PART IV THE WORLD ECONOMY

International Trade, Comparative Advantage, and Protectionism

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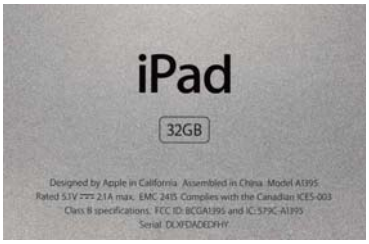

CHAPTER OUTLINE

Trade Surpluses and Deficits

The Economic Basis for Trade: Comparative Advantage
- Absolute Advantage versus Comparative Advantage
- Terms of Trade
- Exchange Rates

The Sources of Comparative Advantage
- The Heckscher-Ohlin Theorem
- Other Explanations for Observed Trade Flows

Trade Barriers: Tariffs, Export Subsidies, and Quotas
- U.S. Trade Policies, GATT, and the WTO

Free Trade or Protection?
- The Case for Free Trade
- The Case for Protection

An Economic Consensus

The "internationalization" or "globalization" of the U.S. economy has occurred in the private and public sectors, in input and output markets, and in firms and households.

To get you more acquainted with the international economy, this chapter discusses the economics of international trade.

We will observe the recent tendency of the United States to import more than it exports before exploring the basic logic of trade. We will also address the controversial issue of protectionism.

Trade Surpluses and Deficits

trade surplus The situation when a country exports more than it imports.

trade deficit The situation when a country imports more than it exports.

TABLE 20.1 U.S. Balance of Trade (Exports Minus Imports), 1929–2012 (Billions of Dollars)

	Exports Minus Imports		Exports Minus Imports
1929	+0.4	1991	−27.0
1933	+0.1	1992	−32.8
1945	−0.8	1993	−64.4
1955	+0.5	1994	−92.7
1960	+4.2	1995	−90.7
1965	+5.6	1996	−96.3
1970	+4.0	1997	−101.4
1975	+16.0	1998	−161.8
1976	−1.6	1999	−262.1
1977	−23.1	2000	−382.1
1978	−25.4	2001	−371.0
1979	−22.5	2002	−427.2
1980	−13.1	2003	−504.1
1981	−12.5	2004	−618.7
1982	−20.0	2005	−722.7
1983	−51.7	2006	−769.3
1984	−102.7	2007	−713.1
1985	−115.2	2008	−709.7
1986	−132.5	2009	−388.7
1987	−145.0	2010	−511.6
1988	−110.1	2011	−568.1
1989	−87.9	2012	−566.7
1990	−77.6		

The trade situation of the United States changed significantly in 1976, when the country began to experience continuous:

a. Trade deficits.
b. Trade surpluses.
c. Trade imbalances.
d. Trade creation and trade diversion.

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The Economic Basis for Trade: Comparative Advantage

Corn Laws The tariffs, subsidies, and restrictions enacted by the British Parliament in the early nineteenth century to discourage imports and encourage exports of grain.

theory of comparative advantage Ricardo's theory that specialization and free trade will benefit all trading partners (real wages will rise), even those that may be absolutely less efficient producers.

Absolute Advantage versus Comparative Advantage

absolute advantage The advantage in the production of a good enjoyed by one country over another when it uses fewer resources to produce that good than the other country does.

comparative advantage The advantage in the production of a good enjoyed by one country over another when that good can be produced at lower cost in terms of other goods than it could be in the other country.

Ricardo's theory of comparative advantage states that specialization and free trade will benefit:

a. Only partners in trade that have absolute advantages.
b. All trading partners, even those that may be absolutely less efficient producers.
c. Partners in trade that have comparative advantages, but not absolute advantages.
d. Only partners in trade that were absolutely less efficient producers before trade.

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Gains from Mutual Absolute Advantage

TABLE 20.2 Yield per Acre of Wheat and Cotton

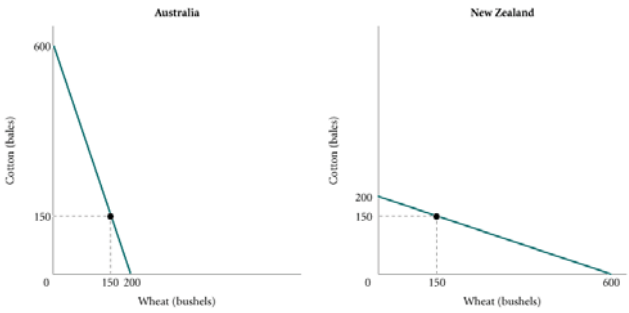
	New Zealand	Australia
Wheat	6 bushels	2 bushels
Cotton	2 bales	6 bales

In cases like this, we say the two countries have *mutual absolute advantage*.

TABLE 20.3 Total Production of Wheat and Cotton Assuming No Trade, Mutual Absolute Advantage, and 100 Available Acres

	New Zealand	Australia
Wheat	25 acres × 6 bushels/acre = 150 bushels	75 acres × 2 bushels/acre = 150 bushels
Cotton	75 acres × 2 bales/acre = 150 bales	25 acres × 6 bales/acre = 150 bales

When both countries have an absolute advantage in the production of one product, it is easy to see that specialization and trade will benefit both.



▲ **FIGURE 20.1 Production Possibility Frontiers for Australia and New Zealand Before Trade**

Without trade, countries are constrained by their own resources and productivity.

In order for two countries to gain from specialization and trade,

a. The opportunity costs of producing the goods to be traded must be different between the countries.
b. Each country must specialize in the production of the good for which it has a lower opportunity cost.
c. Each country must specialize in producing the good for which it has a comparative advantage.
d. All of the above.

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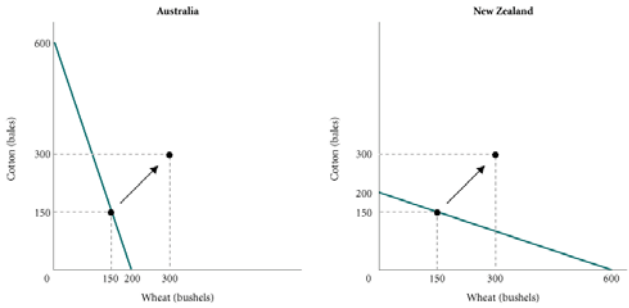
TABLE 20.4 Production and Consumption of Wheat and Cotton After Specialization

	Production			Consumption	
	New Zealand	Australia		New Zealand	Australia
Wheat	100 acres × 6 bushels/acre 600 bushels	0 acres 0	Wheat	300 bushels	300 bushels
Cotton	0 acres 0	100 acres × 6 bales/acre 600 bales	Cotton	300 bales	300 bales

The advantages of specialization and trade seem obvious when one country is technologically superior at producing one product and another country is technologically superior at producing another product.



▲ **FIGURE 20.2 Expanded Possibilities After Trade**

Trade enables both countries to move beyond their own resource constraints—beyond their individual production possibility frontiers.

Gains from Comparative Advantage

TABLE 20.5 Yield per Acre of Wheat and Cotton

	New Zealand	Australia
Wheat	6 bushels	1 bushel
Cotton	6 bales	3 bales

Now New Zealand has a considerable absolute advantage in the production of both cotton and wheat. Ricardo would argue that *specialization and trade are still mutually beneficial*.

TABLE 20.6 Total Production of Wheat and Cotton Assuming No Trade and 100 Available Acres

	New Zealand	Australia
Wheat	50 acres × 6 bushels/acre 300 bushels	75 acres × 1 bushels/acre 75 bushels
Cotton	50 acres × 6 bales/acre 300 bales	25 acres × 3 bales/acre 75 bales

Before any trade takes place, each country is constrained by its own domestic production possibility curve.

For Ricardo to be correct about the gains from specialization, it must be true that moving resources around in the two countries generates more than the 375 bushels of wheat and bales of cotton that we had before specialization.

TABLE 20.7 Realizing a Gain from Trade When One Country Has a Double Absolute Advantage

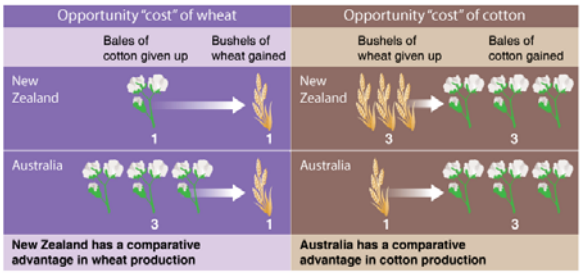
	STAGE 1			STAGE 2	
	New Zealand	Australia		New Zealand	Australia
Wheat	50 acres × 6 bushels/acre 300 bushels	0 acres 0	Wheat	75 acres × 6 bushels/acre 450 bushels	0 acres 0
Cotton	50 acres × 6 bales/acre 300 bales	100 acres × 3 bales/acre 300 bales	Cotton	25 acres × 6 bales/acre 150 bales	100 acres × 3 bales/acre 300 bales

STAGE 3

	New Zealand	Australia
	100 bushels (trade) →	
Wheat	350 bushels (after trade)	100 bushels
	200 bales (trade) ←	
Cotton	350 bales (after trade)	100 bales

Why Does Ricardo's Plan Work?

▼ **FIGURE 20.3 Comparative Advantage Means Lower Opportunity Cost**



The real cost of cotton is the wheat sacrificed to obtain it. The cost of 3 bales of cotton in New Zealand is 3 bushels of wheat (a half acre of land must be transferred from wheat to cotton—refer to Table 20.5).

However, the cost of 3 bales of cotton in Australia is only 1 bushel of wheat. Australia has a comparative advantage over New Zealand in cotton production, and New Zealand has a comparative advantage over Australia in wheat production.

Terms of Trade

terms of trade The ratio at which a country can trade domestic products for imported products.

Exchange Rates

exchange rate The ratio at which two currencies are traded. The price of one currency in terms of another.

Trade and Exchange Rates in a Two-Country/Two-Good World

TABLE 20.8 Domestic Prices of Timber (per Foot) and Rolled Steel (per Meter) in the United States and Brazil

	United States	Brazil
Timber	$1	3 Reals
Rolled steel	$2	4 Reals

TABLE 20.9 Trade Flows Determined by Exchange Rates

Exchange Rate	Price of Real	Result
$1 = 1 R	$1.00	Brazil imports timber and steel.
$1 = 2 R	.50	Brazil imports timber.
$1 = 2.1 R	.48	Brazil imports timber; United States imports steel.
$1 = 2.9 R	.34	Brazil imports timber; United States imports steel.
$1 = 3 R	.33	United States imports steel.
$1 = 4 R	.25	United States imports timber and steel.

Trade flows in both directions as long as the exchange rate settles between $1 = 2 R and $1 = 3 R. Stated the other way around, trade will flow in both directions if the price of a real is between $0.33 and $0.50.

Exchange Rates and Comparative Advantage

If exchange rates end up in the right ranges, the free market will drive each country to shift resources into those sectors in which it enjoys a comparative advantage.

Only in a country with a comparative advantage will those products be competitive in world markets.

If you are traveling in Mexico, and you purchase a meal that costs 1,000 pesos, and the current exchange rate is 200 pesos to the dollar, then the price of the meal in the U.S. currency is:

a. $0.50
b. $2
c. $5
d. $20

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a. $0.50
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c. $5
d. $20

The Sources of Comparative Advantage

factor endowments The quantity and quality of labor, land, and natural resources of a country.

The Heckscher-Ohlin Theorem

Heckscher-Ohlin theorem A theory that explains the existence of a country's comparative advantage by its factor endowments: A country has a comparative advantage in the production of a product if that country is relatively well endowed with inputs used intensively in the production of that product.

According to the Heckscher-Ohlin theorem:

a. Comparative advantage is impossible.
b. It is difficult to establish which factors explain most world trade patterns.
c. A country has a comparative advantage in the production of a product if that country is relatively well endowed with the inputs used intensively to produce it.
d. Evidence suggests that economies of scale in small industries are substantial and account for a great part of comparative advantage and world trade patterns.

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Other Explanations for Observed Trade Flows

Comparative advantage is not the only reason countries trade. It does not explain why many countries import and export the same kinds of goods.

Just as industries within a country differentiate their products to capture a domestic market, they also differentiate their products to please the wide variety of tastes that exist worldwide.

Just as product differentiation is a natural response to diverse preferences within an economy, it is also a natural response to diverse preferences across economies.

Some economists distinguish between gains from *acquired comparative advantages* and gains from *natural comparative advantages*.

ECONOMICS IN PRACTICE

Globalization Improves Firm Productivity

Recent work in the trade area has described the way in which free trade improves the productivity of firms within a country.

When trade opens up, competition grows, and firms with good products and low costs can expand to serve markets elsewhere, often improving their cost through scale economies.

Less productive firms find themselves facing tough competition from both foreign producers and from their domestic counterparts who now look even more productive than before.

Trade exploits comparative advantage of countries and generally improves the efficiency of firms.

THINKING PRACTICALLY

1. What do you expect to see happen to average prices after trade opens up?

Trade Barriers: Tariffs, Export Subsidies, and Quotas

protection The practice of shielding a sector of the economy from foreign competition.

tariff A tax on imports.

export subsidies Government payments made to domestic firms to encourage exports.

dumping A firm's or an industry's sale of products on the world market at prices below its own cost of production.

quota A limit on the quantity of imports.

A limit on the quantity of imports is called:
a. A tariff.
b. A quota.
c. An export subsidy.
d. Economic integration.

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ECONOMICS IN PRACTICE

What Happens When We Lift a Quota?

Prior to 2005, textiles and clothing from much of the emerging world heading for the United States, Canada, and the European Union were subject to quotas.

When an exporting country faces a quota on its products, governments typically decide which firms get the privilege of sending their goods abroad.

After quotas were lifted in 2005, Chinese exports increased dramatically, most of which were produced not by the older firms which had dominated the quota-laden era, but by new entrants!

Without quotas, most of the older firms now subject to the new competition rapidly lost market share. However China was allocating its licenses, it was not to the most efficient firms.

THINKING PRACTICALLY

1. If in fact the Chinese government was allocating the rights to export under a quota to the most productive firms, what would you expect to see happen once the quota is lifted?

U.S. Trade Policies, GATT, and the WTO

Smoot-Hawley tariff The U.S. tariff law of the 1930s, which set the highest tariffs in U.S. history (60 percent). It set off an international trade war and caused the decline in trade that is often considered one of the causes of the worldwide depression of the 1930s.

General Agreement on Tariffs and Trade (GATT) An international agreement signed by the United States and 22 other countries in 1947 to promote the liberalization of foreign trade.

World Trade Organization (WTO) A negotiating forum dealing with rules of trade across nations.

Doha Development Agenda An initiative of the World Trade Organization focused on issues of trade and development.

Economic Integration

economic integration Occurs when two or more nations join to form a free-trade zone.

European Union (EU) The European trading bloc composed of 27 countries (of the 27 countries in the EU, 17 have the same currency—the euro).

U.S.-Canadian Free Trade Agreement An agreement in which the United States and Canada agreed to eliminate all barriers to trade between the two countries by 1998.

North American Free Trade Agreement (NAFTA) An agreement signed by the United States, Mexico, and Canada in which the three countries agreed to establish all North America as a free-trade zone.

Which of the following represents a higher level of economic integration?

a. The U.S. Canadian Free Trade Agreement.
b. The North American Free Trade Agreement.
c. The European Union.
d. All of the above are similar arrangements.

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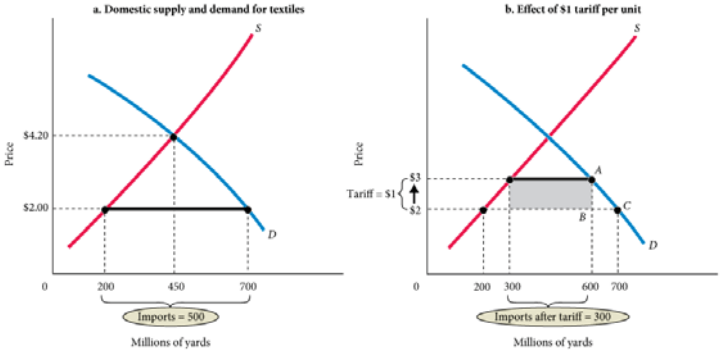
Free Trade or Protection?

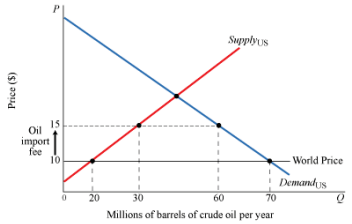
The Case for Free Trade

▼ FIGURE 20.4 The Gains from Trade and Losses from the Imposition of a Tariff



A tariff of $1 increases the market price facing consumers from $2 per yard to $3 per yard.
The government collects revenues equal to the gray shaded area in panel (b).
The loss of efficiency has two components. First, consumers must pay a higher price for goods that could be produced at lower cost. Second, marginal producers are drawn into textiles and away from other goods, resulting in inefficient domestic production.
The triangle labeled ABC in panel (b) is the dead weight loss or excess burden resulting from the tariff.

Refer to the figure below. Imposition of the oil import fee causes the quantity of imports to:



a. Increase by 10 million barrels.
b. Decrease by 10 million barrels.
c. Decrease by 20 million barrels.
d. Decrease by 30 million barrels.

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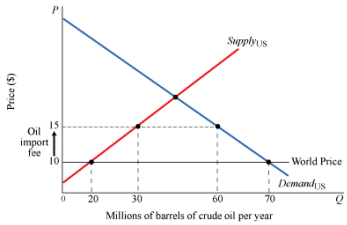

a. Increase by 10 million barrels.
b. Decrease by 10 million barrels.
c. Decrease by 20 million barrels.
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ECONOMICS IN PRACTICE

A Petition

While most economists argue in favor of free trade, it is important to recognize that some groups are likely to lose from freer trade.

Arguments by the losing groups against trade have been around for hundreds of years.

Frederic Bastiat, a French satirist of the nineteenth century, complained about the unfair competition that the sun provides to candlemakers.

He proposed a quota, as opposed to a tariff, on the sun.

THINKING PRACTICALLY

1. Using supply and demand curves, show the effect of screening out the sun on the price of candles.

Screening out the sun would increase the demand for candles. Should candlemakers be protected from unfair competition?

The Case for Protection

Protection Saves Jobs

The main argument for protection is that foreign competition costs Americans their jobs. Victims of free trade can be aided constructively without forgoing the gains from trade.

Some Countries Engage in Unfair Trade Practices

Free trade may be the best solution when everybody plays by the rules. The WTO is the vehicle currently used to negotiate disputes involving unfair trade practices.

Cheap Foreign Labor Makes Competition Unfair

Wages in a competitive economy reflect productivity: a high ratio of output to units of labor, and trade flows not according to *absolute* advantage, but according to *comparative* advantage: All countries benefit, even if one country is more efficient at producing everything.

Protection Safeguards National Security

Even if we acknowledge another country's comparative advantage, we may want to protect our own resources.

Protection Discourages Dependency

Protecting industries in areas where a country has a comparative disadvantage may prevent trading relationships that might lead to political dependence.

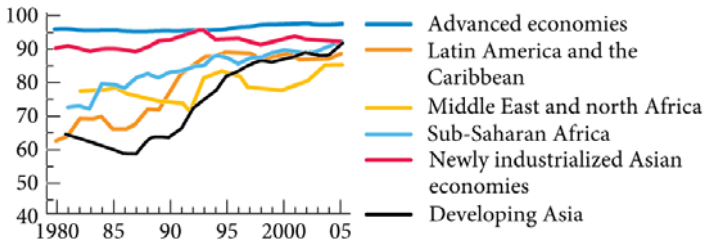
Environmental Concerns

Some environmental groups argue that the WTO's free trade policies may harm the environment and that by imposing penalties on high-polluting products produced with few controls, the prices of goods imported this way would reflect the harm that those products cause.

Protection Safeguards Infant Industries

infant industry A young industry that may need temporary protection from competition from the established industries of other countries to develop an acquired comparative advantage.

Changes in Openness to Trade Over Time Across the World



▲ **FIGURE 20.5 Trade Openness Across the World (Index is 100 minus the average effective tariff rate in the region.)**

An Economic Consensus

Critical to our study of international economics is the debate between free traders and protectionists.

According to the theory of comparative advantage, all countries benefit from specialization and trade.

Free international trade raises real incomes and improves the standard of living.

Although protectionists argue for the protection of workers from foreign competition, pointing to the loss of jobs it can cause in specific sectors, it is unlikely to cause net job loss in an economy as workers are absorbed into expanding sectors over time.

Foreign trade and full employment can be pursued simultaneously.

Although economists disagree about many things, the vast majority of them favor free trade.

In the final analysis, the vast majority of economists believe that:

a. Foreign trade cannot be pursued along with the hope of full employment for the domestic economy.
b. Free international trade lowers real incomes and the standard of living in both rich and poor countries.
c. Foreign trade is likely to cause a net job loss in the economy.
d. None of the above.

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REVIEW TERMS AND CONCEPTS

absolute advantage
comparative advantage
Corn Laws
Doha Development Agenda
dumping
economic integration
European Union (EU)
exchange rate
export subsidies
factor endowments
General Agreement on Tariffs and Trade (GATT)
Heckscher-Ohlin theorem
infant industry
North American Free Trade Agreement (NAFTA)
protection
quota
Smoot-Hawley tariff
tariff
terms of trade
theory of comparative advantage
trade deficit
trade surplus
U.S.-Canadian Free Trade Agreement
World Trade Organization (WTO)