

International Economics: Lecture 6

The Heckscher-Ohlin Model Extensions

Arman Gabrielyan

ATC, February 17, 2017

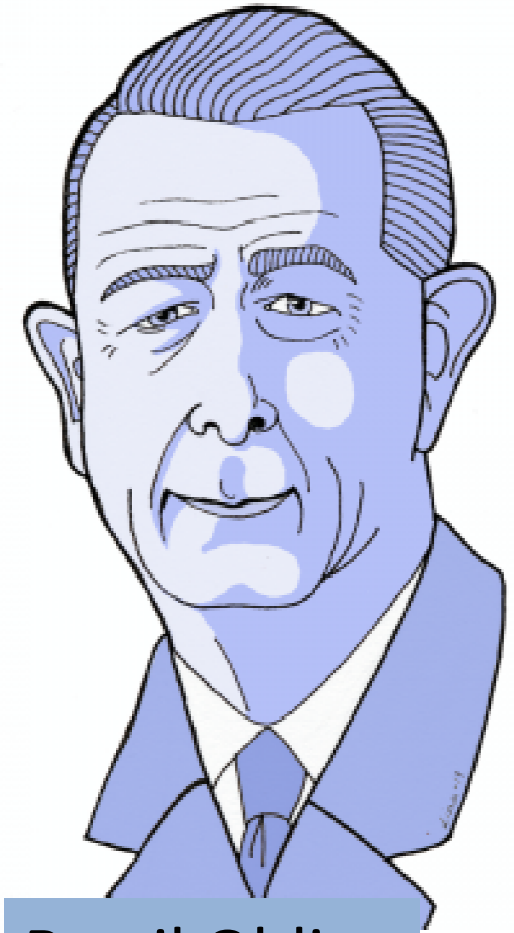
I was born into an upper-middle class family in a village in the South of Sweden.

Having seen in a newspaper a review of a book - written by professor Eli Heckscher - I suggested to my parents, that I should take up studies there. This I did and was much stimulated by Heckscher's teaching. He was always helpful and friendly although we started with a cleavage of opinion about the correct economic principles for the right time to cut trees in forestry.

Bertil Ohlin, Autobiography

Bertil Ohlin. Swedish economist and political leader who is known as the founder of the modern theory of the dynamics of trade. In 1977 he shared the Nobel Prize for Economics with James Meade.

Britannica



Bertil Ohlin

Dear Students, when completing homework, please write down your full student ID.

For example, if your ID is AD 12345, then write down AD 12345, not 2345, or not 345, or not 45, or not 5.

Thank you.

Details make perfection, and
perfection is not a detail.

Leonardo da Vinci

What is the biggest export category of Armenia to Georgia?

- Cement
- Grapes
- Hard liquor
- Copper ore
- Glass bottles



Artist: Sergio Marony

The Heckscher–Ohlin theorem

A country has comparative advantage in and will export the good that uses its abundant factor intensively,

and will import the good that uses its scarce factor intensively.

E.g. capital-abundant country will export capital-intensive good and import labor-intensive good from labor-abundant country.

(Generally) there is no complete specialization in HO world.

The Heckscher – Ohlin MODEL

1. Heckscher – Ohlin theorem.
2. Factor Price Equalization theorem.
3. Rybczynski theorem.
4. Stolper-Samuelson theorem.

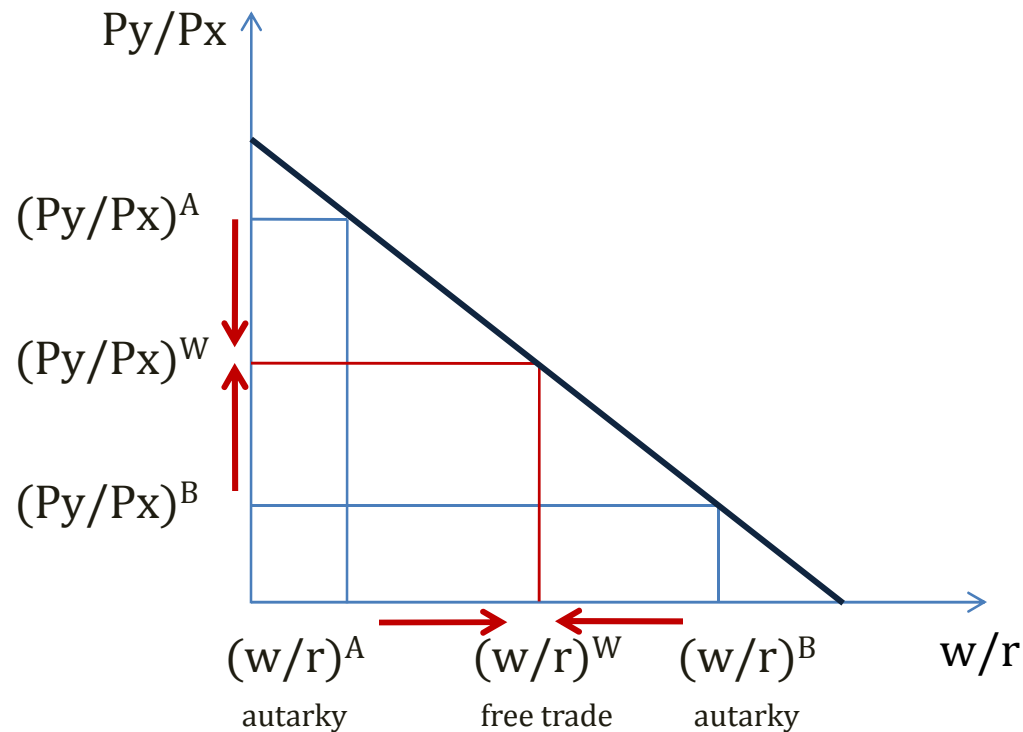
Factor price equalization

X: L-intensive

A: L-abundant

Y: K-intensive

B: K-abundant



Factor price equalization theorem

In free trade, with

- identical technologies,
- perfect competition,
- no factor intensity reversal,
- constant returns to scale
- different factor endowment

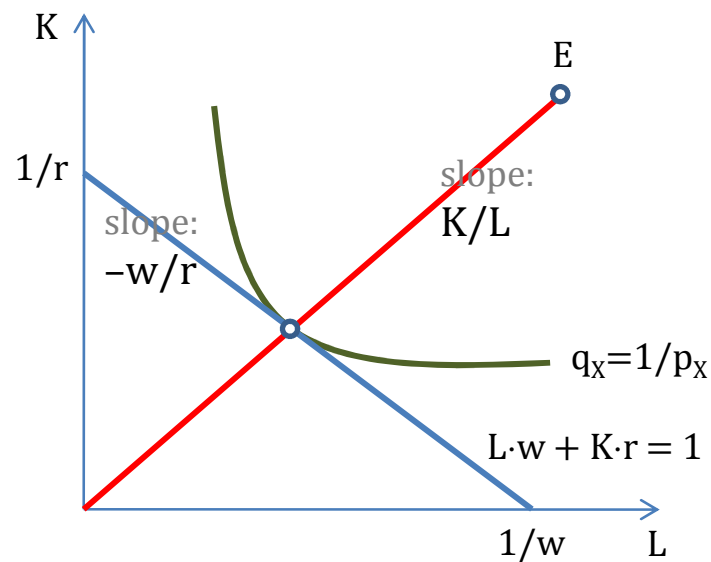
factor prices are equalized

in a two-good, two-factor economy.

i.e. Free trade of goods equalized not only good prices, but also factor prices.

Lerner diagram

a tools, which shows how factor prices depend of product prices



One sector economy equilibrium

- Isoquant: All possible combinations of inputs that yield a specific amount of output.
- Isocost: All possible combination of factors, whose cost is constant.
- Unit-value isoquant: Isoquant for one dram's worth of X, $X=1/p_X$.
- Unit-value isocost: One dram's worth of factors.
- With constant returns to scale the entire production function can be represented by a single isoquant.

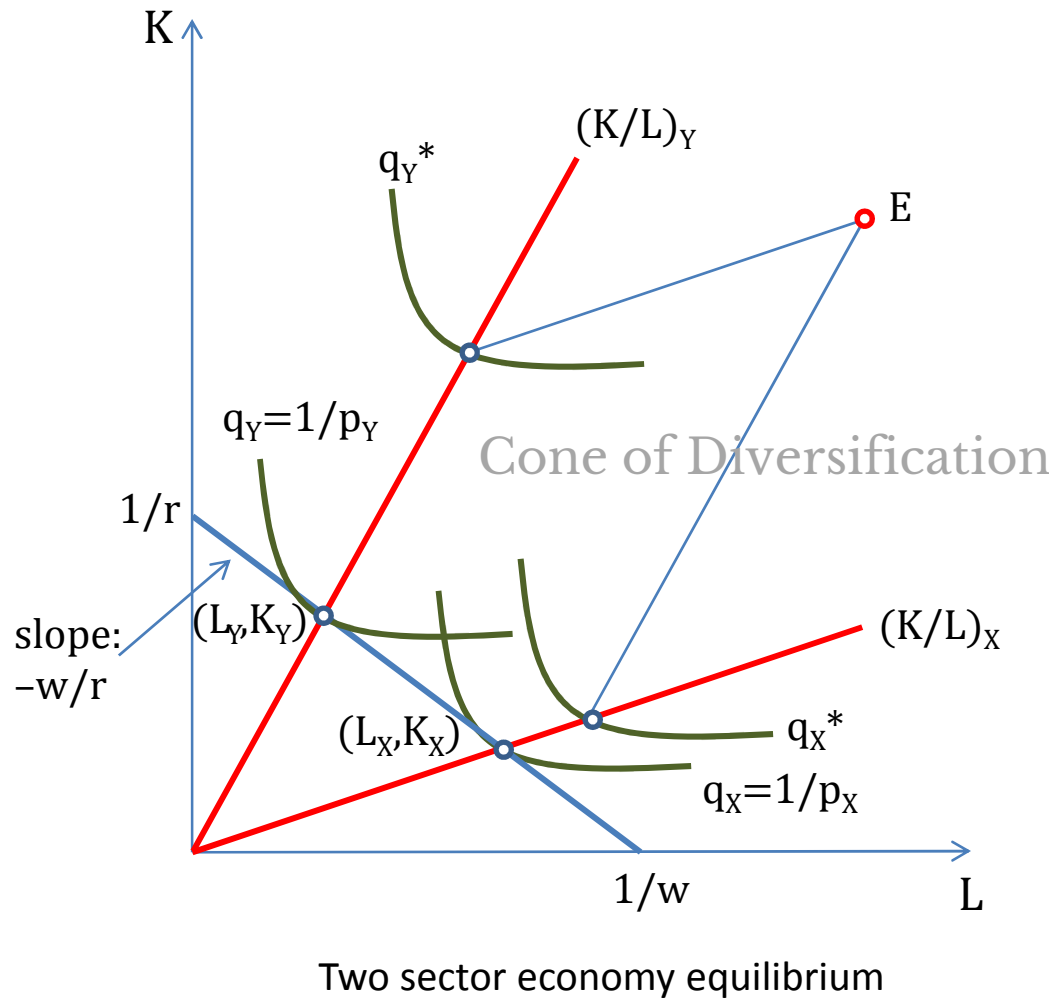
Lerner diagram

X: L-intensive

A: L-abundant

Y: K-intensive

B: K-abundant



We assume perfect competition, which implies

Revenue = Cost

Revenue is shown in unit value isoquant

$$p_i \cdot q_i(K_i, L_i) = 1$$

Cost is shown in unit value isocost

$$L \cdot w + K \cdot r = 1$$

Y is K-intensive and $(K/L)_Y > (K/L)_X$

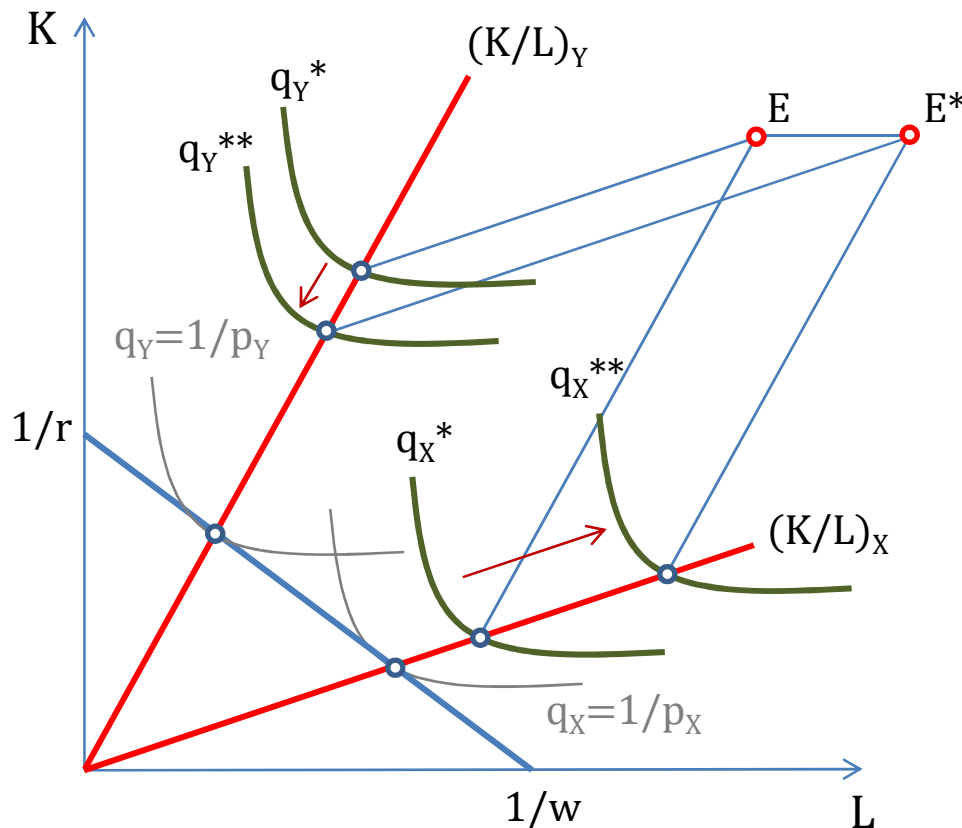
Rybczynski theorem

X: L-intensive

A: L-abundant

Y: K-intensive

B: K-abundant



An increase in labor endowment increases more than proportionally the output of the labor-intensive industry and decreases the output of the capital-intensive industry.

Rybczynski theorem

refers to unbalanced growth

In a two-good, two-factor economy with constant returns to scale

economic growth due to an increase in one factor of production

at constant relative prices

increases more than proportionally the output of the good intensive in that factor,

and decreases the production of the other good.

What did Armenia export to Georgia in 2014?

\$89.7M



Source: The Observatory of Economic Complexity. MIT

Thank you and enjoy,
and remember
The fundamental value of
education is not in the
specific subjects learned,
but in the development of
the ability to think.