

Domestic supply falls and  $XD$  rises. A higher international price and more trade occur, as in Figure 1.10.

*Anything that affects the underlying supply or demand in a trading country shifts its excess supply or excess demand, changing the international price and quantity traded.*

During the 1990s, the US revealed a tendency to import goods and export services such as telecommunications, banking, finance, and construction. Import revenue of goods slightly outgrew export expenditure (80% versus 77%). Export revenue from services outgrew import expenditure (88% versus 54%).

### EXAMPLE 1.8 *Trade and War*

A common political belief is that democracies do not go to war with each other. Closer to the truth, countries do not go to war with their trading partners. Solomon Polachek (1997) examines the history of conflicts between 1800 and 1986. Contrary to belief, a higher degree of democracy does not decrease conflict. A higher level of trade, however, does. Countries do not want to fight with their trading partners. Free trade decreases wars because countries want to protect their trading partners.

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### **Problems for Section B**

**B1.** Show what happens in the international market for manufactures in Figure 1.8 if the dollar appreciates above  $\text{yen}/\$ = 100$ .

**B2.** Illustrate the effects of a simultaneous decrease in domestic demand and increase in domestic supply on excess demand. Predict what will happen to the international price and quantity traded.

**B3.** Suppose Japan imports wood and the domestic Japanese supply of lumber rises when a forest matures. Show the effect on the international market for lumber, assuming excess supply comes from the US.

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## **C. THE BALANCE OF TRADE**

Trade involves exchanging one thing for another. Imports are goods that we enjoy consuming without having to spend valuable resources producing. Exports are goods that we have to go to the trouble of producing but cannot enjoy consuming. Importing firms and ultimately consumers in the home country must pay firms in the foreign country for imported goods. With thousands of products traded internationally among hundreds of nations, how is a balance struck? This section begins to look into this issue by introducing the balance of trade.

### **International Transactions**

A country pays for some or all of its imports with the foreign currency it collects through exports. In every economy, millions of transactions take place every day. Each individual firm or consumer makes its optimal choices given available information, prices, budgets, and so on. A wheat broker looks for the best deals in buying and selling wheat. If the broker sells to a Russian importer it is because it offers the best price. Car buyers look for the best deal for their money. If they decide to buy cars from Japan, they must perceive the Japanese cars to be the best available bargain.

*The balance of trade reports the difference between revenue from exports and spending on imports. The BOT is the international net inflow of cash from trade.*

When a good is exported from the US, the foreign importer must convert its currency into dollars to pay the US exporter. This transaction involves a bank or foreign exchange dealer who is willing to trade currencies. The foreign importer trades local currency for dollars, which are transferred to the US exporter. When an importer in the US buys foreign goods, dollars must be traded for foreign currency to pay the foreign exporter. The US importer finds a bank or foreign exchange dealer willing to trade dollars for the foreign currency. Traders keep bank accounts in foreign currency to avoid frequent foreign exchange transactions.

#### **EXAMPLE 1.9** *Snapshot of US Trade*

The US has BOT deficits with NAFTA and Japan, but a surplus with the EU. The overall BOT deficit is due mostly to trade with the rest of the world (ROW). The trade in services surplus comes from Canada and the ROW. These figures for 1997 are from the BEA *Survey of Current Business*.

	BOT	TS
NAFTA	-\$35 billion	\$20 billion
EU	\$23	\$1
Japan	-\$57	-\$7
ROW	-\$128	\$68
Total	-\$197	\$82

### **Calculating the Balance of Trade**

The *balance of trade* equals the difference between *export revenue*  $X$  and *import expenditure*  $M$ :

$$BOT = X - M = (P_{\text{exp}} \times Q_{\text{exp}}) - (P_{\text{imp}} \times Q_{\text{imp}})$$

The *BOT* regularly makes the front page and the evening news. It is a *trade deficit* when negative, and a *trade surplus* when positive. For instance, the US deficit in the BOT was \$2744 per household in 1998.

A typical country exports many types of goods. The US is a net exporter of agricultural goods and will continue to specialize in their production. For simplicity, suppose only agricultural goods are exported. The international market for agricultural goods, with domestic excess supply and foreign excess demand, is shown in Figure 1.11. The exchange rate is yen/\$ = 100. In the foreign country the price is 1500 yen (\$15) per unit of the agricultural good without trade. The price without trade is the foreign *autarky* price, an ancient Greek word meaning self-sufficient.

Excess supply comes from the home country, where the autarky price would be \$5. The international market clears at \$10 (1000 yen) with 100 units of agricultural goods traded. Export revenue is  $\$10 \times 100 = \$1000$ . Suppose import expenditure on manufacturers for the home country is also \$1000, as in Figure 1.8. The balance of trade for the home country equals zero. Trade is balanced.

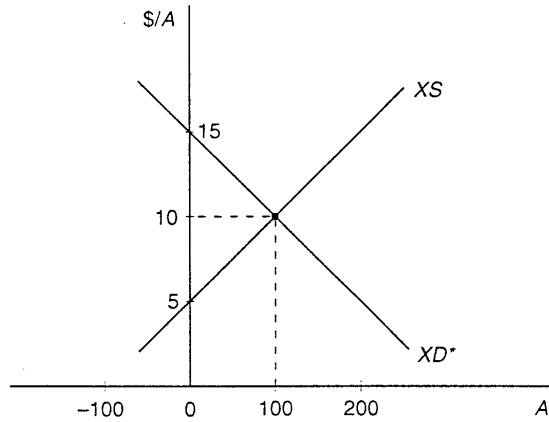
**EXAMPLE 1.10** *Merchandise Exports by State in the US*

The top 5 merchandise exporting states in the US are reported by the US Census in *US Merchandise Trade*. California and Texas are the largest exporters, but Washington is the most involved in export production.

	%total	exp/output
California	14%	9%
Texas	11%	12%
New York	6%	6%
Washington	5%	19%
Michigan	5%	12%

Balanced trade almost never occurs in the real world, where international markets for thousands of different goods are simultaneously working. Suppose, for instance, a bumper crop of agricultural goods is enjoyed in the importing country in Figure 1.11. Foreign supply increases, lowering  $XD^*$ . The world price of agricultural goods falls below \$10 and the level of home exports falls below 100. Export revenue  $X$  for the home country falls below \$1000, creating a BOT deficit.

*A deficit in the balance of trade occurs when the country spends more on imports than it receives from exports. A trade surplus occurs if export revenue is greater than import expenditure.*



**Figure 1.11**  
**The International Market for Agricultural Goods**

Excess supply (*XS*) from the home country and excess demand (*XD\**) from the foreign country meet at an international equilibrium price of \$10, with 100 units of agricultural goods (*A*) exported from the home country to the foreign country.

Table 1.1 shows the merchandise balance of trade for the US in dollars per household, based on 90 million households. Manufacturing firms in the US like to suggest that a trade deficit is a cause of economic ills. Their suggested remedy is protection, which would allow their relatively inefficient manufacturing production to continue. The amounts of the BOT deficits have not been overwhelming. Both exports and imports are growing as the US economy becomes more open. Before 1970 the US had regular BOT surpluses. The BOT deficits in recent years are offset in part by surpluses in service trade. Furthermore, the quantity of exports is underestimated because there is no mandatory reporting or taxing of exports. The Census Bureau admits as much. At any rate,

**Table 1.1** US Merchandise Balance of Trade (\$household)

Year	Exports	Imports	Net
1975	\$1190	-\$1091	\$99
1980	\$2492	-\$2775	-\$283
1985	\$2399	-\$3756	-\$1357
1990	\$4322	-\$5533	-\$1211
1992	\$4889	-\$5967	-\$1067
1994	\$5578	-\$7433	-\$1856
1996	\$6800	-\$8922	-\$2122
1998	\$7400	-\$10189	-\$2744

there are automatic forces that create a tendency for an economy to move toward balanced trade in the long run.

### **Trade Deficits**

If a country spends more on imports than it receives from exports, the opposite must be true for some other country. A deficit in one country is mirrored by surpluses in others. A country with a deficit may:

- Borrow internationally and go into debt
- Spend its stock of savings or sell equity

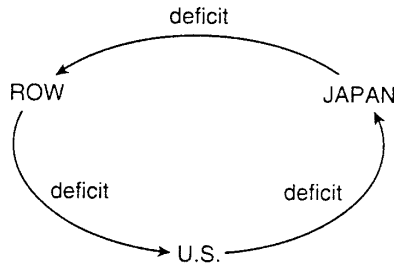
Debt is essential for economic growth. Firms borrow to invest in the capital equipment to increase future productivity. Consumers assume the debt of a mortgage to buy a house, and borrow to buy a car or go to college. Debt creates the means to enjoy growth and future increased productivity. Nations as a whole assume debt in order to grow.

*Mercantilism* is the mistaken belief that deficits are bad. Scrooge was a devout mercantilist, bent on hoarding gold. As Adam Smith wrote 200 years ago in *The Wealth of Nations*, wealth is not measured by the amount of money or gold amassed. Productivity is the measure of wealth. It is rational to go into debt or sell assets to acquire the capital to increase productivity in the future. As a college student, you are acquiring human capital. Growing nations typically experience BOT deficits, importing the capital machinery and equipment to raise productivity.

There is another good reason not to become too excited over the reported BOT deficits. They are not very reliable. Reported data are accumulated through surveys of the Department of Commerce. Margins of error are large, and revisions of earlier estimates never make the news. Nations keep better records of imports that are subject to tariffs and quotas. The US underestimates its merchandise exports. Using Canadian data on imports from the US, it is not clear whether the US has had trade deficits at all during the past 20 years. The sum of trade balances for all nations should be zero, but in fact it is a large negative number, proving exports are underestimated.

A *USA Today* headline on April 18, 1997 was “Error Good News for Trade Deficit”. Due to errors overestimating oil imports, the trade deficit in February 1997 was overestimated by 18% or \$1.2 billion. Why exactly less of a deficit is good news is not explained in the article. Of course, free oil would be better than having to pay for it.

Another mistake to avoid regarding trade deficits is to concentrate on bilateral trade. The US has recently had BOT deficits with Japan. Figure 1.12 includes trade with the rest of the world (ROW). The US has a trade deficit with Japan. Japan has a deficit with the ROW, and the ROW has a deficit with the US.



**Figure 1.12**  
**Multilateral Trade Balance**

Trade in this example can be balanced for each nation — the United States (U.S.), Japan, and the rest of the world (ROW) — while bilateral deficits persist. The United States has a bilateral deficit with Japan; Japan has a bilateral deficit with the rest of the world; and the rest of the world has a bilateral deficit with the United States. Still, multilateral or global trade is balanced.

Bilateral deficits can be totally offset by other bilateral surpluses. Trade may be persistently unbalanced between any pair of countries, yet remain balanced overall. US manufacturers competing with Japanese exporters publicize the bilateral trade deficit with Japan as though it were a problem. Politicians accept campaign contributions from the manufacturers, claim something must be done about the bilateral trade deficit.

Even in the face of a trade deficit, no government policy should be undertaken to remedy it. Automatic adjustment processes lead to balanced trade. A trade deficit involves an excess supply of domestic currency and depreciation. Imports become more expensive. Also, money leaves the economy with a trade deficit, lowering the purchasing power of domestic consumers. The deficit adjusts itself.

Economists believe markets work as efficiently as anything could. To be successful, government policy to remedy an economic problem must recognize the problem and act in a timely fashion. Government policymakers have historically not been able to do either.

If economics teaches anything, it is that government policy is not a cure. The analogy between economics and medicine can be extended. Every policy (medicine) has side effects, which may make the economy (the patient) worse off than allowing the economy's (the body's) own adjustment to work. In some cases medicine can save lives, but in many cases the cure is worse than the illness.

**EXAMPLE 1.11** *Sorting Out Trade News*

Trade makes the monthly news when trade figures are released. The story below is from *USA Today*, 19 November 1999. Remember that journalists, not economists, write the news. These monthly spot checks contain bits and pieces

of information. They mislead by always depicting deficits as bad and exports as good. Remember that some capital goods are imported and somebody else is enjoying our exports. It is a mistake to focus on any bilateral deficit such as the one with China. If the deficit turns out to be 56% higher in 1999 than in 1998, so what? The terminology is tricky also: “exports” means export revenue and “imports” means import expenditure. The “world currency crisis” refers to the depreciation of some overvalued fixed exchange rates and the subsequent decline in the demand for US exports which had been effectively subsidized by the overvalued currencies. China is joining the WTO after decades of closed controlled inefficiency. Why should religious freedom in China be an issue, and why not let prison inmates work? The US cannot expect a surplus with OPEC anytime soon. This news story is confusing and unfocused. This entire course is designed to help you put such confusion into perspective.

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WASHINGTON (edited from AP) The US trade deficit widened to \$24.4 billion in September even though beleaguered American farmers saw their exports climb to the highest level in 19 months. America’s deficits with China and Japan both rose with the shortfall, with China setting an all-time high for any country. The Commerce Department reported Thursday that the September trade deficit was 3.7% higher than a revised \$23.5 billion August deficit. The latest deterioration in trade left the overall deficit running at an annual rate of \$255.5 billion this year, a sharp 56% above last year’s record of \$164.3 billion. For September, exports, which had hit a record in August, edged back a slight 0.9% to \$81.7 billion, reflecting sharp declines in exports of commercial airliners and autos. Imports hit a new monthly high, rising 0.1% to \$106.1 billion as the price of foreign crude oil shot up to the highest level in 31 months. Analysts had expected the gap to widen to \$24.9 billion in September. The trade deficit, which has been blamed on the economic crisis of the past two years, is the one blot on an otherwise superior economic performance that has pushed America’s unemployment rate down to a 30-year low of 4.1%. However, American manufacturers have lost a half-million jobs since early 1998 as the world currency crisis has cut sharply into exports of American manufactured goods and contributed to a flood of cheaper-priced imports into the country. Still, the trade imbalance has created political headaches for President Clinton, allowing administration critics to charge that Clinton’s trade policies have been a major failure that have put U.S. jobs at risk without getting significant openings in foreign markets. On Monday, administration negotiators reached a major market-opening agreement with China in which the world’s most populous nation agreed to dismantle its high trade barriers in return for U.S. support for its bid to join the World Trade Organization. But opponents of Clinton’s policy of closer engagement with China have vowed to defeat the measure in Congress, contending it does too little to level the playing field for American exports or deal with their complaints about China’s record on human rights, religious freedom, weapons proliferation, and allegations of nuclear espionage. America’s deficit with the Organization of Petroleum Exporting Countries also set a record in September, rising to \$3 billion as the U.S. foreign oil bill climbed \$6.8 billion for the month,

reflecting higher volume and higher price. The average price for a barrel of crude oil rose to \$19.52 in September, the highest level since crude oil was selling for \$20.48 per barrel in February 1997.

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### **Problems for Section C**

**C1.** Find the revised import expenditure given increased excess demand for manufactures in Figure 1.8. Suppose the international price rises to \$6.25 and quantity traded rises to 300. Find the BOT using the export revenue in Figure 1.11.

**C2.** Predict what will happen to the BOT if excess supply of agricultural goods in Figure 1.11 increases with improved technology in the exporting home country.

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## **D. COMPARATIVE ADVANTAGE AND SPECIALIZATION**

If there is a single slogan that international economists live by, it is *specialize and trade*. International economics is constantly sharpened on the arguments put forth by domestic industries seeking protection from foreign competitors through government tariffs, quotas, and other nontariff barriers. Protection isolates parts of the economy from international competition. Free trade leads to increased international specialization with relatively inefficient domestic firms failing in the face of more efficient foreign competition. This section introduces the principles of opportunity cost and comparative advantage. The gains from specialization and trade arise because of comparative advantage.

### **Opportunity Cost and Comparative Advantage**

When you sit down to read this text, you are giving up some alternative activity. The value of your best alternative is the opportunity cost of reading international economics. Opportunity cost is the best alternative an economic agent has when a choice is made.

Consider the example of you and your roommate and the two tasks of vacuuming and making beds. Your roommate might be better at both, taking less time than you to finish either task in the same manner. Suppose you are relatively quicker at vacuuming. The *opportunity cost* of your vacuuming is lower than for your roommate. If you vacuum while your roommate makes beds, you both will gain. The two of you could specialize and trade, each spending less time on these routine tasks.

As another example, suppose you and a friend open a sideline business of delivering local packages in the afternoon. Both of you wait by the phone for an order. When a call comes in, one of you jumps on your bike, ride to pick up