



DEVELOPMENT ECONOMICS

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Chapter 6

International Trade and Exchange Rates

ALWAYS LEARNING

PEARSON

INTRODUCTION

- Who benefits from *globalization*?
- What are the recent *trends* in global trade?
- What are the *benefits* of free trade versus the *costs* of free trade?
- What are the trends in international trade and financial flows across countries?
- What are the different types of *exchange rate arrangements*?

WORLD TRADE EVOLUTION AND DEVELOPING COUNTRIES

The Increased Openness of Developed and Developing Economies

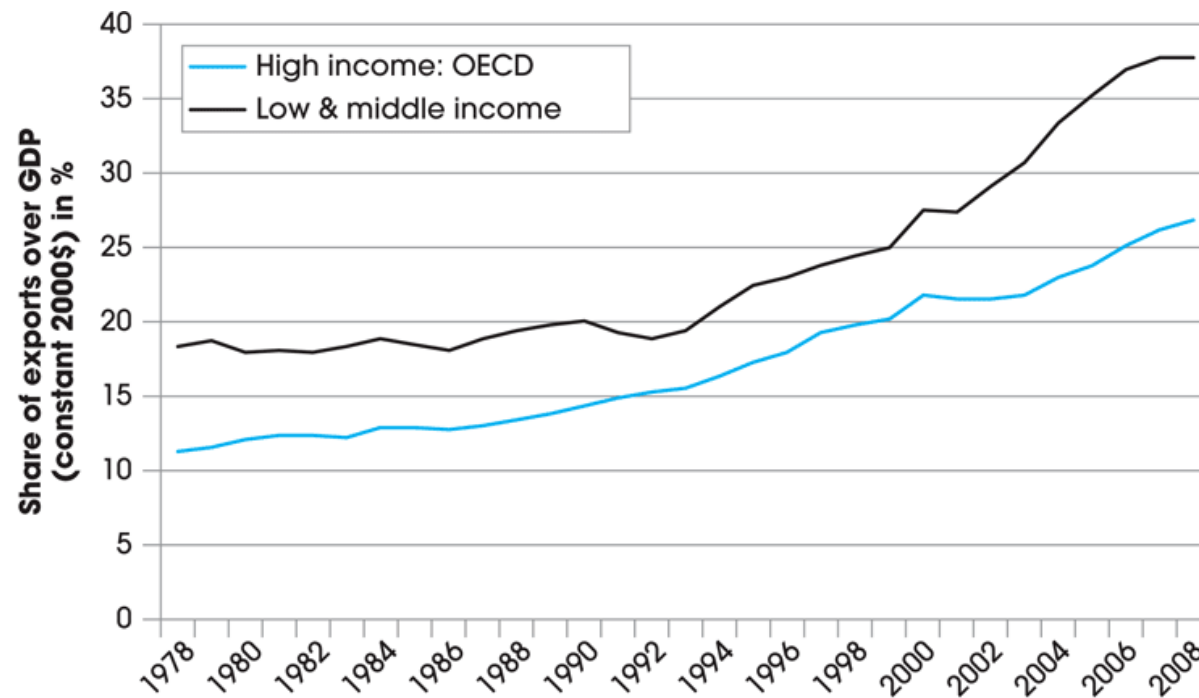
- *Trade openness* is measured as the share of exports to GDP.
- *Trade share* is a region's exports as a percentage of world exports.
- The share of exports in GDP has *trended up for all countries* but especially for developing countries (Figure 6.1).

A Diverse Trade Performance across Regions

- There is a large *heterogeneity* among developing countries: exports of East Asian countries have gone up spectacularly, exports from Africa and the Middle East have grown more slowly (Figure 6.2).
- The pattern of *export specialization* by developing countries is changing over time. Traditionally, developing economies specialized in *primary commodities* (food, minerals including fuels), but most recent growth is in *manufactured goods*, especially in Asia (Figure 6.3).

WORLD TRADE EVOLUTION AND DEVELOPING COUNTRIES

Figure 6.1. Export Shares of GDP (Total Exports over GDP, Both in Constant 2000 dollars).

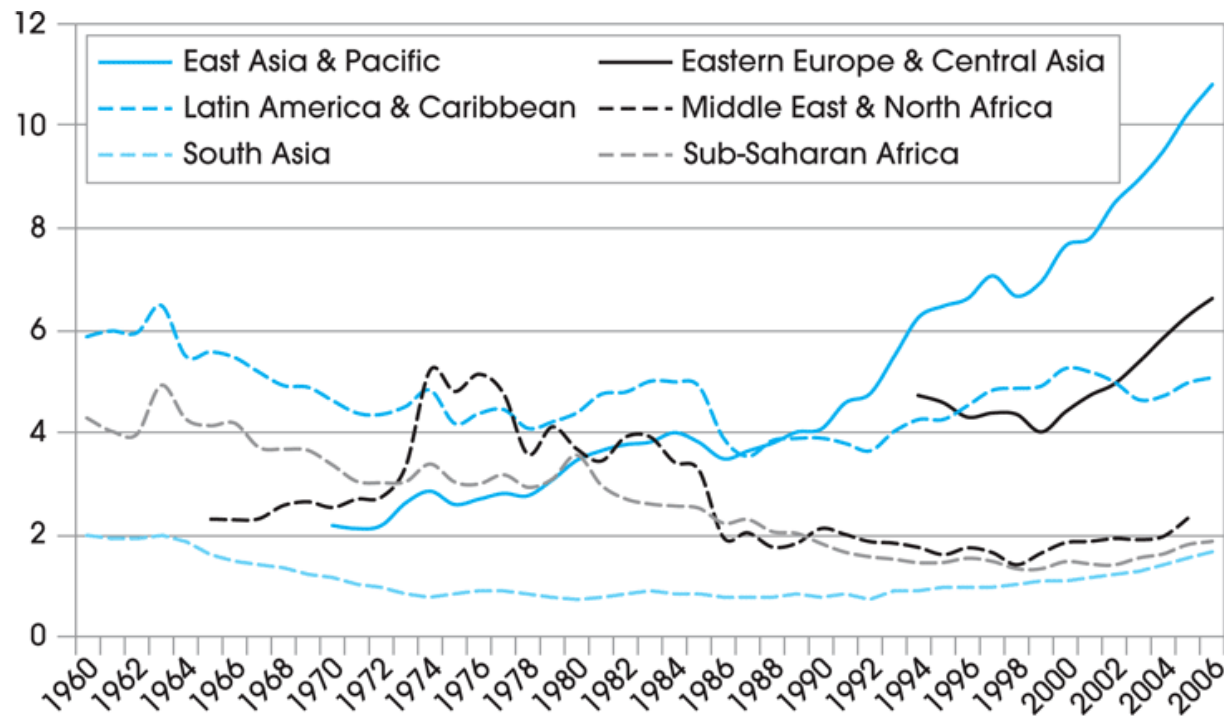


Exports as a share of GDP have gone up in developing and developed countries, but since the late 1990s, the increase has been higher for developing countries.

Source: The World Bank, World Development Indicators, <http://databank.worldbank.org>, series: Exports of goods and services (% of GDP) for developing countries (low- and middle-income countries in the World Bank classification) and high-income OECD countries.

WORLD TRADE EVOLUTION AND DEVELOPING COUNTRIES

Figure 6.2. World Trade Shares of Developing Regions (as a Percentage of World Exports).

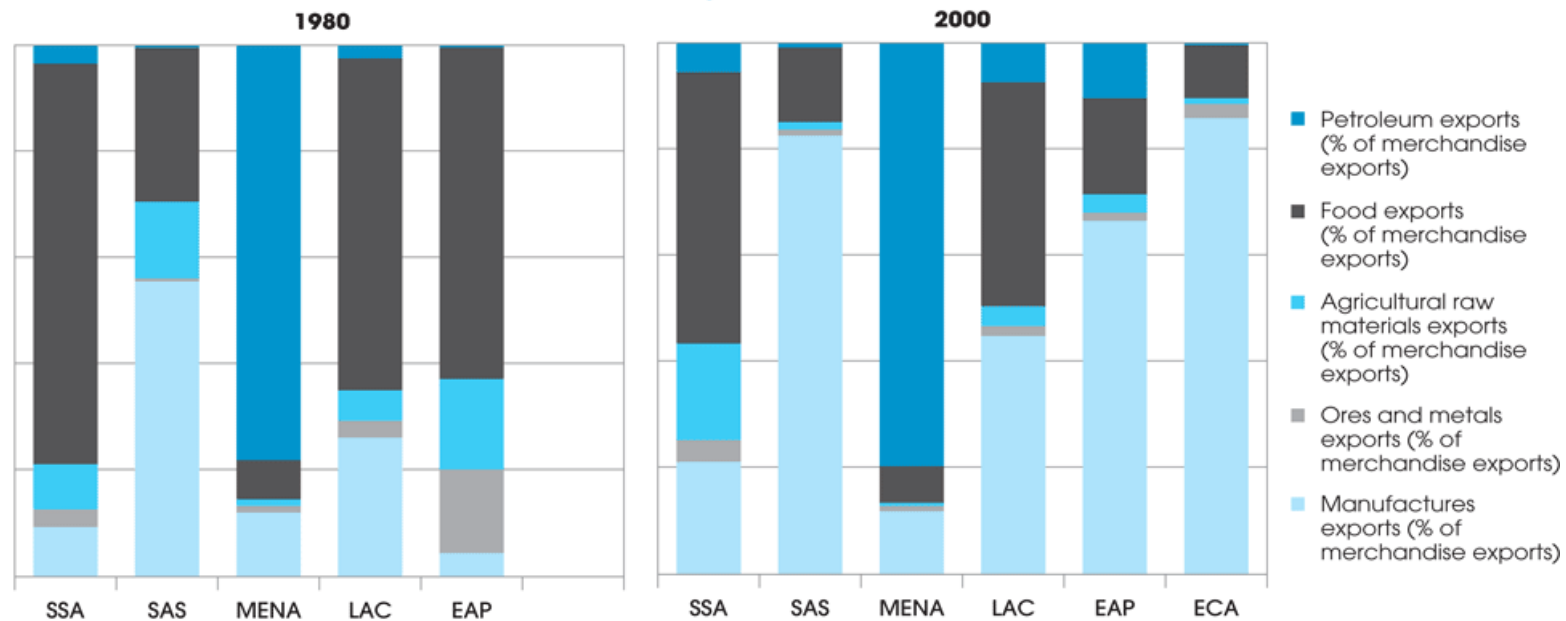


A region's trade shares are the aggregate exports of a developing region as a percentage of world exports. East Asia's share of world trade has gone up sharply while the shares of sub-Saharan Africa, the Middle East and North Africa have gone down.

Source: The World Bank, World Development Indicators, <http://databank.worldbank.org>, series: Exports of goods and services (current US\$) for six regions of the world.

WORLD TRADE EVOLUTION AND DEVELOPING COUNTRIES

Figure 6.3. The Composition of Developing Countries' Exports in 1980 and 2000.



The composition of exports is calculated as the 3-year average of the median country export shares. (SSA) sub-Saharan Africa, (SAS) South Asia, (MENA) Middle East & North Africa, (LAC) Latin America & Caribbean, (EAP) East Asia & Pacific, (ECA) Eastern Europe & Central Asia. In 1980, developing countries specialized in food exports, with the exception of the Middle East, which specialized in petroleum exports, and South Asia, which specialized in manufacturing. By 2000, with the exception of sub-Saharan Africa, the Middle East, and parts of Latin America, most regions specialized in manufacturing goods.

Source: The World Bank, World Development Indicators: <http://databank.worldbank.org>, series for different categories of exports as a percentage of merchandise exports.

THE THEORY OF COMPARATIVE ADVANTAGE

- The *theory of comparative advantage (C.A.)* explains how economies benefit from trade through *specialization* and, therefore, greater *efficiency*.
- *C.A.* also provides the justification for *free trade* that is almost unanimously accepted among *economists*.

The Benefits of Exchange and Specialization

- *Exchange benefits all* parties to the exchange. Why?
- Countries (or firms) specialize in areas where their *relative opportunity costs* of production are lower.
- *Relative costs* are found by comparing production *price ratios*.

THE THEORY OF COMPARATIVE ADVANTAGE

In Table 6.1, the price of a DVD player in terms of shirts is 6 ($30/5$), and in China the same ratio is 10 ($60/6$). Japan has a *comparative advantage* in DVD players and China in shirts.

Table 6.1. Production of DVD Players and Shirts in Japan and China (in Hours).

	Japan	China
DVD player	30	60
Shirt	5	6

This simple table gives the total number of hours needed to produce a DVD player and a shirt in Japan and China.

Japan has an absolute advantage

- In producing DVDs: it takes less hours than in China (30 vs 60)
- In producing shirts: it takes less hours than in China (5 vs 6)
- Should Japan trade with China even though Japan has an absolute advantage in both types of production?

What is the opportunity cost of producing a DVD?

- In Japan, it takes 6 times more hours to produce a DVD than a shirt: $(30/5)$
- In China, it takes 10 times more hours to produce a DVD than a shirt $(60/6)$
- Japan has a comparative advantage in producing DVDs

What is the opportunity cost of producing a shirt?

- In Japan, a shirt is $(5/30)$, i.e. $1/6$ of a DVD
- In China, a shirt is $(6/60)$, i.e. $1/10$ of a DVD
- Since $1/10 < 1/6$, China has a comparative advantage in producing shirts

Opportunity costs differ in both countries

- Japan, despite being better than China for both productions, has a comparative advantage in DVD production
- China has a comparative advantage in shirts
- Japan should produce only DVDs and trade them.
- China should produce only shirts and trade them

Let's compare prices

- Assume prices are equal to the costs in terms of hours
- DVD/Shirts price in Japan is 6 (30/5)
- DVD/Shirts price in China is 10 (60/10)
- DVD players are more expensive in China

Let's compare prices

- Assume prices are equal to the costs in terms of hours
- Shirts/DVD price in Japan is $1/6$ ($5/30$)
- Shirts/DVD price in China is $1/10$ ($10/60$)
- Shirts are more expensive in Japan

Trade will take place

- Japan will make DVDs and China will produce shirts
- One DVD player made in Japan would yield 6 shirts from Japan, but traded with China, it would yield 10 shirts.
- One shirt in China would get $1/10$ of a DVD player in China, but traded with Japan, one will get $1/6$ DVD players.
- China and Japan will specialize in production and trade with each other. Terms of the trade to be decided by overall exchange

THE THEORY OF COMPARATIVE ADVANTAGE

Factor Endowments and Comparative Advantage

- *Relative factor endowments*, the capacities of a country in terms of capital and labor, are a key determinant of an economy's comparative advantage.
- In general, *capital is relatively abundant in rich countries*, while *labor is more abundant in developing economies*.
- Hence, *rich countries have comparative advantage in capital intensive processes* while *poor countries have comparative advantage in labor intensive processes*.
- In the neoclassical trade model, the *production possibilities frontier (PPF)*, which is the maximum production of one good, for a given quantity produced of another good, given the economies endowment of labor and capital.

Production Possibility Frontiers

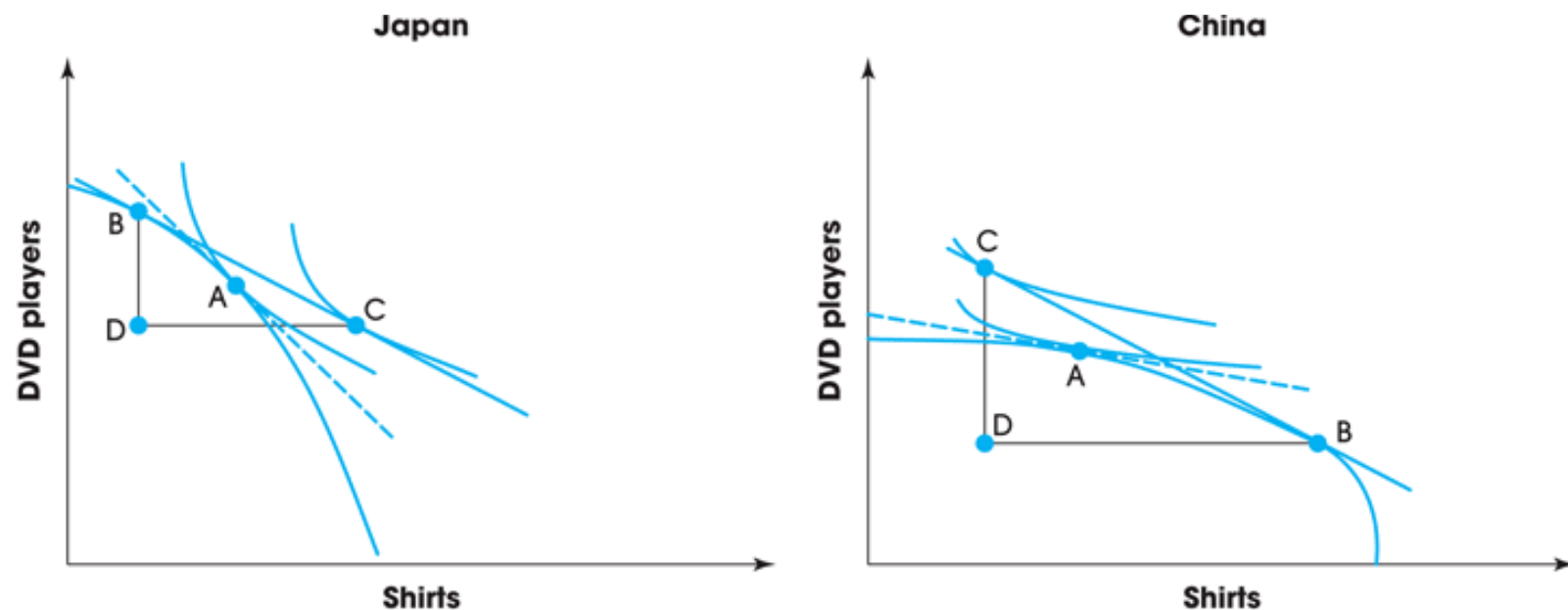
- Two dimensional-graph in terms of output production
- Not a straight line that would represent a fixed opportunity cost of producing one good instead of the other, regardless of the scale.
- Rather, it is a bowed out curve.
- In autarky, the PPF is the budget constraint
- A country maximizes its utility subject to a the budget constraint.

THE THEORY OF COMPARATIVE ADVANTAGE

- Figure 6.4: Because of abundant labor, the *opportunity costs of producing a DVD player in terms of shirts* is higher in China than in Japan.
- Without international trade (*autarky*), production in each country is determined at the *tangency point* (point A) between the PPF and an *indifference curve* (determined by domestic demand preferences).
- With trade at the world relative price ratio, domestic *production is at point B and consumption is at point C*, a higher level of utility in each country.
- Trade is indicated by trade triangles: for each country *exports are given by line BD and imports by BC*.

THE THEORY OF COMPARATIVE ADVANTAGE

Figure 6.4. Factor Endowments and Comparative Advantage.



China and Japan have different production possibility frontiers. The opportunity cost of producing a DVD in terms of shirts is higher in China than in Japan. Point A is the production under autarky in each country, where the dotted line represents the price ratio under autarky in each country. Point B is the production under international trade in each country, where the solid line represents the price ratio on the international market. Point C is the new consumption point in each country bringing a higher utility than point A. The line between points B and D represents exports and the line between points C and D represents imports. Japan exports DVDs and China exports shirts.

THE THEORY OF COMPARATIVE ADVANTAGE

Comparative Advantage and Patterns of Trade

- C.A. explains some patterns of trade, especially *specialization based on factor endowments*.
- C.A. can also help describe how endowments and trade patterns *change through time*.
- Successful exporters start with labor and/or resource intensive products and manufacturers, but as *capital accumulates* they diversify into more sophisticated manufactured products.
- Asian Exporters: Japan, South Korea, Taiwan, Thailand, China

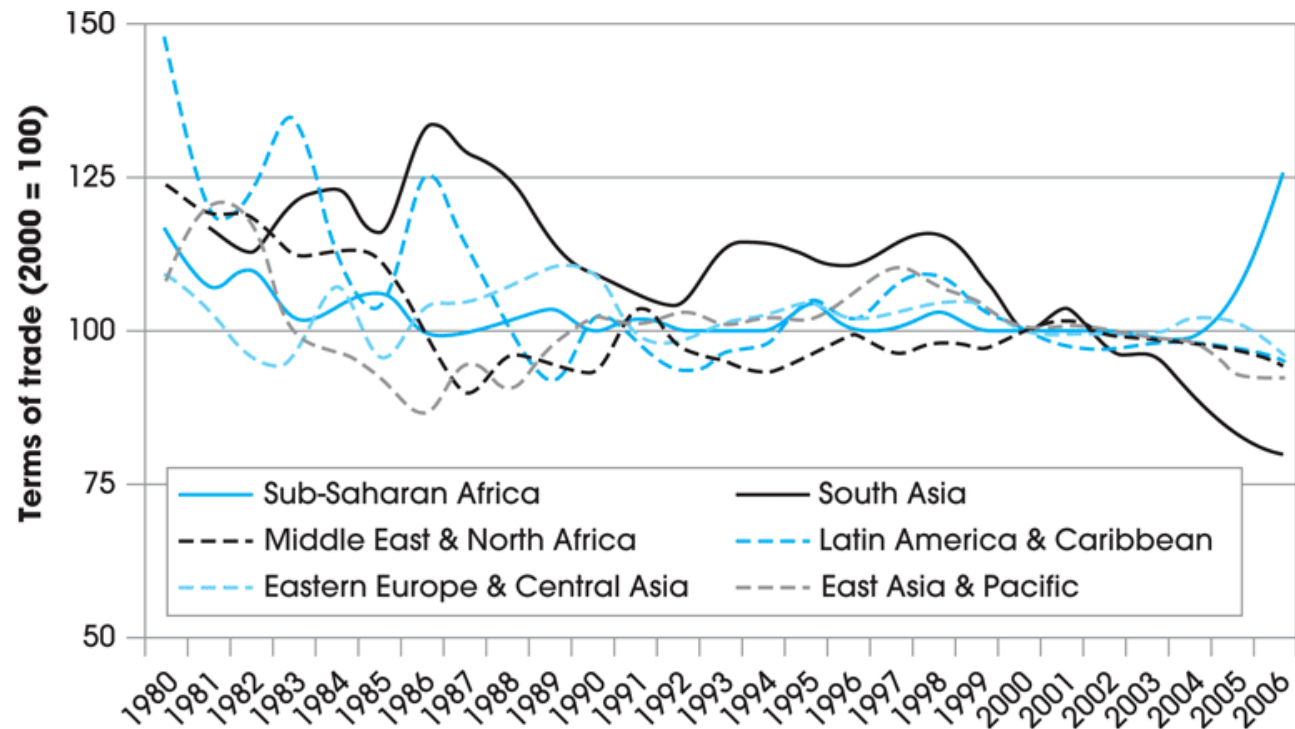
THE THEORY OF COMPARATIVE ADVANTAGE

Trade Specialization and Export Price Risk

- Trade specialization is sometimes *risky*. Columbia's dominance in coffee leaves it *vulnerable to price fluctuations*. Steep price falls are especially dangerous.
- Developing economies are more prone to such risk: Primary *commodity prices are especially volatile*, but export diversification in small developing economies is usually low.
- *Export diversification* often requires a sustained effort.
- A country's *terms of trade* is the ratio of export prices to import prices. *Volatility* in the terms of trade is a good measure of export price risk.
- Figure 6.5 shows that volatility in terms of trade has been *decreasing over time* (until more lately).

THE THEORY OF COMPARATIVE ADVANTAGE

Figure 6.5.
Terms of Trade.



The percentage ratio of the export price index to the corresponding import price index is measured relative to the base year. The sample for sub-Saharan Africa consists of 31 countries for which a complete data series for 1980–2005 is available. The samples for South Asia, the Middle East, and North Africa as well as East Asia and the Pacific consist of 5 countries in each region. The sample for Latin America is 19 countries, while the sample for Eastern Europe and Central Asia is 3 countries.

Source: The World Bank, World Development Indicators, <http://databank.worldbank.org>.

THE THEORY OF COMPARATIVE ADVANTAGE

Trade Specialization and dynamic changes

- Trade specialization is sometimes *risky*. Riccardo's example of England and Portugal in the 19th century involved cloth and wine.
- England produced cloth and somehow ended up with the industrial revolution.
- Portugal went on producing wine, and had to wait longer for the industrial revolution.
- What one produces may have dynamic advantages that will produce changes in comparative advantages in the future.
- Depends in *linkages* potentials and also *technological transfers* potential

THE POLITICS OF TRADE

Winners and Losers in International Trade

- The *political economy of trade liberalization* analyzes conflicts between those who benefit and those who don't from liberalization.
- Trade liberalization *helps exporting* sectors and firms and *harms import-competing* firms and sectors. The gains and losses for such firms often fall *narrowly and can be quite large for individuals*.
- Consumers of intermediate and final goods benefit. These benefits, while substantial, are *spread over a large constituency and seem very small to individual consumers*.
- The *incentive to lobby* for the benefits of free trade are small, while the incentives for losers to lobby for trade restrictions are high.
- A *collective action failure* occurs because individuals "free-ride" on the actions taken by others and *lobbying for free trade is suboptimal*.
- The *"give and take"* approach to the political negotiations on trade considers interests of producers, but usually ignores consumers.

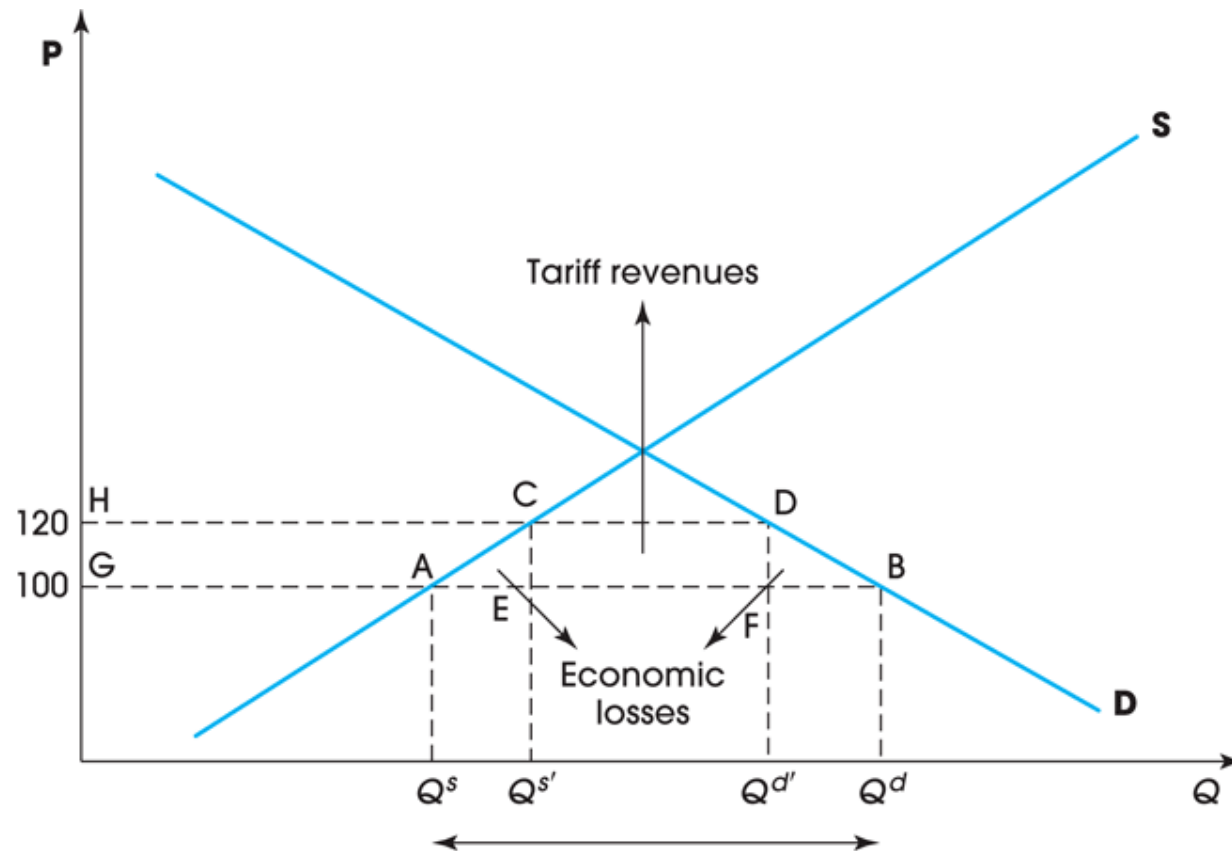
THE COST OF TRADE BARRIERS

Protectionism and Tariffs

- *Protectionism* occurs when a country erects trade barriers to protect domestic industry.
- *Import tariffs* (taxes) reduce the volume of imports because consumers pay a higher price.
- Figure 6.6 shows the *economics of tariffs*:
 - *Before tariffs*, domestic price is \$100 per DVD player (same as import price), domestic demand is Q_d , domestic supply is Q_s , and import is $Q_d - Q_s$.
 - *After \$20 tariff*, domestic price rises to \$120, domestic demand is Q_d' , domestic supply is Q_s' , import is $Q_d' - Q_s'$.
 - Consumers *pay more for reduced demand*, rectangle HDGF.
 - Government collects CDEF as *tariff revenue*.
 - Chinese firms earn *rents* of HCGA.
 - *Welfare loss 1*: triangle ACE is loss to rest of economy of allowing resources to be used inefficiently
 - *Welfare loss 2*: triangle DBF is loss to *consumer surplus*

THE COST OF TRADE BARRIERS

Figure 6.6. Economic Losses Due to a Tariff Barrier.



A tariff that increases the price of a DVD player from \$100 to \$120 creates an efficiency loss ACE because of the entry of inefficient producers and a loss in consumer surplus DBF.

THE COST OF TRADE BARRIERS

Nontariff Barriers

- *Nontariff barriers* are often more insidious than tariffs because they are less visible but just as harmful.
- *Import quotas* limit the total volume of imports to a country over a period of time and are often regulated via “licenses.”
- *Voluntary export restraints* limit exports to individual countries to preempt protectionist backlash (Japanese cars in 1980s).
- *Regulatory barriers* take the form of government regulations that limit imports (e.g., product standards, arbitrary branding). These are often difficult to detect.
- *Subsidies* used to resist imports or encourage exports. The U.S. subsidizes cotton industry exports.

TRADE INSTITUTIONS: BILATERAL VS. MULTILATERAL

- *Bilateral trade negotiations* are held between two countries.
- *Multilateral trade negotiations* are held among multiple countries, usually under the auspices of a multilateral framework or organization such as the *WTO (formerly GATT)*.
- Bilateral liberalization often results in *trade diversion*, inefficient trade flows that would not exist under full multilateral trade liberalization.
- *Regional trade agreements* often promote wasteful trade diversion (e.g., MERCOSUR).
- Multilateralism *enlarges the set of possible exchanges* between different countries. It works better and is often easier to achieve.

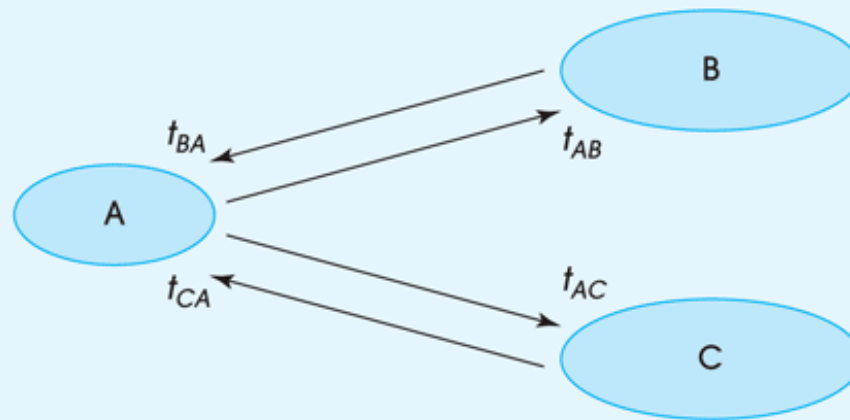
TRADE INSTITUTIONS: BILATERAL VS. MULTILATERAL

The World Trade Organization (WTO)

- Succeeded *GATT* in 1995, 153+ member countries
- Main role is for *multilateral negotiations*, but also helps implement agreements (rules), settle trade disputes, and enforce compliance.
- Nondiscrimination:
 - Cannot have different trade rules for different exporting countries (*MFN*: most favored nation clause)
 - Same treatment of all products in the domestic market (*national treatment* clause)
- *Reciprocity*: concession from one country should be matched by trade partners
- Figure 6.7: Nondiscrimination and reciprocity drive down trade barriers
- Some argue that the WTO promotes the *agenda of rich countries* (agriculture, TRIPS).

TRADE INSTITUTIONS: BILATERAL VS. MULTILATERAL

Figure 6.7. Effects of Reciprocity and Nondiscrimination.



The principle of reciprocity forces A to reduce its tariffs t_{BA} on imports from B if B reduces its tariffs t_{AB} on imports from A. The principle of nondiscrimination further forces A to reduce its tariffs t_{CA} on imports from C. Again, because of reciprocity, tariffs t_{AC} in C on imports from A must be reduced in turn.

EXCHANGE RATES POLICIES IN DEVELOPING COUNTRIES

- International transactions involve currency exchange. *Exchange rate valuations affect trade.*
- In general, a “lower” or “weaker” exchange rate tends to encourage exports and discourage imports, and a “higher” or “stronger” currency hurts exports and promotes imports.
- *Convertability:*
 - *Trade convertibility* (current account): importers and exporters face no restrictions in exchanging proceeds of trade
 - *Financial convertibility* (capital account): flows of capital between countries are unrestricted
- Current account convertibility is *vital for trade*, but there is *no consensus on the net benefits* of capital account convertibility.
- Absence of financial convertibility creates *financial repression* (e.g., households in China have only narrow choices for savings).
- Full financial convertibility, however, poses substantial risk of financial crises and *bank runs* (East Asian Crisis of 1997-1998).

EXCHANGE RATES POLICIES IN DEVELOPING COUNTRIES

- *Fixed exchange rates*: the price of a country's currency remains fixed in terms of other currency(/ies)
 - When the supply of a currency is not equal to demand, the central bank intervenes by selling or buying reserves of foreign currencies as needed to keep exchange rates fixed. Lose control over money supply
- *Floating exchange rates*: Exchange rate set by supply and demand
- *Volatility (large, sudden depreciation or appreciation)* in exchange rates is harmful to exporters and it complicates price and output management.
- Seeking stability especially for price expectations, developing economies sometimes *peg* their currency to a major currency.
- Fixed exchanges rates are used as an “anchor” for a credible anti-inflationary commitment. A *currency board* is a *fixed exchange regime* (e.g., Argentina).
- Fixed exchange rates are not as efficient for dealing with *external and internal economic shocks*, especially under full capital account convertibility (a major lesson of the Asian crisis).

Summary

- Describe recent trends in world trade pertaining to developing nations.
- Understand how the theory of comparative advantage explains patterns of trade.
- Explain the politics of trade and the economics of trade barriers.
- Explain the international framework of trade institutions.
- Understand the cost and benefits of different exchange rate policies.