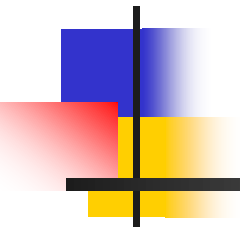


International trade and Factor-Mobility Theory

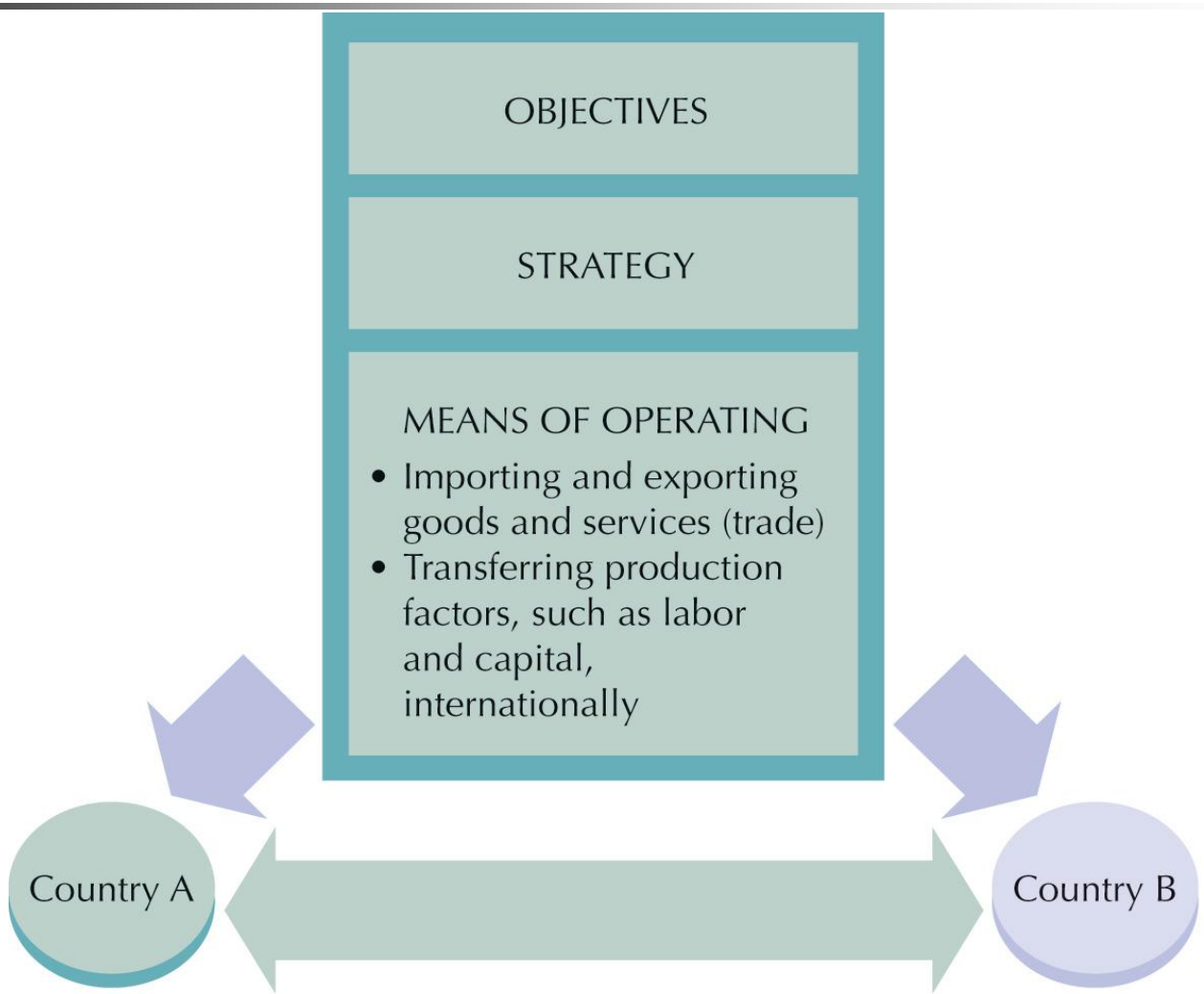
Chapter 6

The Importance of Trade Theory

Trade theory helps managers and government policymakers focus on three critical questions:

- What products should be imported and exported?
- How much should be traded?
- With whom should they trade?

Fig. 6.1: Companies' International Operations Link Countries Economically



Interventionist theory

- Mercantilism is a trade theory holding that a country's wealth is measured by its holdings of treasure which usually means its gold.
- According to mercantilism, countries should export more than they import.
  - Governments restricts imports, offer subsidies, use colonies to supply commodities

Free Trade Theories: Absolute & Comparative Advantage

- The theories of *absolute* and *comparative advantage* demonstrate how economic growth can occur via specialization and trade.
- *Free trade* (a positive-sum game) implies *specialization* and requires that nations neither artificially limit imports nor artificially promote exports.
- The *invisible hand* of the market determines which competitors survive, as customers buy those products that best serve their needs.

Nations specialize in the production of certain products, some of which may be exported; export earnings can in turn be used to pay for imported goods and services.

Theory of Absolute Advantage

Absolute advantage [Adam Smith, 1776]:

A country can (i) maximize its own economic well being by *specializing* in the production of those goods and services that it produces more efficiently than any other nation and (ii) enhance global efficiency through its participation in free trade.

Smith reasoned that:

- workers become more skilled by repeating the same tasks
- workers do not lose time in switching from the production of one kind of product to another
- longer production runs provide greater incentives for the development of more effective working methods

Natural vs. Acquired Advantages

- A *natural advantage* may exist because of:
  -given climatic conditions
  -access to particular resources
  -the availability of labor, etc.

Example:
Wheat production in US
Coffee in Costa Rica
Tea in Sri Lanka

Acquired Advantages

- Countries that are competitive in manufactured goods (but may lack agricultural goods and natural resources) have an acquired advantage
- An *acquired advantage* may exist because of:

  -superior skills

  -better technology

  -greater capital assets, etc.

  Denmark exports silver tableware not because there are rich Danish silver mines but because Danish companies have developed distinctive products

  Real income depends on the output of products as compared to the resources used to produce them.

Production Possibilities with Absolute Advantage

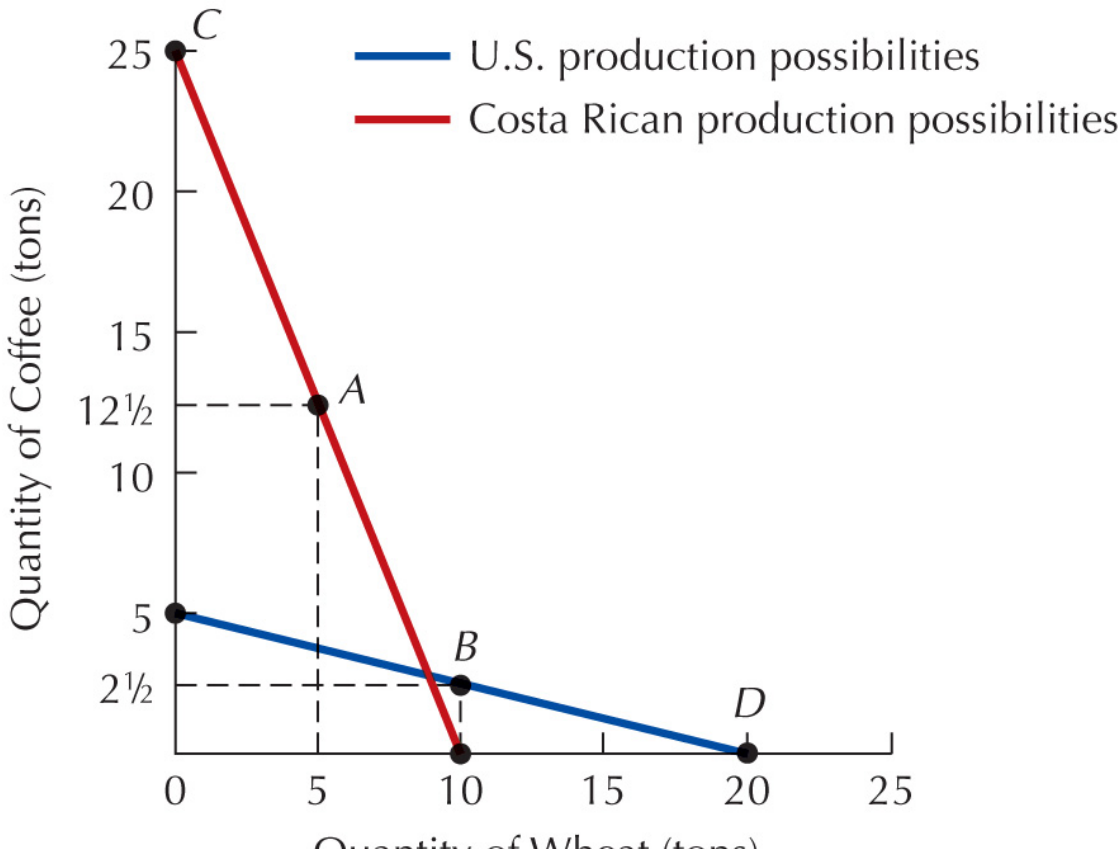
ASSUMPTIONS
for Costa Rica

1. 100 units of resources available
2. 10 units to produce a ton of wheat
3. 4 units to produce a ton of coffee
4. Uses half of total resources per product when there is no foreign trade

ASSUMPTIONS
for United States

1. 100 units of resources available
2. 5 units to produce a ton of wheat
3. 20 units to produce a ton of coffee
4. Uses half of total resources per product when there is no foreign trade

PRODUCTION	Coffee (tons)	Wheat (tons)
Without Trade:		
Costa Rica (point *A*)	12½	5
United States (point *B*)	2½	10
Total	15	15
With Trade:		
Costa Rica (point *C*)	25	0
United States (point *D*)	0	20
Total	25	20



Theory of Comparative Advantage

Comparative advantage [David Ricardo, 1817]:

A country can (i) maximize its own economic well-being by *specializing* in the production of those goods and services it can produce *relatively* efficiently and (ii) enhance global efficiency via its participation in free trade.

Ricardo also reasoned that:

- a country can simultaneously have an *absolute* and a *comparative advantage* in the production of a given product
- by concentrating on the production of the product in which it has the greater advantage, a country can further enhance both global output and its own economic well-being

Production Possibilities with Comparative Advantage

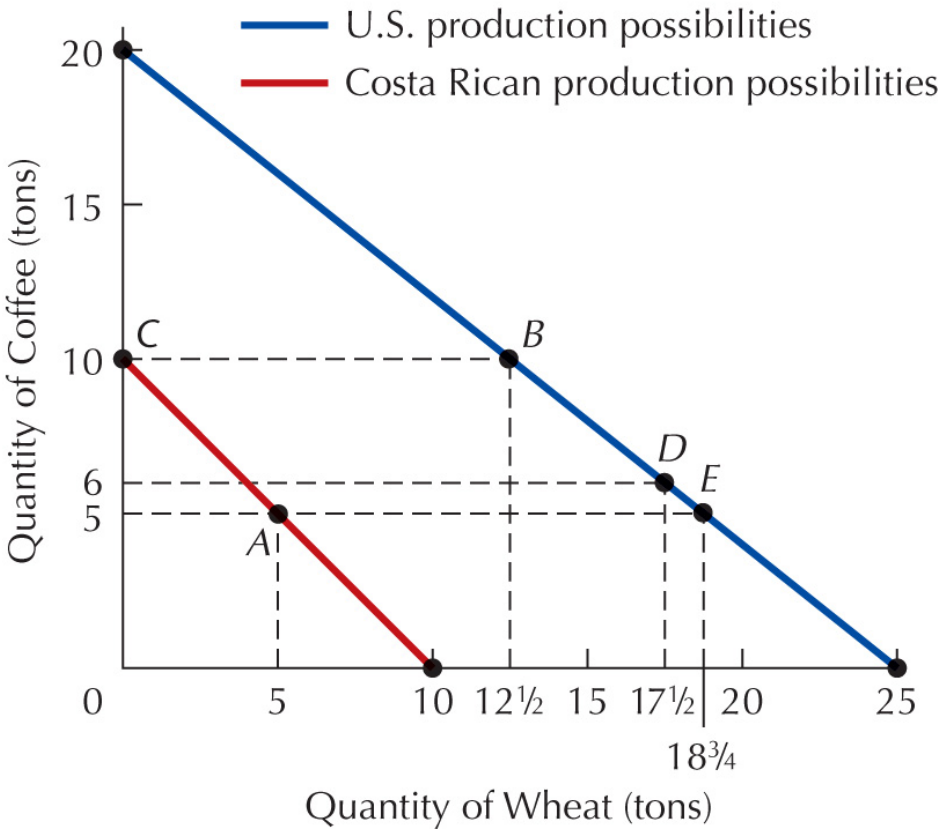
ASSUMPTIONS
for Costa Rica

1. 100 units of resources available
2. 10 units to produce a ton of wheat
3. 10 units to produce a ton of coffee
4. Uses half of total resources per product when there is no foreign trade

ASSUMPTIONS
for United States

1. 100 units of resources available
2. 4 units to produce a ton of wheat
3. 5 units to produce a ton of coffee
4. Uses half of total resources per product when there is no foreign trade

PRODUCTION	Coffee (tons)	Wheat (tons)
Without Trade:		
Costa Rica (point *A*)	5	5
United States (point *B*)	10	12½
Total	15	17½
With Trade (increasing coffee production):		
Costa Rica (point *C*)	10	0
United States (point *D*)	6	17½
Total	16	17½
With Trade (increasing wheat production):		
Costa Rica (point *C*)	10	0
United States (point *E*)	5	18¾
Total	15	18¾



- US is more efficient than Costa Rica in producing both wheat and coffee and has an absolute advantage in the production of both.
- But US has comparative advantage only in production of wheat (wheat – 2.5 times that of CR; coffee – 2 times of CR)
- Costa Rica has an absolute disadvantage in the production of both
- Has a comparative advantage (or less of a comparative disadvantage) in the production of coffee (coffee - CR is 50% as efficient as US; wheat – 40% as efficient as US)

Assumptions and Limitations of the Free Trade Theories

The theories of absolute and comparative advantage both make assumptions that may not be entirely valid.

- Full employment of resources
- Exclusive pursuit of economic efficiency objectives
- Equitable division of gains from specialization
- Only two countries and two commodities
- Exclusion of transport costs
- A static rather than a dynamic view
- Exclusion of services
- Factor mobility

Theories Explaining Patterns of Trade: Country Size, Factor Proportions, Country Similarity

The theories of country size, factor proportions, and country similarity all contribute to the explanations of:

- what types of products are traded
- with which partner nations countries will primarily trade

Nontradable products are those goods and services that are impractical to export.

Theory of Country Size

Large countries differ from small countries in at least two critical ways:

- Large countries tend to export a smaller portion of their output and import a small portion of their consumption.

  Large countries are more apt to have varied climates and a greater assortment of natural resources than smaller countries, thus making large countries more self-sufficient.

- Large countries tend to have higher transportation costs for exported and imported products.

  Given the same types of terrain and modes of transportation, the greater the distance, the higher the associated transport costs. Thus, firms in large countries often face higher transport costs in terms of sourcing inputs from and delivering outputs to distant foreign markets than do their closer foreign competitors.

Factor Proportions Theory

- Differences in a country's relative endowments of land, labor, and capital explain differences in the cost of production factors.
- A country will tend to export products that utilize relatively abundant production factors because they are relatively cheaper than scarce factors.

The composition of a country's trade depends on both its natural and acquired advantages. With respect to the latter, both production and product technology can be very important.

Country Similarity Theory

When a firm develops a new product in response to observed conditions in its home market, it is likely to turn to those foreign markets that are most similar to its domestic market when commencing its initial international expansion activities. This tendency is reflective of:

- the cultural similarity of nations
- the similarity of national political/economic interests
- the economic similarity of industrialized countries

Countries that are near to one another enjoy relatively lower transportation costs than those that are more distant, but they may or may not be similar with respect to culture, level of economic development, and/or political/economic interests.

Factor Mobility

Factor mobility concerns the free movement of *factors of production,* such as labor and capital, across national borders.

- While capital is the most internationally mobile factor, short-term capital is the most mobile of all.

  Capital is primarily transferred because of differences in expected returns, but firms may also respond to government incentives.

- People transfer internationally in order to work abroad, either on a temporary or on a permanent basis. Motives are:
  - ✓ economic motives
  - ✓ political motives

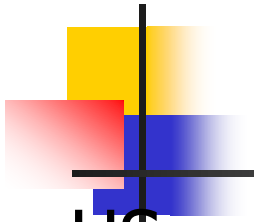
Brain drain occurs when educated citizens leave a country, but a nation may in turn gain from the remittances that citizens who are working abroad send home.

International Trade and Factor Mobility—Relationship

- *Substitution:* the inability to gain sufficient access to foreign production factors may stimulate efficient methods of domestic *substitution,* such as the development of alternatives for traditional production methods
- *Complementarity:* factor mobility via foreign direct investment may stimulate foreign trade because of the need for equipment, components, and/or complementary products in the destination country

  While immigrants add to the base of a country's skills, thus enabling competition in new areas, inflows of capital can be used to develop infrastructure and natural and other acquired advantages, thus enabling increased participation in the international trade arena.

Unrestricted trade and factor mobility



- US and Mexico have equally productive land available at the same cost for growing tomatoes.
- The cost of transporting tomatoes between the two countries is $0.75 per bushel
- Workers from either country pick an average of two bushels per hour during a 30-day picking season.
- Labour cost is $20 per day ($1.25 per bushel) in the US and $4 per day ($0.25) in Mexico
- Capital needed to buy seeds, fertilizers and equipment costs are $0.30 per bushel in US and $0.50 in Mexico

Example:

US	Mexico
Without free trade	
▪ Labor rate - $1.25/bushel	▪ $0.25 / bushel
▪ Capital - $0.30/bushel	▪ $0.5/bushel
▪ Total cost - $1.55/bushel	▪ $0.75/bushel

With free trade with transportation costs of $0.75

Import from Mexico gives total cost of $1.50 which is 0.05 cheaper

Trade restriction – mobility of resources

- A scenario in which neither country allows the import of tomatoes but both allow certain movements of labor and capital
- Mexican workers can enter the country the US on temporary work permits for an incremental travel and living expense of $14.40 per day per worker (0.90 per bushel) .
- At the same time, US companies will invest capital in Mexican tomato production, provided the capital earns more than it would earn in the US i.e. $0.40 per bushel which is less than the Mexican going rate.

Labor and capital mobility

- Mexican labor work permit cost = $.90/bushel
- US capital is invested in Mexico at 0.40/bushel
- Mexican production costs = $0.65 ($0.25 of Mexican labor plus $0.40 of US capital)
- US production costs = $1.45 (0.25 labor wage +0.9 work permit +0.30 capital cost)
- Each country would reduce its production costs – from $0.75 to $0.65 in Mexico and from $1.55 to $1.45 in the US by bringing in abundant production factors from abroad.

Summary of conclusions from two examples

	US	Mexico
No trade or factor mobility	$1.55	$0.75
Trade mobility but no factor mobility	$1.50	$0.75
Factor mobility but no trade mobility	$1.45	$0.65
Both trade and factor mobility	$1.40	$0.65

Implications/Conclusions

- Production factors are neither as mobile nor as immobile as theories assume.
- The free trade theories of absolute and comparative advantage are descriptive in nature.
- The theories of country size, factor proportions, and country similarity help explain patterns of trade.
- Although the international mobility of production factors may be a substitute for trade, that same mobility may stimulate trade because of the need for equipment, components, and/or complementary products in the destination country.