

INTRODUCTORY ESSAY THE DEBATE OVER GLOBALIZATION

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What is Globalization?

The word *globalization* has been used to mean many different things. It may conjure up visions of fleets of container ships moving goods worth trillions of dollars across all the world's oceans, giant multinational firms with operations in every time zone, brand names and advertisements known by consumers on six continents, and telephone call centers in India providing customer service to American consumers who bought Japanese electronics while vacationing in the south of France. To some, globalization also conveys broader concerns and even fears, such as the erosion of labor and environmental standards and the loss of national sovereignty to international institutions that are not accountable to citizens of any nation.

In more general terms, however, **globalization** refers to increases in the degree of integration between national economies. **Integration** encompasses all of the ways national economies are connected in international markets, including trade in goods, services, and ideas; international movements of the factors of production; and coordination of public policies. After a brief look at historical trends in some measures of integration, the reasons why this growing integration has occurred and the effects it has had on national economies and different groups of people – including consumers and workers – will be discussed.

Trade in Goods and Services

One of the most important forms of international integration is merchandise trade. When U.S. firms sell goods and services abroad, these are U.S. **exports**. When people or firms in the United States buy goods and services from other countries, these are U.S. **imports**. Both U.S. exports and imports have risen rapidly since World War II.

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From 1960 to 2003, after adjusting for inflation, U.S., exports increased by almost 800 percent. Over that same period U.S. imports increased even more, by 1300 percent. Part of this growth in both imports and exports simply reflects the growth in the size of the U.S. economy in these years, which expanded by a factor of about 400 percent. But clearly international trade grew much faster than the national economy, as shown in Figure 1 (Page 29). Specifically, since 1960 imports grew from 4.2 to 13.8 percent of U.S. national income, or gross domestic product (GDP), while exports increased from 4.9 to 9.3 percent.

Despite this dramatic growth in international trade over the past five decades, the United States is far less reliant on trade than most other countries. For example, in 2003, exports of goods and services were about 25 percent of national output in France, 40 percent in Canada, and 80 percent in Belgium. And although U.S. exports as a percentage of GDP have grown sharply since 1960, they are comparable today to what they were in 1880, and actually less than they were at the end of World War I.

Another important trend in international trade, seen in the United States and in most other countries over the past 30 years, is that a growing share of trade takes place with countries that are nearby neighbors. Despite the relatively small size of their national economies, Canada and Mexico are the largest U.S. trading partners, purchasing over a third of U.S. exports and supplying a quarter of U.S. imports in 2003.

International Mobility of Labor and Capital

Another way national economies are integrated in the international marketplace is by movements of **factors of production**, or inputs, and in particular by labor (workers) and capital. Both labor and capital can cross national borders if the expected returns are high enough.

The United States is, of course, a nation of immigrants. Most current citizens can trace their ancestry back to migrants who arrived on these shores within the last three or four centuries. And migration is still important: in 2001 there were 31.8 million migrants in the

United States, including 20 million in the U.S. labor force. That represents 11 percent of the nation's population and 13.9 percent of the labor force, both percentages about twice as high as they were in the 1960s and 1970s. Although the absolute number of migrant workers in the United States is much higher than in other countries, foreign-born workers are a comparable fraction of the workforce in many other countries.

Capital is the other mobile factor of production, and there are many ways to invest capital in a foreign country. Private investors can buy government or corporate bonds to earn the interest that is paid on the bonds. Or they can buy shares of stock in foreign companies on foreign stock markets. Private firms also engage in foreign direct investment (FDI) by building or purchasing affiliate operations in other countries. That is different from buying shares of stock in foreign companies, because with FDI a company controls the affiliate operation.

In 2003, U.S. agents (meaning individual citizens, banks, other corporations, and government agencies) owned \$7.8 trillion dollars of foreign financial assets. Meanwhile, foreign persons owned \$10.5 trillion dollars of U.S. financial assets, including \$3.4 trillion of U.S. corporate bonds and stocks, \$2.4 trillion in foreign direct investment, and \$1.7 trillion in U.S. government bonds. To put those numbers in perspective, the total capitalization (value) of U.S. equities in 2003 was \$14.3 trillion, and the total value of U.S. government bonds was \$3.9 trillion. A sizable fraction of the total U.S. capital stock is owned by foreign citizens.

Integration: Old and New

Migration and merchandise trade is old news, in the sense that countries have experienced that for thousands of years. The level of U.S. trade today is roughly comparable in size to trade a century ago, and migrants are a considerably smaller portion of the labor force than they were for the nation's first 150 years. So why do many observers claim that we are experiencing an unprecedented era of

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globalization? Put differently, what's new about the current forms of globalization? Two things stand out. First, the kinds of things being traded are very different from what was traded in earlier eras. Second, the ways countries are integrated now go far beyond the simple trading of goods.

Suppose we were to go back to the first era of globalization in the late 1800s and look at the cargoes carried by the great steamships that made the first era possible. For the most part we would see bulk commodities – such as coal, wheat, cotton, and iron ore – and some very simple manufactured products. Trade today is quite different. Figure 2 (page 30) shows the growth in world trade relative to output for manufactures, agriculture, and mining products. While agriculture and mining trade/output has been steady since World War II, manufacturing trade has grown very rapidly. Bulk commodities have become far less important than trade in manufactures and services. That is important because trade in manufactures and services requires a much higher degree of sophistication and coordination in production, consumption, and regulation than trade in basic commodities.

To understand why this is true, think about what is involved in producing and exporting coal. First, of course, you have to have coal. If there are no coal deposits in a country you cannot just dig a mine and expect to produce coal. If there is coal you can dig it up, put it on railroad cars or ships, and sell it abroad. The product itself is not sophisticated, and it doesn't take extensive research and development to create it or to tailor it to consumer uses. Nor are major marketing or education campaigns required to encourage consumers to buy the product. They buy the coal, throw it in stove or furnace, and the transaction is done. The usefulness of the coal is a function of its natural physical properties: when you burn it, it produces heat.

In stark contrast, consider what is involved in producing and exporting a laptop computer. The first thing to note is that there are no natural deposits of computers to mine, so the location of

natural resources does not determine where the computer can be produced. Instead, factories to produce computers can be built virtually anywhere in the world. That makes computer manufacturing much more “footloose,” or mobile, which means inefficient firms quickly face tremendous competitive pressure from firms that can produce and sell laptops at a lower cost.

The second key characteristic of laptops and many other products that are internationally traded today is that the value of the physical materials in the final product is often trivial. With the computers nearly all the value comes from the ideas – the technology – incorporated into the central processing unit, the disk drives, the flat panel screen, the long-life battery, and so on. New technologies have to be researched and developed, and the intellectual property created through this research has to be protected from those who try to copy and steal it. Because production can be moved to any country in the world that protection must be international in scope, too. Protecting a patent at home doesn't save a company from foreign competitors.

The third characteristic of today's international trade is that technologies can be repeatedly reused once they are discovered. That gives firms that develop successful new technologies a major cost advantage over their competitors, allowing them to expand production, sales, and profits. Especially good innovations can lead to enormous profits and even monopoly power for the firms that create them. Although international trade in goods increases competitive pressures in many markets, monopoly power from innovations that are protected by internationally recognized patents, copyrights, etc. does not end at national borders. Increasingly, therefore, firms that dominate a market in one nation are likely to dominate that market in other countries, also.

A fourth key difference between old and new forms of international trade is that it has become increasingly rare to find a purely “Japanese” or “American” computer (or any other complex manufactured product). Because

the laptop embodies so many different technologies and so many different kinds of expertise, it is rare to find one company or even one country that excels in producing every part. Instead, the technologies embodied in final products usually come from dozens of labs and manufacturing plants located all around the world. Research laboratories themselves are increasingly multinational in scope, and leading laboratories in the United States rely to an increasing degree on hiring foreign-born scientists and engineers who were trained at U.S. universities.

Managing trade in goods that require many different technologies and hundreds of component parts is more difficult and entails far more coordination problems than producing the basic commodities that were the staples of international trade in earlier centuries. The coordination problems can be especially difficult when transactions are conducted between independent firms. As a result, large firms often “internalize” these transactions (that is, bring them under the direct control of one corporation). When this involves goods and ideas that are produced in many different countries, the result is a multinational corporation (MNC).

As noted earlier, when an MNC makes investments in other countries that is called foreign direct investment (FDI). In recent decades the number of MNCs and the amount of FDI have skyrocketed. Currently there are over 60,000 multinational corporations that direct nearly a million affiliates. Their total investments in 2003 totaled \$8.2 trillion, 10 times more than in 1982. MNCs have invested heavily in the United States, with the real (inflation-adjusted) value of their investments about 35 times higher in 2000 than in 1960.

Worldwide, the spectacular growth in FDI was partly a result of relaxing laws and regulations that limited foreign ownership of domestic companies. But the main cause for these trends, all around the world, was the shift in world trade away from simple products such as wheat and coal to more complex, technology-

based products such as computers, airplanes, and pharmaceuticals.

Because production and trade has become more complex, international treaties governing trade have also become more complex. International agreements must now be negotiated and ratified dealing with protection of intellectual property, regulation of foreign investment and monopoly power, and the mobility of highly skilled scientists and other workers. These issues are highly controversial and difficult to negotiate.

Why Countries Trade

With all of these complications and controversies, it is easy to lose sight of the fundamental question: Why do countries trade with one another in the first place? The short, simple answer is because nations **specialize**. In other words, they produce more of some goods than they consume, but produce less than they consume of many other goods.

Specialization by countries is really very much like specialization practiced by individuals. For example, farmers grow more food than they eat themselves, doctors provide more medical care than they use themselves, and tailors sew more clothing than they can ever wear themselves. That way more and better food, medical care, and clothing can be produced than if each person had to grow their own food, be their own doctor, and sew their own clothes. But specialization is only possible with trade, so that the doctor can buy clothes from the tailor and food from the farmer, the farmer can buy clothes from the tailor and medical services from the doctor, etc.

That leads to a second key question: *why* do countries (or individuals) specialize in producing some goods or services, but not others? Three basic ideas from economics are used to answer this question: arbitrage, absolute advantage, and comparative advantage.

Arbitrage

Arbitrage is nothing more than “buying low and selling high.” In the context of international trade, suppose an identical shirt can be bought

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for \$15 in the United States or \$10 in Mexico. A smart entrepreneur sees this and realizes she can make money by arbitrage, so she buys the low-priced shirts in Mexico and sells them at a higher price in the United States. Because the shirts have moved across an international border we say that they have been exported from Mexico and imported into the United States. If the same thing happened with shirts moving from Florida to Ohio it would still be arbitrage, but there would be no exports or imports.

Trading a few shirts will not have much effect on either the U.S. or Mexican economy. However, this entrepreneur (and others) can make money through arbitrage as long as the shirt sells for different prices in the two countries. Eventually, enough shirts may be exported to the United States to have important effects on output and price levels in both countries. Before the trade began, shirt factories in Mexico produced only for Mexican consumers, but after trading they are now producing for Mexican and American consumers. Shirt production in Mexico must increase to meet the higher demand, while shirt production in the United States will fall. This is precisely how specialization occurs: the low-price country produces more of the products it exports, while output of that product in the high-price country falls.

These changes in output also affect the prices of shirts on both sides of the border. Increasing output to meet both Mexican and U.S. demand raises costs for Mexican shirt producers and their prices begin to rise.¹ Meanwhile, the availability of more and lower-priced shirts in the United States pushes prices down. Arbitrage causes the price of goods to converge and eventually equalize on both sides of the border.²

¹ Put differently, the supply curve for Mexican shirt slopes upwards and producing more shirts increases the marginal cost of production.

² Note that nowhere in this story did the governments of the United States and Mexico become involved in this process, or make decisions about how each country would specialize and trade. Instead, trade happened because an entrepreneur saw an opportunity to make money by moving goods from a low to a high-priced location.

How specialized will these two countries become? Once there is no price difference there is no further incentive for the entrepreneur to move goods between the two countries. If production costs are similar in the two locations, a small amount of arbitrage will equalize prices and only a small degree of specialization will occur. If production costs are very different, however, trade will cause Mexico and the United States to dramatically change their pattern of specialization.

This simple story captures important ideas about why countries trade and the effects of arbitrage, but it leaves several important questions unanswered:

- 1) How does the United States pay for the imported shirts (or put differently, is there anything it can export to Mexico)?
- 2) Are Mexico and the United States better or worse off as a result of the trade?
- 3) Why are the costs of production different in the United States and Mexico?

To answer these questions economists have developed the ideas of absolute and comparative advantage.

Absolute Advantage

Absolute advantage is defined as the ability to make a good or service with fewer inputs than another individual, company, or country would use to produce it. Some countries, such as the United States, have extremely high levels of productivity, which means they have an absolute advantage in producing many goods and services. It might seem that being more productive would also make the United States a low-cost producer and allow it to export almost

When we say that Mexico exports shirts to the U.S. we really mean that private individuals or firms produced goods in Mexico and sold them to consumers in the U.S. Entrepreneurs must also bear the cost of transporting goods internationally and paying international trade taxes, or tariffs, on their shipments. If these transactions costs are large, less arbitrage (trade) will take place and countries will be less specialized.

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any good or service, and that countries with very low productivity levels could never compete on international markets. This turns out to be wrong, however, because high-productivity countries also enjoy high wage rates, and higher wages can offset the productivity advantages.

To see this, consider a simple example. Suppose there is only a single good produced in the economy, rice, and only one input has to be paid to produce the rice, labor. Initially it takes four French workers or four German workers to grow a pound of rice. If this market is competitive, with many buyers and sellers who do not have any control over wages and prices, and given the assumption of only one output and one paid input, the price (p) of a unit of output will equal the number of inputs used to produce it multiplied by the cost of each input:

$$p(\text{rice}) = (\text{wage per worker}) \times (\text{number of workers / lb rice})$$

The price of rice in Germany will be (wage per German worker \times four workers), and the price of rice in France will be (wage per French worker \times four workers). As described in the earlier shirt example, arbitrage (trade) will tend to equalize prices of goods across locations. That means we can set the price of rice in France and Germany equal.

$$p(\text{rice})_{\text{germany}} = p(\text{rice})_{\text{france}}$$

which means that the wage per German worker times the number of German workers per pound of rice equals the wage per French worker times the number of French workers per pound of rice

Rearranging terms shows that:

$$\frac{\text{wage per German worker}}{\text{wage per French worker}} = \frac{4 \text{ French workers/ lb rice}}{4 \text{ German workers/ lb rice}} = \frac{4}{4}$$

In other words, with labor productivity in producing rice equal in the two countries (four workers to produce a pound of rice in both countries), the price of rice in both countries will be equal to four, and there are no opportunities to arbitrage by trading rice. But now suppose workers in Germany become more productive, so that it only takes two German workers to grow a pound of rice. German firms now have an absolute advantage because they

can produce rice with fewer inputs (fewer labor hours), and the right-hand term in the last equation will now be four divided by two. With the productivity increase, however, wages will no longer be equal in the two countries, either. Instead,

$$\frac{\text{wage per German worker}}{\text{wage per French worker}} = 2$$

In short, because German workers are now twice as productive as French workers, they will earn twice the wage. How does this come about, in practice? Starting from the point where wages are still equal, let's turn a clever entrepreneur loose on the problem.

As long as wages are equal, Germany's productivity advantage will allow it to produce rice at a lower cost, so the entrepreneur will start shipping rice from Germany to France. But as Germany's production of rice increases, the entrepreneur must hire more workers. That increases the demand for labor and bids up the wage, which means that Germany will eventually lose its cost advantage in exporting rice to France.

Although this is a very simplified example, it makes two key points. First, when we look at wage levels around the world they are primarily determined by productivity levels, with high productivity countries enjoying high wages. Second, having an absolute advantage in productivity does not mean that a country will be a low cost producer of a good (and thus an exporter), because the country will also have high wage rates that push up prices. In the rice example wages and productivity were eventually exactly offsetting.

Comparative Advantage

If absolute advantage doesn't mean that a country will be the low-cost exporter of a product, what does? It turns out that people and countries specialize and then trade based on what economists call comparative advantage. To understand comparative advantage, it is useful to start with the example of individuals choosing to specialize. Each person has only 24 hours in each day, and that means spending time and effort on one activity requires us to give up

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doing other activities. Economists call this an **opportunity cost**. A person or firm has a **comparative advantage** when they can produce a good or service at a lower opportunity cost than someone else.

People use their time most efficiently when they focus on activities in which they have a comparative advantage. For example, suppose a lawyer must decide between taking two hours to type a 10-page document and using those same two hours to do legal research for a client for which she will earn \$500. A secretary could type the document for the lawyer, but suppose the secretary doesn't type as well as the attorney, and will take four hours to complete the work. Given the local wage rate for a typist of \$12.50/hr, that will cost the attorney \$50. The lawyer could type the document herself twice as fast as her secretary, and save paying the secretary \$50. But in doing so the lawyer gives up \$500 she could have earned doing legal work. Hiring a secretary frees up time for work that has a higher value, such as doing case research, representing clients in court, etc.

The same idea explains why countries specialize. Countries are also endowed with limited resources – including labor, capital, human capital, and natural resources. When countries use these factors of production to produce one good, they cannot use them to produce another good. Countries trade because their opportunity costs for producing different goods are different. That is, just like the lawyer and the typist, they have different comparative advantages.

To illustrate this idea by extending the earlier example of Germany and France producing rice, now suppose that in addition to growing rice France and Germany can also produce bicycles. In Germany it takes one worker to produce a bicycle, but two workers to grow a pound of rice. In France it requires four workers to make a bicycle and four workers to grow a pound of rice. That means Germany has an absolute advantage in producing both goods, because it can produce both bicycles and rice with less labor than France. But that does not

mean Germany has a comparative advantage in producing both goods, and in fact it does not.

To determine comparative advantage look at prices for both goods in both countries. Imagine for a moment that France and Germany cannot trade, and so must produce for themselves any goods they consume. In Germany bikes will be half as expensive as rice because they require half as much labor. Put differently, Germany's opportunity cost of producing one pound of rice is giving up production of two bicycles. Opportunity costs and prices are different in France, because making a bicycle requires the same number of workers as growing rice. Therefore, the opportunity cost of producing one pound of rice is only one bicycle.

Although France has a lower opportunity cost for producing rice, Germany has a lower opportunity cost for producing bikes. Producing one more bike in Germany requires giving up a half-pound of rice; producing one more bike in France requires giving up a full pound of rice. This is not a tricky or atypical example, but it illustrates a very general proposition: Being relatively good (that is, low-cost) at producing rice necessarily means being relatively bad (high-cost) at producing bicycles. Similarly, the person with a comparative advantage as an attorney must have a comparative disadvantage as a typist.

Returning to the Germany and France example, what happens if these countries can trade? Entrepreneurs buy goods where prices are low and sell where prices are high. The real price of rice is lower in France because it has a lower opportunity cost than in Germany, so entrepreneurs should export French rice to Germany. The relative price of bicycles is lowest in Germany, so entrepreneurs will export German bicycles to France.

The Gains from Trade

How will these countries gain from international trade? An easy way to see that is to ask what each country can consume with and without international trade. Suppose Germany has 100 workers, and initially uses them to produce 50 bicycles (50 bikes \times 1 worker per

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bike = 50 workers) and 25 pounds of rice (25 lbs rice \times 2 workers per lb rice = 50 workers). To export bicycles from Germany to France, the entrepreneur must increase bicycle output in Germany. If she opens up a second bicycle factory and hires all 50 workers away from the rice farms, that increases bicycle output in Germany by 50 and reduces rice output by 25 lbs.

What will she get when she sells the 50 bikes in France? If she uses the money she earns to buy 50 pounds of rice and ships all 50 pounds back to Germany, Germany can still consume 50 bicycles, but now its rice consumption has increased from 25 to 50.

How does this work? Germany is relatively inefficient at producing rice and relatively efficient at making bikes. Trade with France allows Germany to shut down its rice farms and use its scarce resources (workers) more efficiently. It is as if Germany discovered a new technology for producing rice that allows it to make 50 pounds of rice with 50 workers, instead of the 25 pounds it could make before. And in fact it *has* discovered a new technology: France's technology. The only catch is that to utilize this technology it has to export bikes and import rice.

As it turns out, both countries can gain from the trade. To convince yourself of this, simply go back and repeat the exercise above for France, shipping rice to Germany in exchange for cheaper bicycles, and you will find that it works in both directions. That really shouldn't be too surprising, because like all voluntary exchanges, international trade only occurs when both parties expect to gain.

Note too that arbitrage and trade opportunities do not depend on absolute advantage, but only on comparative advantage. That would be true even if absolute advantages in producing rice and bicycles became larger for Germany, or if they suddenly shifted to France instead of Germany. For example, suppose France experienced a huge increase in labor productivity and could reduce labor inputs for both bicycles and rice by half without reducing the amount of each product produced. France

now has the absolute advantage in producing both goods, but the opportunity costs of producing either product in France would be unaffected. The pattern of trade would continue just as it did before, and the gains from trade would be the same. The only difference would be that French wages would be higher than before.

Finally, note that achieving the gains from trade requires that inefficient firms be shut down. (In this example, German rice farms and French bicycle factories were relatively inefficient, high-cost producers.) Doing this frees up resources that can be used more efficiently and does not create long-term unemployment. Instead, workers who are laid off in Germany's rice farms are re-employed in Germany's bike factory, and French workers in bicycle factories are re-employed producing rice. More of both products are produced and consumed, so the standard of living rises in both countries.

Sources of Comparative Advantage

As shown in the example above, nations have different comparative advantages and can gain from trading because they have different productivities in producing different goods. In the real world there are large differences in relative productivity across countries. There are many reasons for this. A few of the most important and general reasons are discussed below.

First, differences in endowments of natural resources are important in some industries. For example, agricultural productivity differs across countries because of climate and soil quality. Comparative advantage in energy production depends on differences in natural endowments of crude oil, rivers suitable for hydroelectric production, and windy coastlines or plains for wind turbines.

Second, government services and regulations also play a role in shaping productivity. Worker productivity may vary because of differences in school quality, because laws require students to complete more years of schooling, or because schools in a

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particular country emphasize some subjects over others. Government regulation of factory emissions can leave a nation with a comparative disadvantage in polluting industries and a comparative advantage in clean industries.

Third and probably the most important source of comparative advantage and productivity differences across countries results from decisions by firms to invest in technology. For example, the United States has strong comparative advantages in airplane manufacturing and pharmaceuticals because U.S. firms in these industries have spent billions of dollars researching and developing state-of-the-art technologies.

Economies of scale arising from investments in technology are an important source of productivity differences and comparative advantage. In producing large commercial jet airplanes, for example, a company must spend large sums for research and development (R&D) before a single airplane is produced. The more jets a firm can produce and sell, the more the fixed costs of that investment can be spread out and thus represent a smaller part of the price for each unit sold. For example, the new super-widebody A380 plane produced by the European Airbus consortium required \$13 billion in R&D costs. If Airbus sells only 100 of these planes, the R&D cost per plane will be \$130 million. If Airbus can sell 250 planes, the R&D cost per plane falls to \$52 million. Airbus executives have said they will “break even,” covering their R&D costs if they can sell 250 planes. If Airbus meets its goal of selling 1000 planes, the R&D cost per plane becomes very small, and Airbus will make a great deal of money.

Suppose Boeing (the U. S. rival to Airbus) has precisely the same schedule of average costs for its new superjet. Which company will end up enjoying the greatest profits? That depends on which company sells more planes. It becomes a kind of virtuous circle: selling more planes lowers average costs, which allows the company to lower prices, sell more planes, and make more money. Put another way, in industries with strong increasing returns to

scale, achieving a greater level of sales and output can become a source of comparative advantage. These tend to be industries in which very few firms can successfully operate at one time, but where the few successful firms earn high profits.

A fourth source of comparative advantage is differences in the supply of key inputs. In the earlier examples with France and Germany, for simplicity labor was treated as the only input. But usually firms require multiple inputs: land, and other natural resources, different kinds of skilled labor, capital, energy, and material supplies. Industries differ in the intensity with which they use these different kinds of inputs. For example, agriculture uses land intensively, so if land is very expensive (in Japan, for example), the cost of agricultural production will be high and the nation is likely to import, but not export, agricultural products. Other countries, including the United States, Canada, Australia, and Brazil, are endowed with much more land. Land prices in these countries are relatively low, which lowers the cost of producing agricultural products.

A few more examples may be instructive: Producing aluminum uses electricity intensively, which is why Canada, with relatively abundant supplies of low-cost hydroelectric energy, has a comparative advantage in aluminum production. Textiles and apparel use unskilled labor intensively, so China, with an abundant supply of unskilled labor, has a comparative advantage in textile and apparel production. Automobiles use capital intensively, and so Japan, with relatively abundant supplies of capital (reflecting its high national savings rate), has a comparative advantage in automobile production.

International Capital Flows and Migration

Differences across countries in the relative supply of inputs are not only an important source of comparative advantage, they are also an important reason for international migration and capital flows.

To understand this, consider a simple example involving agricultural trade between

the United States and Mexico. Some crops, such as wheat, are most efficiently produced on very large farms where harvesting can be done with advanced machinery. Other crops, such as tomatoes and many fruits, cannot be effectively harvested by machinery. Instead they are labor intensive, requiring field workers to hand pick produce and avoid the damage machines would cause. The United States has relatively abundant supplies of land and capital, but labor is relatively scarce. In other words, labor productivity and wage rates are high. For large-scale agriculture that means the cost of machinery is low and the cost of hiring field workers is high. The reverse is true in Mexico: machinery costs are high but the cost of hiring field workers is low.

Those differences in factor supplies and factor prices will lead the United States to export wheat while Mexico will export tomatoes and fruit. This occurs for the same reasons Germany exported bicycles and France rice in the earlier example of comparative advantage. There is another way for the United States and Mexico to gain from trade, however. Rather than importing tomatoes and fruit from Mexico, U.S. produce and fruit farmers can import Mexican laborers. This lowers the price (wages) of field workers and allows U.S. tomato and fruit farms to be competitive. Similarly, instead of exporting wheat to Mexico, the United States could export (loan) financial capital to Mexico to be used in the purchase of machinery. That would make Mexican wheat farms more competitive.

This suggests an interesting parallel between trade in goods and trade in the factors of production including labor migration and international capital flows for investment. If countries differ in their relative supplies of factor inputs, the relative price of those inputs will also be different. That difference creates the potential to gain from trade, which can be realized either by trading final goods and services or by trading the factors of production.

Most international immigration today is motivated by the economic forces just described. Latin American migrants move to

the United States, while North African and Eastern European migrants move to Western Europe. The migrants are able to command higher wages in the United States and Western Europe than in their home nations because they have more capital to work with (and therefore higher productivity). In earlier centuries, a similar situation motivated migration from Western Europe and Asia to the United States. In those periods migrants left densely populated regions in which land was scarce and expensive for the U.S. where land was abundant and inexpensive.

Other Reasons for Trade

Not all world trade is easily explained by cost differences and comparative advantage. As noted above, the gains from trade resulting from comparative advantage are greatest when countries are very different from one another; but a great deal of world trade occurs between very similar countries. This is sometimes called “North-North” trade, because it takes place between the rich, industrialized countries in the Northern Hemisphere (mainly between the nations of Western Europe, Asia, and the United States and Canada). Furthermore, these economies often engage in “intra-industry” trade, meaning that these countries simultaneously import and export similar products from the same industry.

Much of this trade is explained by what economists call “differentiated products”. For example, although cars have the basic function of providing transportation, there are important differences in car makes and models in terms of size, fuel efficiency, horsepower, styling, etc. Different consumers prefer different features, and these tastes often overlap with the kinds of products produced in particular nations. As a result, there are many Americans buying Honda sedans from Japan, Germans buying American sports utility vehicles, and Japanese buying German luxury vehicles.³

³ Producing distinct, or differentiated, cars requires firms to invest substantial research and development resources. These fixed costs prevent any one company, or country, from producing every conceivable type of car. Being able

The same pattern holds true for many other kinds of goods, too: American consumers wear Italian leather shoes, play Japanese video games, listen to British music, and eat French cheese. McDonalds restaurants can be found in over 100 other countries, and the latest Hollywood hits dominate box offices worldwide. Brands such as Coca-Cola, Mercedes, Xerox, and Sony are known globally. Recent estimates suggest that the gains from trading “differentiated” products and expanding the set of consumer choices may yield even larger gains from trade than those resulting from simple comparative advantage.⁴

Trade increases product diversity in styling and other characteristics, but another result of trade is a greater degree of worldwide convergence in consumer culture. Some critics of globalization decry the loss of unique national cultures, and worry about large multinational firms driving small, local firms out of business.⁵ Proponents of globalization point out that no one forces consumers to eat at McDonalds, drink French wine, or play Nintendo. They argue that because consumers are free to choose or ignore these products, having them available cannot make consumers worse off, whereas “protecting” consumers by excluding the international products often makes them pay higher prices for products they do not like as much.

Increasingly, firms that produce differentiated goods are moving production facilities to be closer to their final consumers in different countries. When firms begin to operate facilities in many countries, by making foreign direct investments, they become

multinational firms. The automobile industry provides an excellent example of this. The first cars Honda and Toyota sold to U.S. consumers were produced in Japan and exported. During the 1980s these companies built car factories in the United States to accomplish several goals: First, this eliminated the cost of shipping cars from Japan. Second, the surge of Japanese auto exports to the United States in the 1980s displaced sales by U.S. automobile firms (General Motors, Ford, and Chrysler). That created a political backlash that eventually led to **quotas**, or limits, on the number of Japanese cars that could be sold in the United States. Moving the production of these cars to the United States allowed these firms to avoid the trade restrictions. Third, by locating in the United States they were able to better customize the products to meet the specific demands of U.S. consumers.

In the simple examples of trade based on comparative advantage, trade is driven entirely by cost differences. If a country is the low-cost supplier, it will be an exporter. When we think about trade in differentiated products cost is still an issue, but it is not the only factor, because consumers may be willing to pay more for a higher-priced product if it has the particular characteristics they prefer. As a result, the ability of firms to identify consumer tastes and shape their products to meet them becomes a critical factor in shaping trade.

Trade Policy

Most economists view free trade as a desirable policy. Because of the mutual gains from trade – whether that trade is between individuals and firms in the same country or in different countries – they believe people in all countries will generally be better off if competition in the international marketplace determines which firms succeed and which fail. Despite this consensus among economists, however, governments routinely interfere with international trade by imposing a variety of policy restrictions. What these restrictions are, how they affect markets, why governments choose to use these restrictions, and how certain

to export to many markets allows auto firms to spread their fixed costs over more units and lower unit costs.

⁴ Romer, Paul. “New Goods, Old Theory and the Welfare Costs of Trade Restrictions.” *Journal of Development Economics*, 1994.

⁵ Perhaps the best known is Jose Bove, a French farmer who spent three weeks in jail in 1999 for ransacking a McDonalds in Millau France. Of course the same concerns arise within countries, too, including complaints about national chains of groceries, fast food restaurants, and retail superstores driving out small, local “mom and pop” businesses.

international rules and institutions have been developed to limit the use of national policies that restrict international trade are the focus of this section.

Tariffs and Trade Barriers

One of the earliest and most common restrictions on international trade is the **tariff**, a sales tax on imported goods. Most tariffs are ad-valorem, meaning that they are set as a percentage of a good's price. In the United States, the average tariff on imported goods today is only about 5 percent, but for some goods (such as textiles and steel) they are much higher.

To understand the effect of tariffs, suppose the U.S. steel industry finds that Korean steel firms can now produce and sell steel at a lower price than they can. As shown earlier, free trade allows steel consumers to purchase more steel and pay lower prices, making consumers (including companies that use steel to produce their products) better off. However, U.S. firms that produce steel, and their employees, are worse off. Inefficient U.S. firms will be driven out of the market, but even the U.S. firms that are able to continue producing steel will see the prices they can charge driven down by competitive pressure from the Korean firms.

Not surprisingly, U.S. steel firms and workers have a strong incentive to encourage the government to "protect" the market from foreign steel producers. The U.S. government may do this by levying a tariff on Korean steel, and in 2002 that is exactly what happened, with tariffs rising by up to 30 percent.

The tariff effectively reverses the changes in the market caused by free trade. Steel prices rise by the amount of the tariff, which makes consumers worse off because they must pay a higher price for steel and other products made with steel. On the other side of the market, U.S. steel suppliers are "protected" from foreign competition and can sell their output at higher prices. The output of steel produced in the United States expands and inefficient firms that would otherwise have gone out of business can still produce.

The tariff hurts consumers and helps producers, but what is the effect on the economy as a whole? Tariffs almost always result in net economic losses because consumer losses far outweigh producer gains. Although there are some interesting theoretical arguments for special cases in which tariffs could make a country better off, in practice this is rarely the case.

Political Explanations for Protection

If tariffs, quotas, and other kinds of trade barriers generally make the country as a whole worse off, why do governments adopt these policies to restrict international trade? There are at least three possible explanations. One, politicians may not realize that these policies reduce or eliminate the gains from trade and usually do more harm than good. Perhaps they were not fortunate enough to have taken a course in international economics in high school or college, or maybe they sat in the back row and napped.

Two, politicians may have objectives other than maximizing economic welfare. For example, national security is often cited as a reason for protecting domestic firms from international competition.⁶ The argument goes something like this: without steel we cannot build tanks and planes, and we cannot trust that foreign steel supplies will be available in times of national crisis. Therefore, for security reasons, it is important to keep domestic steel firms in business even if they are not economically efficient. Although this argument does make sense on some level, there are two key problems with it, too. First, the United States is not likely to face armed conflict with any of the countries that are its major trading partners, and even if such a conflict did break out with one or two countries, most of these

⁶ Another possible objective is to increase government revenues. In many small and poor countries, governments are incapable of monitoring or taxing economic transactions that take place inside their borders. They may, however, be able to control entry points at their borders, which makes tariffs one of their few feasible sources of tax revenues.

goods are supplied by dozens of exporting nations and would still be available. The second problem with the national defense argument for trade barriers is that, in practice, it is soon extended in literally silly ways to justify, for example, protective policies for domestic shoe and scissors manufacturers. These are not products that immediately come to mind in listing products that are essential to national defense, but after all, barefoot soldiers cannot fight effectively. So where do policy makers draw the line, short of protecting every product that is purchased by the Armed Forces, which means erecting trade barriers on almost everything?⁷

The third possible reason why politicians may impose trade barriers is that they may be more concerned about who wins and who loses from trade, rather than focusing on the overall net gains from trade. They may do that because, even though gains are greater than losses, the gains are often spread out across large numbers of consumers, whereas losses are concentrated among a few firms and a relatively small number of workers. For example, the U.S. International Trade Commission (USITC) estimates that if import restrictions on textiles and apparel were lifted, U.S. consumers would gain between \$9 and \$14 billion each year.⁸ That is a lot of money, but divided among 300 million consumers it amounts to no more than \$30-\$50 per person. Moreover, most consumers have no idea that trade restrictions cause them to pay a few extra dollars for each shirt and pair of pants they buy, so individually they have very little incentive to demand that import restrictions be lifted.

On the other hand, the USITC also estimates that removing the trade restrictions on textiles would reduce output and employment in the U.S. textile apparel industry by 10-14 percent.

⁷ One famous leader, Lycurgus, did just that by intentionally putting an end to all international trade in ancient Sparta. Today, not many consumers in any country – including Greece – want to be that Spartan.

⁸ “The Economic Effects of Significant U.S. Import Restraints” June 2004 U.S. International Trade Commission.

These losses would be concentrated among a small number of firms and workers, which creates a strong incentive for those people to lobby to keep the status quo of high import restrictions. Once trade restrictions are in place they are politically very difficult to remove, even when the overall benefits of removing the benefits are substantially larger than the costs.

Losses from Trade in Factor Markets

When countries specialize and trade, efficient sectors expand production to export goods, and inefficient sectors decline and are replaced by foreign competitors. There is no question that specialization and trade causes some redirection of resources in the economy. Indeed, there can be no gains from trade without eliminating inefficient firms. But what are the consequences of this dislocation for workers at inefficient firms, in the short run and the long run?

Unemployment

As briefly discussed in the example of France and Germany trading rice and bicycles, there are strong theoretical arguments suggesting that international trade does not create long-run unemployment. Those arguments are strongly supported by empirical evidence, too, because countries that are more open to trade have unemployment rates no different from countries that are more closed to trade. Even countries that have experienced especially rapid trade growth have not faced increases in their unemployment rates. In short, international trade may cause short-run dislocations as workers change jobs. In time, however, displaced workers find new jobs working in firms that are more efficient, which increases national output and consumption levels.

Specific Factors and Mobile Factors

Telling displaced workers everything will work out for the best in the long run still leaves them facing serious problems, and as it turns out some workers face more serious problems than others. In the (overly) simple France-Germany

example, no workers were hurt by switching jobs and they all shared equally in the gains from trade by enjoying lower prices for the products they consumed. One key to this kind of smooth transition was that workers could do either job equally well. In other words, they had no skills that were specific to growing rice or building bikes, so they did not have to retrain to take the new jobs and they did not have to pay to relocate their families. The real world is, of course, more complicated than that, so the idea that everyone shares equally in the gains from trade has to be modified.

The difference between mobile and specific factors is easy to see by comparing **financial capital** (or investment funds) – which is very liquid, and easy to move from one use to another – to a piece of physical capital that is designed to do one highly specialized task. Suppose you have \$100 in savings that you want to invest. The \$100 could easily be invested in any sector of the economy, but you decide to invest it in the textile sector to buy a machine for cutting cloth. Once that machinery is purchased the investment has become specific. It can be used to produce apparel, but not to grow rice or build a bicycle.

People also make specific investments. They take courses that prepare them to be doctors *or* engineers *or* shop foremen. Learning cell biology is very important for a person who wants to be a doctor, but will not help that person design airplanes or run a production line. Workers also learn from on-the-job training and work experience that is not taught in the classroom at all, but is still essential knowledge for the work being done at a particular business.

So, in the real world, what would happen to the inputs used to produce textiles and apparel if the United States removed import restrictions and output and employment levels in the industry fell, as the USITC has estimated they would? First, if textile mills close down some of their specific capital investments – plants and machinery – becomes much less valuable. The owners of that capital would incur a large loss on the investment, which is another reason why

textile mill owners oppose reducing or eliminating the trade restrictions.

How much would workers suffer, and which workers would suffer most? That depends on whether the work in textile mills required specific training that cannot be used elsewhere. Generally, studies by economists find that workers suffer greater earnings losses from displacement when they have been employed at the same firm for a long time, and when they are unable to find re-employment in the same sector of the economy.⁹

Workers displaced because of import competition experience more difficulty in becoming re-employed than workers displaced for other reasons, but this seems to be mainly explained by the characteristics of the workers themselves. For example, women displaced from jobs for any reason are more likely to leave the labor force than men, and so are re-employed at lower rates.¹⁰ Because women are overrepresented in import-competing industries, and especially textiles and apparel, displaced workers from these industries are less likely to be re-employed.

Although job displacements from international trade clearly impose costs on some workers, and more on some workers than others, do the costs of job displacement represent a significant argument against globalization? Not necessarily. First, although some layoffs occur because of import competition, it is much more common for layoffs to be caused by competition from domestic firms, or because of changes in consumers' tastes and technology. Job turnover

⁹ One study (Field, Alfred J., Edward M. Graham, "Is there a special case for import protection for the textile and apparel sectors?" *The World Economy* 1997) examined labor market outcomes in 1992 for workers displaced between 1986 and 1991. For manufacturing as a whole, 94 percent of displaced workers were re-employed, after an average of six months of unemployment. Workers re-employed in the same industry saw a small drop in earnings (2.8 percent), while those who were re-employed in a different industry experienced a 24 percent cut in earnings, suggesting that less of their training transferred to their new jobs.

¹⁰ Kletzer, Lori G. *Job Loss from Imports: Measuring the Costs*, IIE Press 2001.

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from globalization is a very small component of overall job turnover in the United States, reflecting the fact that trade (exports and imports) account for less than 25 percent of U.S. GDP.

Second, the federal government Trade Adjustment Assistance programs ease the transition between jobs when import competition leads to displacement. Workers are eligible for up to a 18 months of unemployment insurance, and for additional retraining and re-employment assistance. These benefits are considerably more generous than those provided to workers who are displaced for any other reason.

Trade and the Returns to Education

The cost of dislocation and unemployment from trade are primarily a short-run phenomenon that diminishes over time as workers move out of declining industries. Over a longer time span globalization does not cause unemployment but it can still affect workers by changing wages and the returns to education.

Over the past three decades one of the most pronounced changes in U.S. labor markets has been the increase in what economists call the skill premium, which refers to how much more skilled workers earn than unskilled workers. Skill is typically associated with education levels, so we can think of the skill premium as the ratio of wages for college-educated workers to wages for workers who have only a high school education. Specifically, in 1973 college-educated workers earned 32 percent more a year than workers with high school educations, but by 1993 college-educated workers earned 56 percent more each year.¹¹

Many people have connected the rise in the skill premium to globalization. To see why, recall that one source of comparative advantage is the relative supply of factor inputs. The United States has a relatively abundant supply of college-educated workers, whereas countries like Mexico and China are relatively abundant

in workers with less than a college education. We therefore expect to see the United States exporting goods and services that use college-educated (skilled) workers intensively, and importing goods that intensively use unskilled workers.

It was also noted above that the effect of importing goods produced using unskilled workers is identical to allowing the migration of unskilled workers from Mexico and China into the United States. If migration leads to an increase in the supply of unskilled workers in the United States, wages for unskilled workers will fall. This fits the data on the skill premium.

Given that, should those concerned with growing income inequality in the United States oppose globalization? There are two important counterarguments to that position.

First, globalization is not the only explanation for the rising skill premium in recent decades. This period also corresponds to the introduction and rapid spread of computer technology throughout the U.S. economy. Information technology complements educated workers by making them more productive, and substitutes for less educated workers by replacing them. That leads to a rise in the skill premium. Although there is still considerable debate about the causes of the rising skill premium, a consensus among economists is emerging around the view that technological changes are the main factors, with globalization playing a smaller but still important role. If that is true, even if all international trade had been banned, there still would have been a sharp rise in the skill premium.

Second, restricting trade is a very inefficient way to equalize the distribution of income. Trade barriers help some firms and workers, but only by hurting consumers and other firms and workers.¹² If policymakers are only concerned with helping low-income workers to make the distribution of income more equal, they can directly subsidize the hiring of workers or supplement their incomes using policies like the

¹¹ Figure 1.7 in Cline, William, *Trade and the Income Distribution*. IIE Press, 1997.

¹² See Lesson 11 in this volume for a review of the effects of tariffs, quotas, subsidies, and other trade barriers.

Earned Income Tax Credit. These policies help low-income workers more directly, with smaller negative effects than trade restrictions.

Trade and International Institutions

All governments face a tug-of-war between competing economic interests in many different arenas, including the winners and losers from free trade policies. Today it is widely acknowledged by most economists and governments that free trade is the best economic policy for a country as a whole, but despite that it is difficult to prevent or eliminate trade barriers in the face of withering pressure to “protect” domestic producers and workers. Recognizing this trap, most nations in the world have now joined international institutions or signed international agreements that limit how and how much they can impede trade. The most important examples are the World Trade Organization (WTO), formerly known as the General Agreement on Tariffs and Trade (GATT), and regional free trade agreements such as the North American Free Trade Agreement (NAFTA).

How did these institutions and agreements come to exist? In the decades before World War I international trade grew very rapidly, driven by improvements in transportation technology and a web of bilateral (two-nation) trade agreements that lowered tariff rates among major trading countries. This system worked reasonably well until the 1920s and 1930s, when the United States and the leading European powers engaged in a series of “trade wars.” The infamous Smoot-Hawley tariff was passed in 1930, steeply raising U.S. tariff rates, and Europe quickly retaliated. World trade quickly ground to a halt, which made the Great Depression even more severe.

After World War II, the allied nations founded GATT, with the goal of trying to convert all national trade barriers into tariffs and then negotiate sharp tariff reductions.¹³ The

GATT was designed to be a dynamic treaty, and at roughly 10-year intervals the member nations completed new “rounds” of negotiations that lowered tariffs and addressed other trade issues. When it proved difficult to agree on tariff cuts in sensitive sectors, such as agriculture and textiles, these special issues were handled in side agreements, in essence sidelining the most contentious issues so that agreements could be achieved on other issues. Over time the GATT was extremely successful in reducing tariff rates, with successive rounds lowering world-wide rates from an average of 40 percent to only 5 percent.

In 1990 the WTO was formed from the GATT. Unlike the GATT, the WTO is not a treaty but an international institution, like the United Nations or the World Bank. While the WTO continues to focus on tariff reductions, it also covers areas not dealt with by the GATT such as trade in services, intellectual property protection, product and production standards, and competition (also known as anti-trust) policy. The WTO has also instituted a settlement process through which trade disputes can be mediated and, if necessary, adjudicated. Not surprisingly, this expansion of the WTO’s influence has been the source of considerable debate and conflict. Some of the most important current issues and areas of debate are described below. What becomes clear from even this brief discussion is that while many groups are displeased with WTO, they are sharply divided in terms of their preferred remedies for these problems. In fact, many of those who criticize the WTO want it to do much more, while others want it to do much less.

Agriculture and Textiles

For a variety of reasons, high income nations – especially the United States, Japan, and Western Europe – have historically chosen to protect their markets from imported agricultural and textile and apparel products. This is surprising in at least one sense, because all of these nations have strong comparative disadvantages in textiles and apparel, and Japan and Western Europe have strong comparative

¹³ This was a very busy period of international institution building that also gave rise to the United Nations, the World Bank, and the International Monetary Fund, among others.

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disadvantages in agriculture. Therefore, protecting these particular goods means throwing away some of the largest potential gains from trade. Moreover, many of the poorest countries in the world regard agriculture and textiles/apparel as their only comparative advantage industries. Denying their access to markets in the high income nations means denying them gains from trade as well.

In addition to unusually high tariffs, trade in textile and apparel is further impeded by a system of quotas called the Multi-Fiber Accord (MFA). The MFA was put in place in 1974, but under strong political pressure from many developing countries a termination of the MFA was agreed to in 1994, with an expiration date set for January 2005. When it expired Chinese textiles and apparel were shipped into the United States and Europe at unprecedented rates, and by May 2005 the United States had re-imposed quotas, effectively renegeing on the agreement to end the MFA.

In addition to tariff protection, agriculture in high income nations also provided heavy subsidies. Exporters in developing countries complain that these subsidies prevent them from selling to consumers in the high income nations by artificially lowering prices, and also that by increasing supplies of agricultural products on world markets the subsidies lower prices they receive in other parts of the world. Low food prices are very beneficial for consumers (importers) of agriculture, of course, but they are very harmful for the developing countries trying to export agricultural products.

These agriculture, textile, and apparel policies leave two very different groups unhappy with the WTO. Farmers and textile/apparel producers in the United States, Japan, and Western Europe are outraged that future trade agreements might remove their tariff, quota, and subsidy protections. Farmers and textile/apparel producers in the developing nations are outraged that the WTO has not gone far enough in removing these protections.

Environmental Standards

Globalization can lead to convergence in public policies in different nations. To see why this happens, imagine two cities sitting on either side of a river. One city (call it Windsor, Ontario) charges high sales taxes on food and gasoline. The second city (call it Detroit, Michigan) charges low sales taxes on these products. At first most citizens in Windsor grumble about their sales tax, but there isn't much they can do about it. As long as they cannot easily cross the river, they must pay the high sales tax when they buy these goods and services. But then a bridge is built across the river, so Windsor citizens can now buy the same goods in Detroit without paying the high sales tax, and sales at retail stores in Windsor fall. The owners of those stores soon demand a repeal of the sales tax, or that the bridge be closed.

The same kind of thing can happen with other kinds of regulations and public policies when countries open their markets to international trade, because there are often important differences between countries in terms of their preferred tax and regulatory policies. Higher taxes and strict regulations may have only moderate effects on business when they apply equally to all firms in a nation. But as soon as some firms can avoid the taxes or regulations by producing abroad, competition becomes especially difficult for firms that are still subject to the taxes and regulations.

In effect, regulation can become an important source of comparative advantage and trade. To see how this happens, suppose both the United States and Mexico produce some output in "dirty" and "clean" industries. Without regulation the United States has an absolute advantage in both industries, but neither country has a comparative advantage because the opportunity cost of production is the same in both nations. That means there are initially no gains from trade, so both countries produce some output in both clean and dirty industries.

If the United States then decides to regulate air and water emissions, production costs in the U.S. dirty industries will rise. If Mexico does

not regulate, its production costs are unchanged. The regulations therefore leave the United States with a comparative advantage producing in the clean industry, and Mexico with a comparative advantage in the dirty industries. After specializing, dirty industry output rises in Mexico and falls in the United States. Output produced in the dirty industries will be imported from Mexico into the United States, and output from the clean industries will be exported from the United States to Mexico.

If the pollution in dirty industries is local in scope, meaning that it mainly affects communities close to where the production occurs, free trade is great news for U.S. citizens who want a clean local environment. Without trade the United States had to produce its own dirty-industry output, and reducing emissions in the United States required the use of resources that could then not be used to produce other goods or services. With trade the United States can shift its dirty-industry production to Mexico at no cost, and U.S. water and air will be cleaner, too. So what's not to like, or is there a catch?

Although this example conveys some simple truths, it also ignores some important issues that concern environmental critics of globalization. First, there are likely to be specific factors (labor and capital) invested in the dirty industries in the United States, so there will be financial losses to capital owners and short-term unemployment issues if trade is adopted. In fact, the combination of environmental regulations plus globalization will impose particularly high costs on these groups, so the capital owners and workers in these industries will lobby very hard to prevent either the environmental regulations or free trade, or both.

Many environmentalists fear the political pressure that business interests will bring to bear against the regulatory standards, and they also do not want to promote a "race to the bottom" in which some nations choose to give up environmental quality to get more jobs and income. To prevent such a race and/or to avoid losing jobs in these industries, some people have suggested that developing countries be required

to adopt the same environmental regulations as the United States or, if they do not, that any international trade that is driven by differences in environmental regulations be prohibited. Of course another solution would simply be to resist the lobbying pressure to lower U.S. environmental standards and enjoy the gains from trade.

An even broader problem, however, is that some pollution problems are global rather than local in scope, with effects felt well beyond the immediate area where pollution is created and released into the environment. One current example of this involves carbon emissions, which scientists believe contribute to global warming. To address this problem, many nations have signed the Kyoto Protocols, calling for strict limits on carbon emissions. But not all countries have signed these agreements – including the United States – and one controversial part of the protocols is that they set very different emission standards for industrialized and developing nations. If, as a result, carbon-emitting industries leave a highly regulated Europe to begin producing in unregulated China, global carbon emissions will remain high and the effects on global warming will be minimal or nil.

Another example of environmental damage with global scope is at the heart of a recent trade dispute between the United States and Mexico over tuna fishing. A low-cost technique to catch tuna uses nets that also catch and kill dolphins. When the United States passed laws banning these nets, the tuna fishing fleet began operating from Mexico to avoid the U.S. regulations. Environmentalists argued that letting Mexico's fishing fleet export tuna to the United States undermined the global goal of reducing dolphin kills.

A third issue raised by environmental critics of globalization is that, even if pollution effects are local in scope, it is wrong to allow developing countries to suffer pollution on our behalf. This basically argues that developing countries are incapable of making proper decisions about the desired levels of regulation and pollution in their own nations, and that it is

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necessary to dictate their policies to them. The same kind of issue arises in the following discussion of labor standards, and will be discussed at greater length there.

Labor Standards and Trade

Labor standards are laws and regulations governing how firms must treat their workers. These can include prohibitions on forced labor or child labor, workers' right to organize and bargain collectively, non-discrimination in employment, workplace safety requirements, and minimum wage laws. These standards – especially those dealing with minimum wages and workplace safety – vary widely across countries.

Critics of globalization have argued that trade with countries that have low labor standards is wrong for two reasons. First, it undermines U.S. labor standards; second, it harms workers in the developing world. The effect of trade on U.S. wages has already been discussed, so only the second argument will be considered here.

Stories of children working long hours in dangerous factories to earn a dollar a day or less are upsetting, and lead many people to the instinctive conclusion that U.S. firms should be prevented from hiring foreign workers under those conditions. But to see whether that kind of policy makes sense, it must also be asked whether the hiring by these firms is the cause of low labor standards and poverty, and whether developing nations would be better off without U.S. firms hiring these workers.

The short answer to both of these questions is almost certainly no. As shown earlier, wages are low in these countries because labor productivity is low, not because workers are exploited by firms to export goods back to markets in developed nations. Several facts support this view. First, there is a nearly one-to-one relationship between worker productivity and worker wages. Second, the incidence of troubling labor practices such as the use of child labor is strongly related to income levels in a country, but negatively correlated with how

much a country trades.¹⁴ Third, studies of multinational firms operating in the developing world have shown that they generally pay higher wages than other employers in these nations.¹⁵

What would happen if the United States restricted trade with developing countries unless those countries raised their labor standards? The most likely consequence would be to eliminate all trade with these countries. That sounds extreme, but recall the example of trade in bicycles and rice in which France had a lower productivity level than Germany in both sectors. France still had a comparative advantage in producing rice, and so could export rice to Germany. But that required French wages to be substantially lower than Germany wages, to compensate for the French workers' lower productivity. If Germany required French workers be paid the same wages as German workers, there would be no trade between these countries. The result would be lower production and consumption of both goods or living standards in both countries.

Eliminating trade with the developed world would almost certainly reduce the living standards of workers in those countries, which is the group we supposedly wanted to help with the tighter labor standards. There is considerable disagreement among economists about why some countries are rich and others are poor, but one thing seems clear: Countries that are more open to trade enjoy higher income levels. For that reason, most economists' response to the problem of low labor standards in poor nations is that these countries should pursue policies, including free trade, that allow them to increase productivity and incomes.

¹⁴ Edmonds, Eric and Nina Pavcnik. 2004. "International Trade and Child Labor: Cross-Country Evidence," NBER Working Paper 10317. Cambridge MA: National Bureau of Economic Research.

¹⁵ Brown, Drusilla K., Alan V. Deardorff, and Robert M. Stern. "The Effects of Multinational Production on Wages and Working Conditions in Developing Countries," NBER Working Paper 9669. Cambridge MA: National Bureau of Economic Research.

When incomes rise, higher labor standards follow.

The same argument also seems to explain differences in environmental standards. Low-income, low-productivity countries can ill-afford to use many of their resources to reduce pollution. Instead, these countries may initially choose to accept and benefit from their comparative advantage in dirty, polluting, industries. At first trade causes pollution to increase, but as productivity and incomes rise, consumers in these nations demand more of most goods and services, including a cleaner environment. As that happens stricter environmental laws and regulations are adopted, and pollution levels begin to drop.

Product Standards

One of the more difficult issues facing the WTO is how to handle differences across countries in the way they regulate health and safety standards, especially what are called sanitary and phytosanitary standards for food. Some of these standards cover the content of the product by dictating which chemical additives and preservatives it may contain, setting acceptable contamination levels, and so on. In general, for most goods that are traded internationally nations are free to set whatever content standards they deem are appropriate, as long as they apply equally to all firms, regardless of nationality. Rules about how the foods are grown or raised are much more complex and controversial.

That provides the background for an example at the heart of some recent trade disputes between the United States and Europe, concerning the use of hormones to stimulate growth in cattle. U.S. producers argue that these are production standards, rather than a standard related to the final content of the product itself. Europeans argue that because these production techniques may create health risks they can be regulated under WTO rules as long as the regulations are applied equally to all firms regardless of nationality. The European Union banned imports of U.S. beef produced

using bovine growth hormones (BGH), which led to a U.S. action against Europe at the WTO.

Although the European standard was clearly applied equally to all firms, regardless of nationality, the WTO decided to examine and rule on the scientific validity of the standard. The panel agreed with U.S. producers and exporters, saying that the Europeans could not demonstrate health risks from using BGH, and ruled that the standard was an illegal trade restriction. That outraged many Europeans, who felt the WTO had no business determining what legitimate science was, or what constituted a reasonable level of precaution for food products.

Whatever the merits of the bovine growth hormone case and the WTO's ruling, it should be pointed out that the WTO cannot and has not forced the European Union to change its policies. At the end of the day all member countries in the WTO remain sovereign, and are free to ignore WTO rulings – at some cost. In this case, the cost of maintaining the ban may turn out to be retaliation by the United States in the form of higher tariffs on European goods, which would now be sanctioned by the WTO and therefore not subject to further reprisals from Europe. If Europe chooses to maintain its policies in this case, however, the policies cannot be directly overridden by the WTO.

Still, this shows once again how globalization creates incentives for countries to harmonize regulations and other public policies, informally as a result of competitive market forces in some cases, or in this case explicitly through organizations such as the WTO. Because of that, some critics of globalization argue that belonging to the WTO results in some loss in national sovereignty. At least in the general sense that any mutual agreement for nations to restrict their behavior gives up some sovereignty, that is true. After all, when nations agree to jointly lower tariffs and other barriers to trade under the auspices of the WTO, they are agreeing to limit the use of some policies.

Conclusion

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Globalization presents a kind of paradox: Countries gain from trade because of their differences, but trading makes them more similar. The gains from trade are greater the more different two countries are, but countries converge as trade equalizes the availability, price, and cost of products. This is all good news for consumers who enjoy lower prices, and for exporting firms that find new markets. It creates serious problems, however, for inefficient firms that are unable to compete with lower priced imports, and for the specific factors of production that are employed at those firms, including some capital and labor inputs.

Cultures also converge with globalization. As multinational firms extend their reach (and their brand names) all over the world, the places we shop, the cars we drive, and the things that we eat, drink, listen to, and wear become increasingly similar. For consumers who want and like global brands, or who enjoy sampling new varieties of products from other countries, this is good news. For those who dislike or fear the influence of foreign cultures, and want to maintain local traditions, products, and employment patterns, globalization can pose a great threat.

Globalization also creates pressures on national governments to make their policies more similar. Sometimes this pressure is implicit and driven only by competitive market forces, whereas in other cases it is a formal, even legal and multinational effort, to coordinate policies across dozens of countries. Because some national policies are harmful – such as trade barriers supporting the interests of relatively small, but powerful, special-interest groups – pressure to conform to better international standards can be greatly beneficial in some cases. When there are more legitimate disagreements about the direction in which international policy standards are headed, these pressures to conform can breed tremendous resentment against globalization.

Appendix A: What Is a Trade Deficit?

The U.S. balance of trade figures are widely reported every month by the financial press, daily newspapers, and even television news broadcasts. But exactly what is the trade deficit, and what – if anything – makes it so important?

The **trade balance** is calculated by subtracting a country's imports of goods and services from its exports. When this number is positive (exports exceed imports), a country is running a **trade surplus**. When it is negative (exports are less than imports), a country is running a **trade deficit**. To most people (apparently including most of the reporters who write stories about the trade balance), a deficit sounds bad while a surplus sounds good. In terms of current consumption of real goods and services, however, there are clearly advantages in getting more goods and services from other countries than you send to them. So the question of why deficits or surpluses are good or bad is not always easy to answer, and depends partly on whether the deficits or surpluses last for just a year or two, or much longer.

The United States has had a negative trade balance, or a trade deficit, every year since 1981. That is a key reason why the issue is now seen by most economists as an important long-term issue facing the national economy. To explain how and why it is so important, the rest of this Appendix deals with three related topics: 1) the link between trading goods and services (exports and imports) and trading capital assets—which are not included in the balance of trade statistics, 2) the underlying causes of trade deficits or surpluses, and 3) under what circumstances a trade deficit is, or is not, a serious problem for a country.

Linking Trade and Investment

For centuries, U.S. citizens and companies have owned financial assets in foreign countries, and foreign citizens and companies have owned financial assets in the United States. The difference between these two values at any point in time is called net foreign wealth. Countries with positive net foreign wealth are net creditors, and countries with negative net

foreign wealth are net debtors. (Similarly, a person can simultaneously own financial assets such as a banking account, and owe debts such as mortgages or student loans. If assets exceed debts, the person is a net creditor; if debts exceed assets, the person is a net debtor.)

Table A1 lists values for the international investment position of the United States over recent years. In 1985, U.S. citizens and companies held \$1288 billion dollars in financial assets abroad, while foreign citizens and companies held \$1160 billion dollars of U.S. financial assets. The difference, \$128 billion, represented positive net foreign wealth for the United States. By 1990, however, foreign citizens and companies held \$224 billion more in U.S. assets than U.S. citizens and companies held abroad. By 2003 the U.S. net foreign debt had grown to an astonishing \$2.6 trillion.

	Foreign assets owned by US citizens and companies	US assets owned by foreign citizens and companies	US Net Foreign Wealth Position
1985	1,288	1,160	128
1990	2,166	2,390	-224
1995	3,874	4,292	-418
2000	7,190	9,377	-2,187
2003	7,864	10,515	-2,651

Source: *Statistical Abstract of the United States*, various years.

Why and how is this topic related to the trade balance for exports and imports? The trading of goods and capital are directly connected as shown in the following equation:

$$(\text{exports} - \text{imports}) = \text{change in net foreign wealth}$$

Typically a country pays for its imports by exporting goods. When trade is balanced (exports – imports = 0), export earnings exactly offset import payments. When that is the case the trade in goods and services (imports and exports) results in no change in net foreign wealth. Similarly, when a person's after-tax

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income exactly equals their consumption expenditures, they are not adding to savings or to their debts.

As shown in Figure A1, however, the United States ran a trade deficit every year from 1981-2004, meaning that it spent more on imports than it earned from its export sales. To pay for those imports U.S. citizens and companies borrowed from abroad, leading to a decrease in the U.S. net foreign wealth.¹⁶

Of course, there are two sides to any transaction. If the United States runs a trade deficit (importing more than it exports), some other country must be running a trade surplus (exporting more than it imports). For example, for the last several years China has run a large trade surplus with the United States. What do people and companies in China do with the export earnings from the United States that are not spent on imports from the United States? China lends this money back to the United States by buying financial assets, including bonds issued by the U.S. government, banks, or other firms and institutions. That provides funds that allow the United States to pay for the rest of its imports from China, but the catch is that eventually these loans must be paid back, and the earnings from China's investments in the United States will go back to China. To do that, the United States will someday have to reverse its trade balance so that its export earnings exceed its import payments. When that happens, U.S. households will have less to consume.

This situation is similar to one in which a consumer wants to buy a car but cannot pay the full price out of his or her current income. To make the purchase the consumer may first sell off some assets (for example, taking money out of savings accounts), but then borrows the rest

of the purchase price from the car dealership.¹⁷ The dealership gives the consumer a car, and a loan. The consumer gets the car to use now, and promises to pay the money back. The dealer is willing to do this because he makes a sale and earns interest on the money loaned to the consumer.

Another way to understand the link between international merchandise trade (exports and imports) and trade of capital assets is to ask where an economy can decide to place its savings, and where it gets funds to make investments. Domestic savings can go toward domestic investment, but can also be used to make foreign investments. As already seen, a country that is making net investments abroad experiences growth in its net foreign wealth. On the other hand, to finance domestic investments a country can either look toward domestic savers or to foreign savers. A country that receives net investments from other countries gets the current benefit of greater investment spending, with gains in future production capacity and (it hopes) profits and earnings, but it experiences a decline in its net foreign wealth. That means the equation that shows the link between net exports (exports – imports) and the change in net foreign wealth can be rewritten as:

$$\text{domestic saving} - \text{domestic investment} \\ = \text{change in net foreign wealth}$$

or

$$\text{exports} - \text{imports} = \text{domestic saving} - \\ \text{domestic investment}$$

Why Countries Run Trade Deficits

What the last equation makes clear is that the trade balance is affected by savings and investment behavior.¹⁸ Specifically, trade

¹⁶ The United States could also have sold off foreign assets rather than borrowing from abroad, but as shown in Table A1, the United States is both lending and borrowing internationally. Therefore, the decline in U.S. net foreign wealth occurred because the United States borrowed more money than it loaned.

¹⁷ To extend the analogy, the consumer did not have to borrow from the dealership, but could have borrowed from his or her bank. Similarly, while the United States does borrow heavily from the Chinese to pay for imports from China, it could just as easily borrow from Germany, France, or some other nation.

¹⁸ The trade balance has very little to do with whether a country has strong or weak comparative advantages, or whether a country protects its markets from foreign trade.

deficits can result from an increase in domestic investment or a decrease in domestic savings. But the effects of a trade deficit that results from increasing domestic investment are very different from those from those that result from decreasing savings.

An increase in investment means that a country's productive capacity is increasing, so in the future there will be greater ability to repay debts, perhaps even without reducing future consumption. A decrease in savings that increases current consumption of goods and services (including imports) does not increase future output or productivity.

To make this point clear for students, use the example of two kinds of personal borrowing. John takes out thousands of dollars in student loans, which he uses to pay for a college education. Jill takes out thousands of dollars in credit card loans to pay for a vacation and eating out at nice restaurants. Both face the same level of debt, but John's debt finances an investment in his future productivity, income, and ability to repay the loans. Without these loans John might not be able to afford college, and he could be much worse off in the long run. Jill, on the other hand, is only shifting future income and consumption to the present, paying a hefty premium (interest) on those loans to do so, and putting herself at considerable financial risk.

Countries engage in international borrowing for very similar reasons. They may lack domestic savings required to make investments in their future productivity. For example, many European countries borrowed heavily immediately after World War II to rebuild their economies. During this period the United States was the major creditor nation in world financial markets, but as already discussed that changed dramatically by the early 1980s.

Since 1981, capital inflows from other nations have contributed to high levels of capital investment in the United States, leading to increased productivity, output, and income levels. In recent years, however, an increasing

fraction of foreign capital inflows were used to fund current consumption and spending, and in particular the federal budget deficit.

Domestic saving consists of private saving (the difference between income and consumption for private citizens) and public savings (the difference between tax receipts and government expenditures). Between 1981 and 2004, the U.S. federal government ran budget deficits (expenditures exceeding tax receipts) in all but two years. From 2001 to 2004, the federal government spent \$820 billion more than it collected in taxes. These deficits substantially reduced domestic savings and have contributed significantly to accumulated trade deficits of more than two decades experienced by the United States.

For any country that runs large government budget deficits, the ability to rely on foreign capital markets is, once again, a good news, bad news proposition. For the United States, the good news in recent years has been that the federal deficits have been financed in large part by inflows of foreign capital buying U.S. Treasury bonds. In 2003, \$3.9 trillion of U.S. federal debt was held outside U.S. government accounts, with \$1.7 trillion held by foreign lenders.¹⁹ Without this foreign capital, the federal government would have had to pay higher interest rates to finance the debt, increasing the cost of borrowing and crowding out some private investment.

The bad news, once again, is that this loan of foreign capital must be repaid at some point. And to the extent that the government budget deficits are used to pay for current consumption expenditures rather than investments in capital projects, repaying these debts will be more difficult. Unlike repaying federal debt that is held by U.S. citizens and organizations,

¹⁹ In 2003, the U.S. federal government had \$6.76 trillion in total debt. \$2.85 trillion was held by Federal government accounts, chiefly the Social Security system. Of the \$3.9 trillion outside U.S. federal government accounts, \$2.2 trillion was held by U.S. individuals and organizations, with the Federal Reserve System holding almost \$700 billion.

These factors will cause exports and imports to rise and fall together, with little or no effect on the trade balance.

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repaying foreign debt results in lower consumption for the United States as a whole.

Appendix B: Critics of Globalization and the International Monetary Fund

Shortly after World War II, the International Monetary Fund (IMF) was founded as part of a new focus on international cooperation and international development, with a specific focus on macroeconomic stabilization policies and financial crises.²⁰ From its headquarters in Washington DC, just a few blocks from the White House (reflecting the leading role of the United States in funding and influencing IMF programs), the IMF provides economic policy advice to national governments and aid to countries facing financial crises.

To see why IMF aid and policies have become so controversial requires a bit of basic background in macroeconomic stabilization policies. **Fiscal policy** (the overall level of a national government's spending and taxes) and **monetary policy** (controlling the supply of money and interest rates) are often used to try to reduce unemployment or inflation, and to promote higher and steadier rates of economic growth.

National governments often spend more money providing goods and services than they take in through taxation. The resulting budget deficit must be financed by private lenders, who receive a promise from the government to pay the loan back with interest. There is nothing inherently wrong with this practice, and there are some very good reasons for governments to engage in deficit spending. For example, war efforts are often financed through borrowing, as are major investments in public infrastructure. In addition, many macroeconomists believe that deficit spending is an effective way to bring a national economy out of recession. The idea is that government spending provides a stimulus to aggregate demand that kick-starts an economy

²⁰ The IMF was originally created as part of a system of "fixed" exchange rates that tied the value of national currencies to the U.S. dollar. This system sometimes led to crises in which countries were unable to balance their imports and exports, requiring an international lender to assist with payments. After the fixed exchange rate system broke down in the 1970s, the IMF broadened its focus from balance of payments crises to financial crises more broadly defined.

facing temporarily high unemployment and/or slow rates of economic growth.

If governments run large and perpetually growing deficits, however, the result is rising levels of public debt. Because interest must be paid on this debt, debt service becomes a growing portion of public expenditures, which can lead to more debt, which raises debt service, and so on, until the nation faces a financial crisis. This is similar to consumers who charge too much on their credit cards and can only afford to make minimum payments. Interest charges plus new purchases can cause the account balance to rise and debt begin to accumulate beyond the ability of the consumer making minimum payments to ever pay it off.

Unlike private citizens, however, national governments have a sneaky way out of this trap. Because they control the money supply they also control what money is worth. By deliberately increasing the money supply governments can lower the value of their currency, which reduces the real value of the debt and the interest they owe and pay. In other words, while governments promise to pay a certain dollar amount of debt and interest, they don't promise what those payments will be worth, in terms of the value of the nation's money.²¹

Many countries with severe debt trouble have tried printing money, known as "monetizing debt," as a short term solution. But of course the major lenders to these countries know that governments can print money and do not want to be left holding government IOU's that are made worthless by inflation. When danger signs appear they demand higher interest rates to compensate for the risk they are taking, or they quit holding debt. That moves a country closer to financial crisis and collapse, and may make governments more likely to try to bail

²¹ A classic case was Germany's reparations to its victorious opponents after World War I, which could only be repaid by inflating the currency. During the German hyperinflation workers were eventually paid several times a day so that their spouses could spend their wages before the next round of price increases, and stacks of currency became more valuable as fuel than as money.

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themselves out by printing money.

This vicious circle lies behind many of the financial crises experienced by developing countries in the last few decades. To stem these crises, the IMF has used a two-pronged approach. First, it loans money to troubled governments at better rates than they could get from private lenders worried about inflation risks. Second, as a condition of these loans, the IMF negotiates fiscal austerity measures with loan recipients, typically in the form of dramatically reduced government spending. Because of concerns about an out-of-control debt spiral being the primary cause of many crises, the IMF makes controlling deficit spending an important piece of the solution.

This is where critics of the IMF, including Nobel-prize winning economist Joseph Stiglitz, find several key faults with the IMF's policies. First, by asking governments to give up the ability to run fiscal deficits, the IMF takes away an important tool for stimulating economies that are facing recessions. This may allow unemployment to become or remain a more severe social problem. Second, because budget cuts often reduce or eliminate assistance programs, such as food subsidies, the cost of the IMF policies is often borne by the most vulnerable members in these poor nations. In stark contrast, the international lenders who benefit by eliminating the risk of loan defaults or higher inflation are often multinational banks from the world's wealthiest nations. Third, the IMF's approach has not always or obviously been successful, with many countries that take the IMF's medicine proving very slow to recover and prosper.

Proponents of the IMF's policies offer three key responses to these charges. First, the IMF does not force any government to take loans from the IMF, so no nation is forced to accept these austerity measures. A government is free to try to solve its own problems if it prefers to do so, and some have. Second, blaming the IMF for the failure of countries facing financial crises is like seeing sick people in the hospital and concluding that the hospital made them ill. Typically, by the time the IMF is asked to

provide loans to a country, the situation is already dire. Third, IMF proponents concede that austerity measures reduce the ability of national governments to use deficit spending to boost the economy, but point out that it is precisely the misuse of those policies that is often the root cause of these crises.

The controversy continues.

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