Chapter 12 Trade Theory and Development Experience

Based on Todaro chap 12

This is the last topic and the sun is setting

Basic Questions

- How does trade affect economic growth and income distribution?
- Does trade promote the achievement of development objectives?
- Should less developed countries pursue outward or inward oriented trade policies, or some combination? (This is the focus of Chapter 13.)

Importance of Trade for a selected few countries

TABLE 12.2 Major Developing-Country Exporters of Manufactures

	Manufactured Exports as a Percentage of Total Exports					Total Exports as a Percentage of Gross National Product				Percentage of Total Developing-Country Manufactured Exports				
Country	1965	1970	1975	1980	1990	1970	1975	1980	1990	1965	1970	1975	1980	1990
Taiwan	46.0	78.6	83.6	90.8	93.0	26.3	34.5	49.4	50.7[a]	4.6	13.8	17.1	23.4	28.5
Korea	52.0	74.9	76.8	80.1	94.1	9.4	24.3	28.5	32.6	2.0	7.4	15.0	18.2	24.6
Hong Kong	92.4	95.3	96.7	95.6	95.8	56.4	49.0	49.6	50.1	17.9	23.1	17.2	17.0	16.7
Singapore	28.9	26.7	39.9	45.6	73.0	81.1	94.5	178.0	132.9	6.3	4.9	8.3	11.5	13.0
Brazil	5.0	9.7	23.3	32.8	53.1	6.5	7.1	8.3	6.7	1.8	3.1	7.8	8.6	6.4
Mexico	14.1	30.0	29.5	11.0	44.2	3.4	3.5	8.5	18.9	3.1	4.3	3.4	2.2	3.2
Argentina	5.2	12.3	23.6	21.4	36.0	8.3	8.4	14.3	15.2	1.7	2.6	2.7	2.2	1.0

Sources: United Nations, *Handbook of International Trade and Development Statistics* (New York: United Nations, various years); World Bank, *World Debt Tables* (Washington, D.C.: World Bank, 1985, 1992); Council for Economic Planning and Development, Republic of China, *Taiwan Statistical Data Book, 1984*; International Monetary Fund, *World Economic Outlook, 1992* (Washington, D.C.: International Monetary Fund, 1992).
[a]Estimate.

Export earning as percentage of GDP

TABLE 12.4 Export Earnings as a Percentage of Gross Domestic Product and Share of Primary and Manufactured Commodities in Total Exports for Selected Countries, 1996

Country	Percentage of GDP	Percentage Share of Primary Commodities	Percentage Share of Manufactures
Developing countries			
Hong Kong[a]	142	8	92
Jamaica	55	31	69
Philippines	42	16	84
Saudi Arabia	42	91	9
Nigeria	38	92	8
Venezuela	37	88	12
Sri Lanka	35	27	73
Kenya	33	89	11
South Korea	32	8	92
Togo	31	94	6
Mexico	22	22	78
India	12	26	74
Brazil	7	46	54
Developed countries			
United Kingdom	28	18	82
United States	11	22	78
Japan	9	5	95

Source: World Bank, *1998 World Development Indicators* (New York: Oxford University Press, 1998), tabs. 4.4 and 4.8.
[a]Prior to incorporation into China in 1997.

Importance (contd)

- Large countries like Brazil and India are generally less dependent on foreign trade as compared to smaller tropical countries in Africa and Asia.

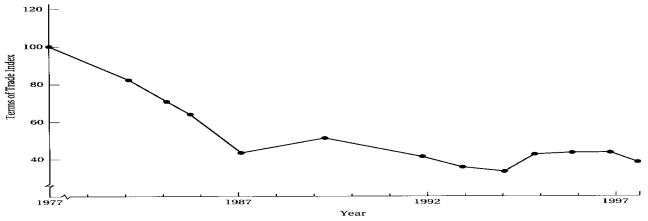
Reasons for poor export poerformance

- An important reason - Demand elasticity and export earnings
- Income elasticity of demand for export goods from LDCs is low.

Terms of trade and Prebisch-Singer Thesis

- Commodity terms of trade is the ratio, P_X/P_M, the ratio of export price index to import price index.
- If terms of trade deteriorates, what happens?
- You have to export more to get finance a given amount of import. (see figure below for what happened historically for LDCs)

Figure 12.1 Real Non-Oil Commodity Terms of Trade, 1977–1998



Source: International Monetary Fund, *World Economic Outlook, October 1994* (Washington, D.C.: International Monetary Fund, 1994), p. 92, and *World Economic Outlook, May 1998*, p. 174.
Note: Commodity prices are deflated by the export unit values of manufactured goods.

Trade Theory

- Why do countries trade?
- Because they can gain from trade. Because of ?
- Comparative advantage and specialization.
  - Comparative advantage in terms of abilities and resource endowments. For instance, two people one good in technical staff say operating a computer to process huge information and another person good at writing abilities, when work together can ….
  - Same phenomenon of comparative advantage and specialization can lead both countries to gain from trade.
- Sources of comparative advantage:
  - Classical Ricardian theory of comparative advantage from productivity differences, it is mainly technological difference
  - Neo-classical (Heckscher-Ohlin-Samuelson) theory of differences in factor endowments. LDCs have relatively more labor and DCs relatively more capital.
  - Vent for Surplus Theory

Contd.

Main reasons in all theories of International trade:

- Countries engage in international trade because they benefit from doing so.
  - Allows countries to specialize production so that resources are allocated most efficiently.
    - Trade frees each country's residents from having to consume goods in the same combination in which the local economy can produce them.
  - Benefits from product specialization:
    - Individuals may produce one good (*e.g., teaching economics*) and exchange that for others goods to consume (*e.g., food or clothing*).

Ricardian Theory

Concepts:

- ➢ Production possibility curve
- ➢ Community indifference curve– demand curve for wheat
- ➢ Production decision to maximize revenue –supply curve of wheat

- ✓ Autarky equilibrium
- ✓ International trade equilibrium and trade pattern
- ✓ Gains from trade – in terms of income and welfare

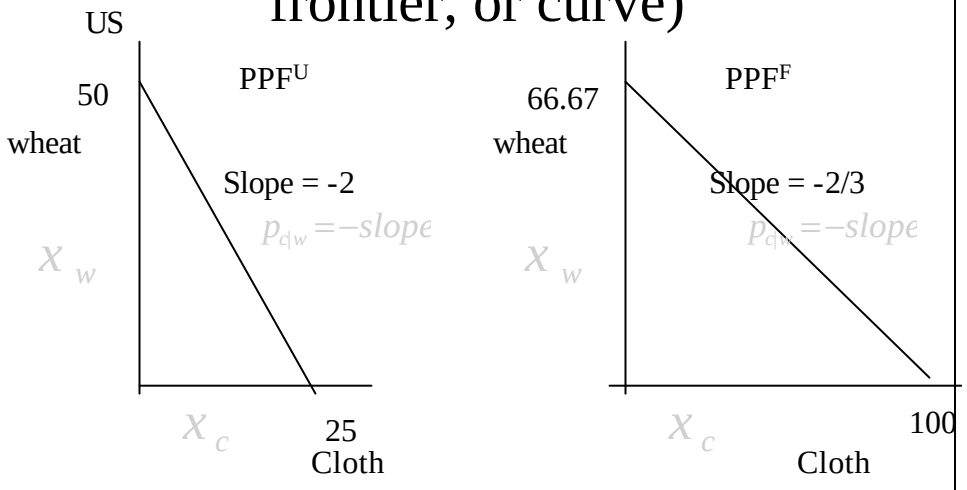
Example

Example modified from Adam Smith Section

Labor hrs required to make	US	Rest of the World
1 bushel of wheat	2	1.5
1 yd of cloth	4	1.0

Each country has 100 units of labor.
One country has absolute advantage in production of both goods.
Would the countries benefit from trade?

PPF (Production possibility frontier, or curve)



Consumption and Production for the economy

With or without trade:

- Which combinations of goods will be actually consumed by the economy?
- Which combination of goods will be produced in the economy

Answer depends on the prices.

- Community indifference curve, utility maximization, gives demand curve for a good
- Revenue maximization, gives supply function

Main concepts

- Community indifference curves, utility maximization, demand curve
- Revenue maximization, and supply curve
- Autarky equilibrium prices (slopes) and quantities consumed in each country
- International price after free trade will be between two autarky prices
- At different prices, trade triangle
- Gains from trade

Heckscher-Ohlin Theory

- Two factors of production: capital and labor
- Countries have identical technology
- Labor abundant/capital abundant
- Labor intensive/capital intensive

Factor Abundance and factor intensity

- Country A is capital abundant if it has more capital per unit of labor than does country B. If A is capital abundant, then B must be labor abundant.

Factor intensity

- A good say cloth is labor intensive if it constitutes a higher share of the total cost.
- In our example in the class, production of cloth is labor intensive relative to production of wheat which is capital (in our example land) intensive.

1st predictions of the Heckscher-Ohlin Theory

Prediction of the theory:

1)A country exports the product that uses their abundant factor Intensively. For instance,

$$\frac{\text{US land supply}}{\text{US labor supply}} > \frac{\text{Foreign land supply}}{\text{Foreign labor supply}}$$

Example

- Suppose US has land 100 units, and labor 50 units. The Foreign countries have land 200 units, and labor 150 units. Assume that there are two goods in the world – wheat and cloth. Assume that wheat is land intensive and cloth is labor intensive. Then according to the prediction of the Heckscher-Ohlin theory of trade, Us will export which good? And Foreign countries will export which good?
- Answer: US export wheat and Foreign export cloth.

Second prediction:

Stolper-Samuelson Theorem:

- Link between changes in output prices and changes in factor prices.
- Most general form: an increase in the relative price of a good increases the real return to the factor used intensively in that good's production and decreases the real return to the other factor.
  - Factor prices change proportionally more than output prices (*magnification effect*).
- When assumptions of Heckscher-Ohlin model are added, the Stolper-Samuelson theorem means that opening trade *raises* the real reward to the abundant factor and *lowers* the real reward to the scarce factor.
  - Trade boosts production of the good of comparative advantage, increasing that good's opportunity cost and relative price.

3rd Prediction: Factor price equalization theorem

The Factor Price Equalization Theorem

- According to Stolper-Samuelson theorem, moving from autarky to unrestricted trade raises the real reward of the abundant factor.
  - Similarly, such a move lowers the real reward of the scarce factor.
  - Same adjustment takes place in the second country, but with the roles of the two factors reversed.
    - Trade raises the real reward of a factor in a country where that factor is abundant and lowers its price in the country where it is scarce.
- Thus, even when factors are immobile between the two countries, unrestricted trade in goods tends to equalize the price of each factor across countries.
  - With free trade in goods and no international factor mobility, $w^A = w^B$ and $r^A = r^B$.

Trade Theory and Development: The Traditional Arguments

1) Trade is an important stimulator of economic growth. It enlarges a country's consumption capacities, increases world output, and provides access to scarce resources and worldwide markets for products without which poor countries would be unable to grow.
2) Trade tends to promote greater international and domestic equality by equalizing factor prices, raising real incomes of trading countries, and making efficient use of each nation's and the world's resource endowments (e.g., raising relative wages in labor-abundant countries and lowering them in labor-scarce countries).
3) Trade helps countries achieve development by promoting and rewarding the sectors of the economy where individual countries possess a comparative advantage, whether in terms of labor efficiency or factor endowments.

Contd.

4) In a world of free trade, international prices and costs of production determine how much a country should trade in order to maximize its national welfare. Countries should follow the dictates of the principle of comparative advantage and not try to interfere with the free workings of the market.
5) Finally, to promote growth and development, an outward-looking international policy is required. In all cases, self-reliance based on partial or complete isolation is asserted to be economically inferior to participation in a world of unlimited free trade.

Criticisms

1) All productive resources are fixed in quantity and constant in quality across nations. They are fully employed, and there is no international mobility of productive factors.
2) The technology of production is fixed (classical model) or similar and freely available to all nations (factor endowment model). Moreover, the spread of such technology works to the benefit of all. Consumer tastes are also fixed and independent of the influence of producers (international consumer sovereignty prevails).
3) Within nations, factors of production are perfectly mobile between different production activities, and the economy as a whole is characterized by the existence of perfect competition. There are no risks or uncertainties.
4) The national government plays no role in international economic relations; trade is carried out among many atomistic and anonymous producers seeking to minimize costs and maximize profits. International prices are therefore set by the forces of supply and demand.
5) Trade is balanced for each country at any point in time, and all economies are readily able to adjust to changes in the international prices with a minimum of dislocation.
6) The gains from trade that accrue to any country benefit the nationals of that country.