



EE451

Chapter 4 (cont.):
Theoretical Qualifications of The
Heckscher-Ohlin Model

Recall Basic Assumptions

- 2 countries, 2 homogeneous goods, 2 homogeneous factors of production (relatively different for each country)
- Identical technology in both countries → same production functions
- Constant returns to scale for both commodities in both countries

Recall Basic Assumptions

- The two commodities are produced using **different factor intensities**,
 - and the respective commodity factor intensities are the same for all factor price ratios.
- Identical preferences
- Perfect competition
- **Perfect factor mobility** within each country, but not between countries

Recall Basic Assumptions

- **No transportation costs**
- No policies restricting the movement of goods between countries
- No policies interfering market mechanisms determining prices and output levels.

Demand Reversal

- Difference in demand across countries could result in a reverse pattern of trade.
- A K-abundant country with strong preference for K-intensive outputs can end up with exporting L-intensive outputs and importing K-intensive outputs.

Factor Intensity Reversal

- Product that is L-intensive at low level of wage can turn to be K-intensive at higher levels of wage.
- One of the two countries can end up exporting the good that intensively uses its relatively scarce factor.
- So interferes the FPE.

Transportation Costs

- The participating countries will *not necessarily* share the transportation costs *equally*.
- Ultimately, the incidence of transportation cost will depend upon the elasticities of supply and demand in each country.

$$\left. \begin{array}{l} E_d^{IM} < 1 \\ E_s^{IM} < 1 \end{array} \right\} \& \left. \begin{array}{l} E_d^{EX} > 1 \\ E_s^{EX} > 1 \end{array} \right\} \Rightarrow t_{IM} > t_{EX}$$

Transportation Costs

- Due to the existence of transport costs, relative product prices do not equalise between countries.
- So relative factor prices will not equalise → FPE breaks down.
- Sufficiently large TC can also prevent trade from taking place.
→ non-traded good.

Imperfect Competition

- (I) Monopolist acts as a price setter at home, but becomes a price taker on the world market.
- Can lead to an increased difference between the domestic price and the world price, not a convergence to a single commodity price.
- Inhibits product price equalisation and thus FPE.

Imperfect Competition

- (II) Monopolist exercising price discrimination to international trade.

Immobile Factors

- Leads to a specific-factor (SF) model
- Assumption: Three factors in the SR.
 - Labour (L): mobile between X and Y.
 - X-type Capital (K_X): specifically used in X.
 - Y-type Capital (K_Y): specifically used in Y.

Empirical Tests on H-O Theorem: the Leontief Paradox

- Using I-O table to identify K/L ratios.

$$\textit{Leontief statistic} = \frac{(K/L)_M}{(K/L)_X}$$

- According to H-O theorem,
 - a relatively K-abundant country: a L.s. < 1,
 - a relatively L-abundant country: a L.s. > 1.
- Empirical evidence reveals the reverse, which casts doubts on the widely accepted H-O theorem → Leontief Paradox.

Suggested Explanations for the Leontief Paradox

- Demand reversal (Consumption bias)
- Factor intensity reversal
- US tariff structure & trade distortion
- Different skill levels of labour
- Natural resources eg: copper, iron, lead, zinc, and especially oil → the production of these N.R. requires large quantities of physical capital.

Comments on Leontief Test

- Leontief (1954) utilised data in 1947 – the year of postwar reconstruction of the world economy.
- In general, the new studies have reaffirmed the L.P. for the early years but detected that the paradox may have disappeared by the early 1970s

Empirical Challenges to Traditional Theories

- The world trade data contain several empirical regularities (or stylised facts) that appear to be inconsistent with the traditional theories.
- Basic stylised facts of world trade
 - Trade among similar economies: eg: trade in Asia where they have similar factor endowments
 - Intra-industry trade: eg: Japan exports Toyota to US and US exports Chrysler to Japan.
 - Trade liberalisation & transformation of former socialist countries towards market (emerging) economies

Post-HO Theories

- Increasing Returns
- Monopolistic Competition
- Technological Gap and Product Cycle
- The Linder Theory
- Intra-Industry Trade