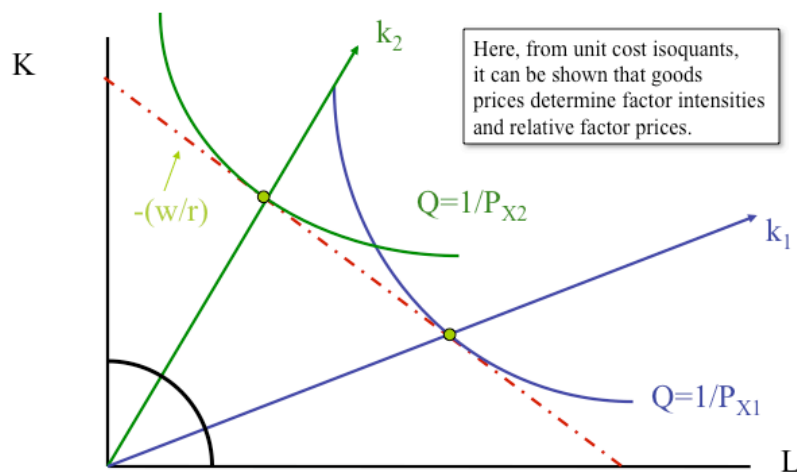
Advanced Trade Theory

Review questions

(1) Assuming a 2x2 Heckscher-Ohlin model and using the Lerner-Pierce diagram:

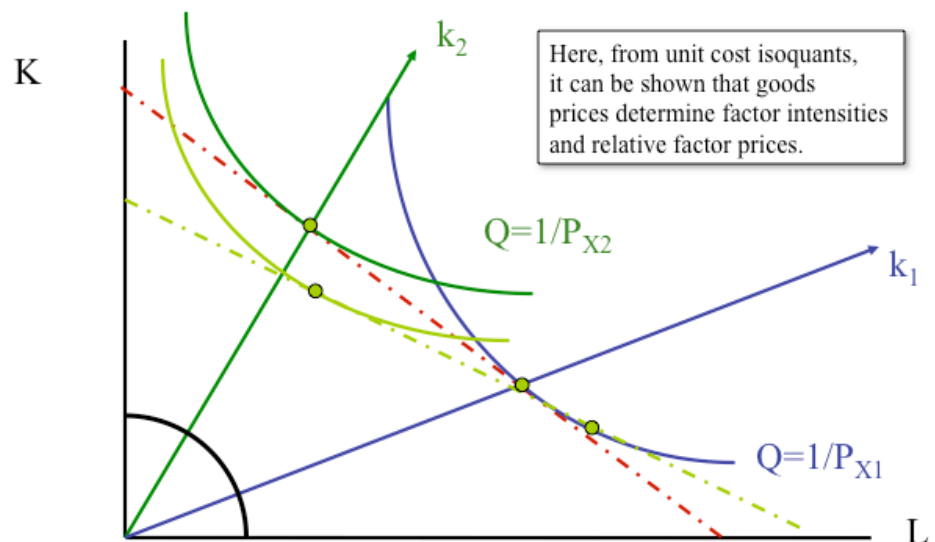
- a. Explain how changes in import prices affect wages

The Lerner-Pearce Diagram



- b. Explain how a technical change will affect wages

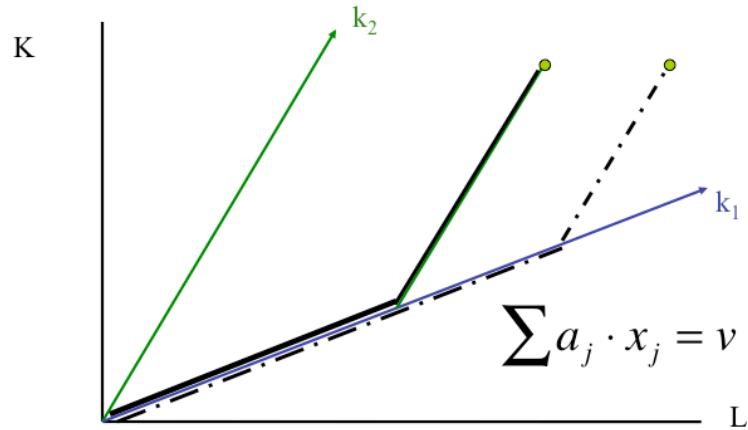
A Rise in the Price of X2



c. Explain the Rybczynski theorem

With an increase in labor, output of the capital intensive sector contracts.

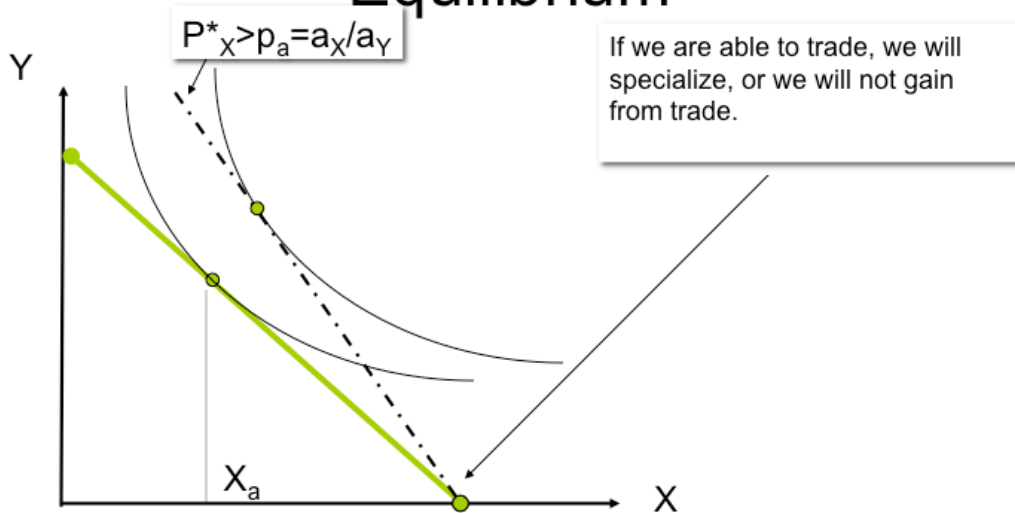
Rybczynski Effect



(2) Assuming a standard Ricardian model

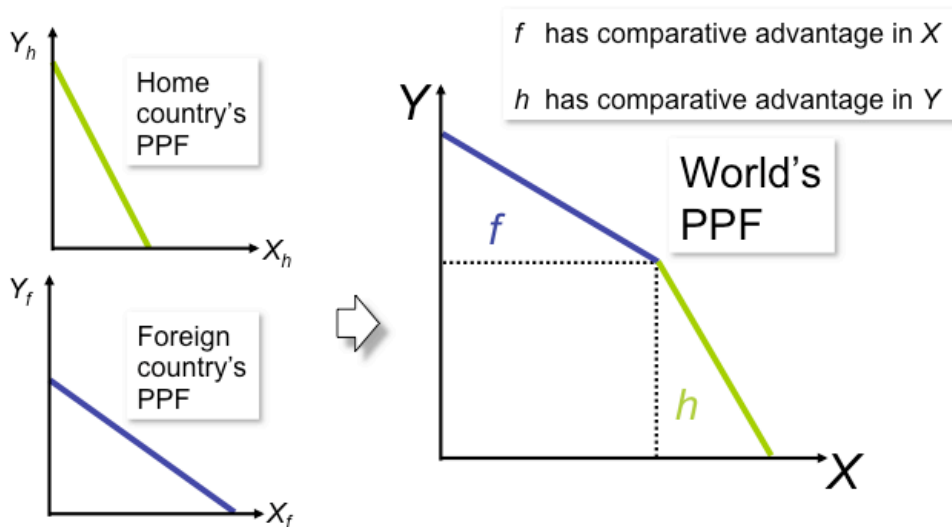
a. Explain the concept of gains from trade

Small Country Trade Equilibrium



b. Explain how trade affects the pattern of production

Production Possibilities



(3) Starting from a CES model of import demand, derive the gravity model

Gravity models

$$\ln m_{i,jT} = D_{iT} + D_{jT} + \sigma \ln(1 + \tau_{i,jT}) + \sigma \ln(1 + \omega_{i,jT}) + dist_{i,j}$$

or

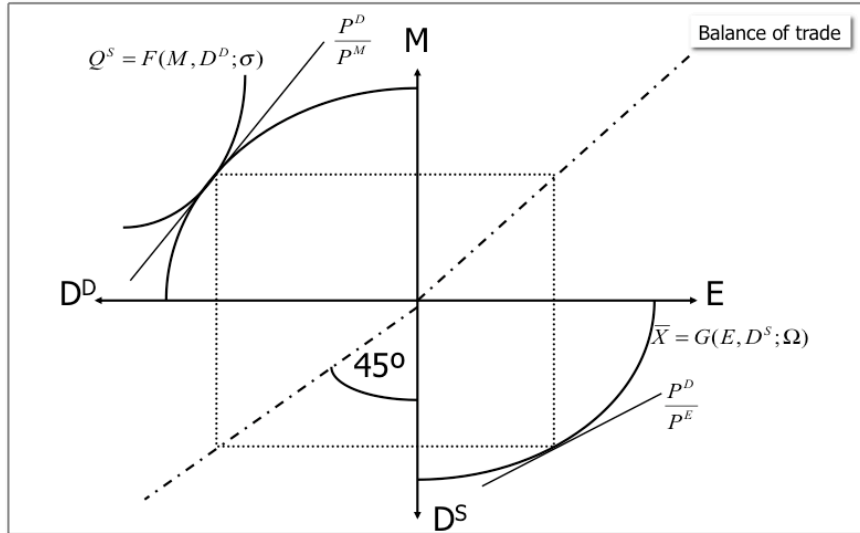
$$\ln m_{i,jT} = PCI_{iT} + PCI_{jT} + POP_{iT} + POP_{jT} + \sigma \ln(1 + \tau_{i,jT}) + \sigma \ln(1 + \omega_{i,jT}) + dist_{i,j} + other\ stuff$$

- Distance/border effects
- Trade elasticities
- NTBs
- Institutions, infrastructure, etc
- Papers are in the reader: Anderson 1999, Anderson & van Wijncoop 2001, Francois and Woerz (2006,2007)etc etc

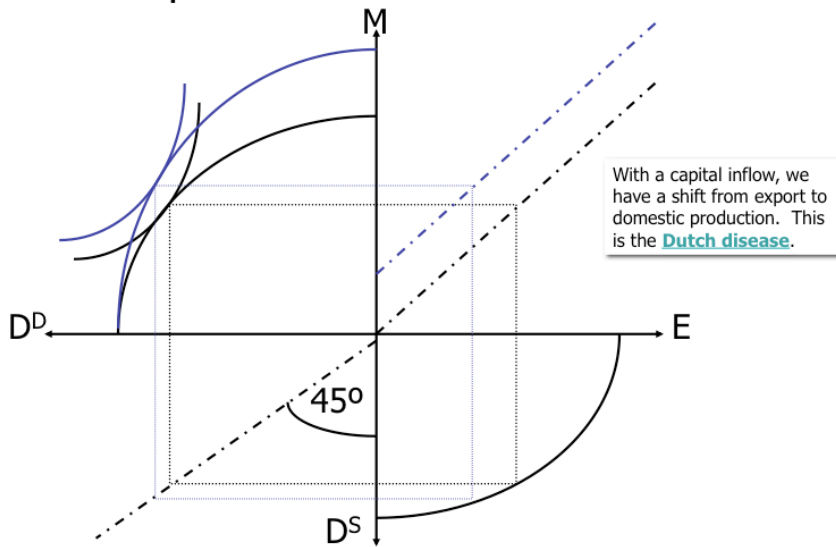
(4) Explain the 123 model

- a. What is the basic structure
- b. What are the mechanics of Dutch disease in this model

Basic Model Structure



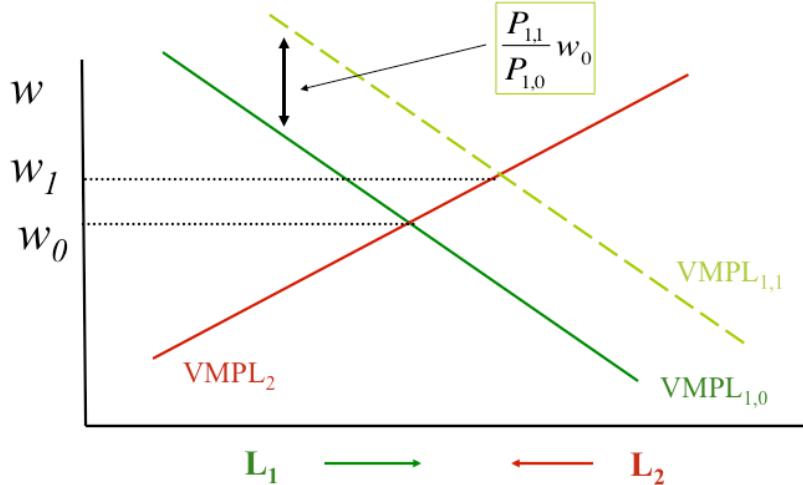
Capital inflow: the Dutch Disease



(5) In the Ricardo-Viner model

- Explain how labor productivity is linked to wage rates
- Explain how an import tariff will affect factor incomes

A Price Increase for X1



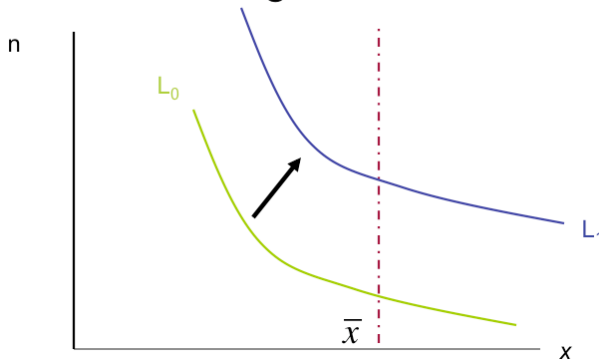
Here, wages are set by the value of its marginal product.

(6) In the basic Krugman model, explain how market size relates to gains from trade.

We have 1 factor of production: L

If we think of trade as an expansion of the market, then voila, we get gains from trade driven purely by variety.

The Krugman model



Some math

$$x_i = \bar{x} = \left(\frac{a}{b}\right)(\sigma - 1)^{-1}$$

Scale of each firm

$$\bar{z} |_{\bar{x}} = a + b\bar{x}$$

Firm scale in terms of inputs

$$n = \frac{Z}{\bar{z}}, \quad X = n\bar{x}, \quad \tilde{v} = n^{(1-\rho)/\rho} X$$

number of firms,
variety scaling

$$U = \left(\sum_i x_i^\rho\right)^{1/\rho} = (n\bar{x}^\rho)^{1/\rho} = (\tilde{v}^\rho)^{1/\rho}$$

utility in variety-scaled
terms