37-1 Quantitatively, how important is international trade to the United States relative to other nations?

Our exports of goods and services are about 11 percent of GDP, which is small relative to the proportion in many other industrialized nations. For example, the numbers are 62 percent in the Netherlands, 26 percent in United Kingdom, 33 percent in New Zealand, and 41 percent in Canada. However, total U.S. exports and imports have more than doubled as a percentage of GDP since 1975.

37-2 Distinguish among land-, labor- and capital-intensive commodities, citing one nontextbook example of each. What role do these distinctions play in explaining international trade? What role do distinctive products, unrelated to cost advantages, play in international trade?

Land-intensive commodities include agricultural products such as corn and wheat. Labor-intensive commodities require much skilled labor in production, such as transistor radios and clothing. Capital-intensive products are produced with a large amount of capital equipment and include manufactured items such as aircraft and automobiles.

These distinctions are important because if a nation has an abundant supply of particular types of resources, it can produce items that are intensive in these resources with a comparative cost advantage. On the other hand, if it has a relative scarcity of certain resources, such as land, then it will be relatively expensive to produce land-intensive products such as corn and wheat. The difference in relative resource abundance among nations leads to a difference in comparative costs of production, which is the basis for international trade and specialization.

Distinctive products, those associated with a particular country (perhaps because of a reputation for quality), can provide an export niche for a country. Even though the country may have no cost advantage in producing the good, the “label” on the good is enough to attract buyers willing to pay more than for potentially comparable substitutes.

37-3 Suppose nation A can produce 80 units of X by using all its resources to produce X or 60 units of Y by devoting all its resources to Y. Comparative figures for nation B are 60 of X and 60 of Y. Assuming constant costs, in which product should each nation specialize? Why? Indicate the limits of the terms of trade.

The cost ratio for the two goods in nation A is 1-1/3 units of X for each unit of Y; in nation B it is 1 unit of X for each unit of Y. The opportunity cost of producing each unit of X is lower in A (3/4 unit of Y) than it is in B (1 unit of Y). Conversely, the opportunity cost of producing Y is lower in B (1 unit of X) than it is in A (1-1/3 units of X). Nation A should produce X since it has a comparative cost advantage in the production of this good, and B should produce Y in which it has a comparative advantage.

The limits of the terms of trade for the two goods are the cost ratios in the two countries; this will be between 1X and 1-1/3X for each unit of Y.

37-4 (Key Question) Below are the hypothetical production possibilities tables for New Zealand and Spain.
### New Zealand’s production possibilities table (millions of bushels)

<table>
<thead>
<tr>
<th>Product</th>
<th>Production alternatives</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apples</td>
<td></td>
<td>0</td>
<td>20</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>Plums</td>
<td></td>
<td>15</td>
<td>10</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

### Spain’s production possibilities table (millions of bushels)

<table>
<thead>
<tr>
<th>Product</th>
<th>Production alternatives</th>
<th>R</th>
<th>S</th>
<th>T</th>
<th>U</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apples</td>
<td></td>
<td>0</td>
<td>20</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>Plums</td>
<td></td>
<td>60</td>
<td>40</td>
<td>20</td>
<td>0</td>
</tr>
</tbody>
</table>

Plot the production possibilities data for each of the two countries separately. Referring to your graphs, answer the following: (a) What is each country’s cost ratio of producing plums and apples. (b) Which nation should specialize in which product? (c) Show the trading possibilities lines for each nation if the actual terms of trade are 1 plum for 2 apples. (Plot these lines on your graph.) (d) Suppose the optimum product mixes before specialization and trade were alternative B in New Zealand and S in Spain. What would be gains from specialization and trade?

(a) New Zealand’s cost ratio is 1 plum = 4 apples (or 1 apple = 1/4 plum). Spain’s cost ratio is 1 plum = 1 apple (or 1 apple = 1 plum). See the graphs.
(b) New Zealand should specialize in apples, Spain in plums.

(c) See the graphs.

(d) Total production before specialization and trade: 40 apples \((20 + 20)\) and 50 plumbs \((10 + 40)\). After specialization and trade: 60 apples and 60 plums. Gain = 20 apples and 10 plums.

37-5 “The United States can produce product X more efficiently than can Great Britain. Yet we import X from Great Britain.” Explain.

Trade is based on comparative rather than absolute cost advantages. The United States may have an absolute advantage in the production of good X yet still import it from another country because its cost advantage in the production of another good Y is even greater. By producing Y and importing X from Great Britain, Americans are devoting resources to their most productive use, even though an isolated analysis of the international production of X might suggest otherwise.

If X is a category of goods (automobiles, for example), the U.S. may both import and export to Great Britain, as the various goods in X may have special characteristics from each country in which they are produced.

37-6 (Key Question) Refer to Figure 3.5, p. 49 (Chapter 3). Assume that the graph depicts the U.S. domestic market for corn. How many bushels of corn, if any, will the United States export or import at a world price of $1, $2, $3, $4, and $5? Use this information to construct the U.S. export supply curve and import demand curve for corn. Suppose the only other corn-producing nation is France, where the domestic price is $4. Which country will export corn; which will import it?

At $1: import 15,000. At $2: import 7,000. At $3: no imports or exports. At $4: export 6,000. At $5: export 10,000.

The United States will export corn; France will import it.

37-7 (Key Question) Draw a domestic supply and demand diagram for a product in which the United States does not have a comparative advantage. What impact do foreign imports have on domestic price and quantity? On your diagram show a protective tariff that eliminates approximately one-half the assumed imports. What are the price-quantity effects of this tariff on (a) domestic consumers, (b) domestic producers, and (c) foreign exporters? How would the effects of a quota that creates the same amount of imports differ?
See the graph. The United States does not have a comparative advantage in this product so the world price $P_w$ is below the U.S. domestic price of $P_d$. Imports will reduce the domestic price, increasing consumption from nontrade $Q_c$ to $Q_e$, and decreasing domestic production from $Q_e$ to $Q_a$. See the graph. A tariff of $P_wP_t$ (a) harms domestic consumers by increasing price from $P_w$ to $P_t$ and decreasing consumption from $Q_e$ to $Q_d$; (b) aids domestic producers through the increase in price from $P_w$ to $P_t$ and the expansion of domestic production from $Q_a$ to $Q_b$; (c) harms foreign exporters by decreasing exports from $Q_aQ_e$ to $Q_bQ_d$.

An import quota of $Q_bQ_d$ would have the same effects as the tariff, but there would be no tariff revenues to government from these imports; this revenue would effectively go to foreign producers.

37-8 “The potentially valid arguments for tariff protection are also the most easily abused.” What are those arguments? Why are they susceptible to abuse? Evaluate the use of artificial trade barriers, such as tariffs and import quotas, as a means of achieving and maintaining full employment.

Trade barriers may be defended as being necessary to protect domestic firms from foreign dumping, to protect so-called infant industries, and to ensure adequate production levels in sectors deemed to be essential in the event of war. (The arguments relating to supposed increases in domestic employment, protection from foreign low-wage labor, and economic diversification are not valid or are irrelevant to the American economy.)

Each of these valid arguments is often misapplied. Dumping cases by foreign firms in the United States are difficult to prove and rare. Often domestic producers will claim their foreign competitors are dumping when the lower prices simply reflect a comparative advantage in foreign production. If this is true the use of antidumping duties reduces the benefits of trade.

The protection of new “infant” domestic industries to allow them to develop efficient production techniques is questionable in an advanced economy such as the United States. There is a tendency for trade barriers to remain in place even after the industry becomes established.

The argument relating to military self-sufficiency is questionable when applied to sectors other than those directly related to defense. Almost all industries can claim to play a role in a wartime economy. As a rule, direct government subsidies are a more equitable means of protecting military security than trade protection, since taxpayers as a whole, rather than just consumers of protected industries will shoulder the burden. Direct subsidies also make the costs of these programs obvious rather than hiding them in the form of higher import prices.

Trade barriers on imports will cause consumers to partially substitute domestically produced items now for the higher-priced imported items, leading to a short-run increase in domestic output and employment in an economy experiencing a recession. These
barriers will have several indirect effects, however, which tend to counteract this short-
term rise in employment. First, a decrease in imports will lower employment in sectors 
that use these goods as inputs or are involved in the distribution and sale of these goods. 
Second, employment and income in other countries will decrease. Not only will the 
demand for American exports and hence domestic employment automatically decrease as 
a result, but foreign governments will likely retaliate by imposing trade restrictions of 
their own, leading to a further decline in exports and employment. These indirect effects 
severely limit the employment benefits of trade restrictions, and can completely cancel 
them in the long run. The primary result of trade restrictions will be a reallocation of 
American and foreign resources to relatively inefficient industries, decreasing generally 
long-term national and world output.

37-9 Evaluate the following statements.

a. “Protective tariffs reduce both the imports and the exports of the nation that levies 
tariffs.”

b. “The extensive application of protective tariffs destroys the ability of the 
international market system to allocate resources efficiently.”

c. “Unemployment in some industries can often be reduced through tariff protection, 
but by the same token inefficiency typically increases.”

d. “Foreign firms that ‘dump’ their products onto the American market are in effect 
providing bargains to the country’s citizens.”

e. “In view of the rapidity with which technological advance is dispersed around the 
world, free trade will inevitably yield structural maladjustments, unemployment, and 
balance of payments problems for industrially advanced nations.”

f. “Free trade can improve the composition and efficiency of domestic output. 
Competition from Volkswagen, Toyota, and Honda forced Detroit to make a compact 
car, and foreign imports of bottled water forced American firms to offer that 
product.”

g. “In the long run, foreign trade is neutral with respect to total employment.”

(a) This statement is true. Protective tariffs increase domestic prices of imported goods, 
decreasing quantity of demand for these products, limiting import volumes, and 
causing real incomes in producing countries to fall. This decline in incomes will 
cause foreigners to demand fewer goods and services, including exports from the 
nation that originally imposed the tariff. Other countries may also retaliate, 
decreasing export volumes of the tariff-levying nation even further.

(b) This statement is true. Extensive protective tariffs dampen every trading country’s 
ability to export, and since exports ultimately pay for imports, each country’s ability 
to import is hampered as well. As trade flows decrease, countries will be forced to 
devote scarce resources to the production of goods in which they do not have a 
comparative advantage, decreasing both world output and real incomes in each 
nation.

(c) This statement is true. While tariffs directly increase domestic employment in 
sectors that compete with foreign exporters, there will be indirect employment losses 
in other sectors. Not only will jobs be lost in the tariff-levying country’s own export 
industries, as incomes and import levels in foreign countries decrease, but also in 
industries that distribute or use imported goods because of rises in price and unit cost.

(d) This statement is true, at least in the short run. Dumping by foreign firms causes 
prices in American markets to decline, increasing quantities purchased by domestic 
consumers and enhancing economic welfare. In the long run, the price wars caused
by dumping may force some firms out of the market, restricting competition in
domestic markets and allowing foreign firms to raise prices. If this occurs, the
welfare of American consumers will decline, and remaining domestic producers will
benefit, but there is virtually no evidence that foreign firms raise prices even after
domestic competition disappears.

e) This statement is true in the short run. Industrially-advanced nations have erected
many trade barriers for manufactured exports from less-developed countries, given
the cost advantage these countries possess because of their adoption of modern
production techniques and the availability of low-wage labor. If these trade barriers
were removed, not only would manufactured exports from these countries
immediately increase, but entrepreneurs in both industrially-advanced and less-
developed countries would find it profitable to set up additional production facilities
in these countries, raising exports even more in the long run. These low-priced
exports could cause short-term harm to manufacturing industries in industrially-
advanced countries that use predominantly unskilled labor. Output and employment
levels in these sectors would fall, and import levels in industrially-advanced countries
would rise, leading to the possibility of short-run balance of payments deficits in
countries maintaining fixed exchange rates. In the long run, however, industrially-
advanced economies will benefit from free trade, as resources move to sectors in
which these countries have a comparative advantage. Moreover, future exports to
previously less-developed countries will increase as real incomes in these countries
rise.

(f) This statement is true. Not only does free trade increase efficiency in the short run by
allowing countries to specialize in those products in which they possess a
comparative advantage, but by increasing levels of competition and the size of
potential markets it acts as a spur to technological innovation and enhanced product
quality in the long run.

(g) This statement is true. While changes in levels of foreign trade can cause temporary
effects on employment through fluctuations in the net export component of aggregate
expenditures, in the long run total employment levels in trading nations are
determined by domestic macroeconomic policies and labor-market conditions.
Foreign trade, however, has a significant effect on the allocation of labor among
various industries in an economy, shifting employment into sectors in which a
particular economy has a comparative cost advantage.

37-10 Suppose Japan agreed to a voluntary export restriction (VER) that reduced U.S. imports
of Japanese steel by 10 percent. What would be the likely short-run effects of that VER
on the U.S. and Japanese steel industries? If this restriction were permanent, what would
be its long-run effect in the two nations on (a) the allocation of resources, (b) the volume
of employment, (c) the price level, and (d) the standard of living?

In the short run, the limitation on imported Japanese steel would cause a domestic
shortage of these items. Japanese companies can respond to this shortage in two ways.
They can maintain prices at current levels and ration sales through delivery delays, or
they can increase prices for their products in the American market. The latter response
will cause a long-term decrease in the firms’ American market shares, but the longer the
import limitations are in effect the more probable it becomes, since the increase in unit
profits that results from higher prices will partly counteract the effects of sales losses.

No matter which policy is followed, some prospective purchasers will shift their demand
to other goods, including domestically produced steel. Profits for American producers
will rise either through increases in sales or in price.
(a) Resource allocation will be less efficient in both the U.S. and Japan. U.S. steel firms will devote scarce resources to the production of units in which they do not have a comparative advantage. As for Japan, decreased exports will lead to a fall in imports in the long run, and resources will be moved to sectors in which Japan’s comparative advantage is less.

(b) Employment in each country will not change appreciably in the long run, although there could be a temporary increase in American employment as steel production rises and a corresponding decrease in Japan as production declines.

(c) Steel prices in the United States will rise in the long run, boosting the general price level. Other prices will rise as costs for steel-using firms increase and American firms purchase less steel and more of substitute inputs. The decrease in Japanese exports to the United States, meanwhile, will cause a drop in the supply of American dollars being exchanged for yen, leading to an appreciation of the yen price of the dollar (see Chapter 38). Prices of American imports in Japan therefore rise. Other Japanese prices increase as costs for import-using firms rise and consumers shift spending to other products.

(d) Because voluntary quotas decrease trade flows between the U.S. and Japan, some of the benefits from specialization are lost, decreasing total output and real incomes in both countries.

37-11 What is the WTO, and how does it relate to international trade? How many nations belong to the WTO? (Update the number given in this book at www.wto.org.) What did the Uruguay Round (1994) of WTO trade negotiations accomplish? What is the name of the current WTO round of trade negotiations?

The WTO is the World Trade Organization with 145 member nations (late 2001). The Uruguay Round formerly established the WTO in 1994 by 120 nations who had been supporters of GATT (General Agreement on Trade and Tariffs). The organization promotes reduction in trade barriers and helps to enforce the agreement signed by its nation members.

The current round of WTO negotiations (2003) is named the Doha Round, after the city of Doha, Qatar, where the first formal negotiations of the round occurred.

37-12 (Last Word) What are the main concerns of the WTO protesters? What problems, if any, arise when too many extraneous issues are tied to efforts to liberalize trade?

The two main issues expressed by the protesters were labor standards and environmental protection. They argued that all nations should have minimum standards for wages, workplace safety, etc., as well as standards to help avoid or mitigate the effects of environmental degradation. Many were concerned with raising these standards to benefit the developing nations, but the developing nations themselves opposed the protesters demands.

If too many extraneous issues are tied to efforts to liberalize trade, the liberalization process is slowed down. For example, tying human rights protection to free trade policies might be a very difficult political process, which could take much longer to change than trade policy.