INTRODUCTION

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International trade is the branch of economics concerned with the exchange of goods and services with foreign countries. Although this is a complex subject, we will focus on two particular areas: international trade theory and barriers to trade.

Some international economic problems cannot be solved in the short run. Consider the US balance of trade deficit. Its trade with Japan and China heavily affects the overall US imbalance. Moreover, this trade deficit will not be reduced by political measures alone; it will require long-run economic measures that reduce imports and increase exports. Other nations are also learning this lesson – and not just those that have negative trade balances. After all, most countries seem to want a continual favorable trade balance, but this is impossible since a nation with a deficit must be matched by a nation with a surplus.[1]

International trade has become an even more important topic now that so many countries have begun to move from state-run to market-driven economies.[2] Inflation and, in many cases, unemployment are severe problems to these nations. Fortunately, enhanced international trade is one way to address a weak macroeconomy.[3]

International commitment to a free market will bring prosperity to the world economic system. Since the time of Adam Smith in 1790, economists have shown that free trade is efficient and leads to maximum economic welfare. In this chapter we will discuss the economic rationale for free trade and the political impediments to it.

INTERNATIONAL TRADE THEORY

Mercantilism
A trade theory which holds that a government can improve the economic well-being of the country by encouraging exports and stifling imports

In order to understand the topic of international trade, we must be able to answer the question: Why do nations trade? One of the earliest, and simplest, answers to this question was provided by mercantilism, a theory that was quite popular in the 18th century, when gold was the only world currency. **Mercantilism** holds that a government can

improve the economic well-being of the country by encouraging exports and stifling imports. The result is a positive balance of trade that leads to wealth (gold) flowing into the country. While most international trade experts believe that mercantilism is a simplistic and erroneous theory, it has had followers.

For example, under President Mitterand in the late 1970s and early 1980s, France sought to revitalize its industrial base by nationalizing key industries and banks and subsidizing exports over imports. By the mid-1980s the French government realized that the strategy was not working and began denationalizing many of its holdings.[4] More recently, China has proven to be a strong adherent of mercantilism as reflected by the fact that it tries to have a positive balance with all of its trading partners.

A more useful explanation of why nations trade is provided by trade theories that focus on specialization of effort. The theories of absolute and comparative advantage are good examples.

Theory of absolute advantage

Theory of absolute advantage
A trade theory which holds that, by specializing in the production of goods which they can produce more efficiently than any others, nations can increase their economic well-being

The theory of absolute advantage holds that, by specializing in the production of goods they can produce more efficiently than anyone else, nations can increase their economic well-being. A simple example can illustrate this point. Assume that two nations, North and South, are both able to produce two goods, cloth and grain. Assume further that labor is the only scarce factor of production and thus the only cost of production.

Labor cost (hours) of production for one unit

	Cloth	*Grain*
North	10	20
South	20	10

Because labor is the only cost of production, lower labor-hours per unit of production means lower production costs, and higher productivity per labor-hour. As seen by the data above, North has an absolute advantage in the production of cloth since the cost requires only 10 labor-hours, compared with 20 labor-hours in South. Similarly, South has an absolute advantage in the production of grain, which it produces at a cost of 10 labor-hours, compared with 20 labor-hours in North.

Both countries gain by trade. If they specialize and exchange cloth for grain at a relative price of 1:1, each country can employ its resources to produce a greater amount of goods. North can import one unit of grain in exchange for one unit of cloth, thereby "paying", in effect, only 10 labor-hours for one unit of grain. If North had produced the grain itself, it would have used 20 labor-hours per unit, therefore North gains 10 labor-hours from the trade. In the same way South gains from trade when it imports one unit of cloth in exchange for one unit of grain. The effective cost to South for one unit of cloth is only the 10 labor-hours required to make its one unit of grain.

The theory of absolute advantage, as originally formulated, does not predict the exchange ratio between cloth and grain once trade is opened, nor does it resolve the division of the gains from trade between the two countries. Our example assumed an international price ratio of 1:1, but this ratio (P_{cloth} to P_{grain}) could lie between 2:1 (the pretrade price ratio in South) and 1:2 (the pretrade price ratio in North). To determine the relative price ratio under trade, we would have to know the total resources of each country (total labor-hours available per year), and the demand of each country for both cloth and grain. In this way we could determine the relative gains from trade for each country.

Yet, even this simple model of absolute advantage has several important implications for international trade. First, if a country has an absolute advantage in producing a product, there exists a potential for gains from trade. Second, the more a country is able to specialize in the production of the good it produces most efficiently, the greater its potential gains in national well-being. Third, *within* one country the competitive market does not evenly distribute the gains from trade. This last implication is illustrated by the following example.

Prior to trade, the grain producers in North worked 20 hours; they would produce one unit of grain that could be exchanged for two units of cloth. After trade, the grain producers who remain could exchange one unit of grain for only one unit of cloth. The remaining grain producers are worse off under trade. Cloth producers in North, however, work 10 hours, produce one unit of cloth, and exchange it for one unit of grain, whereas previously they received only a half unit of grain. They are better off. If grain producers in North switch to cloth production, then 20 hours of labor results in production of two units of cloth, which they can exchange for two units of grain. They are better off under international trade. As long as North does not specialize completely in cloth, there will be gainers (cloth producers and grain producers who switched to cloth) and losers (those who continue as grain producers).

Since the nation as a whole benefits from trade, the gainers could compensate the losers, and there would still be a surplus to be distributed in some way. If such compensation did not take place, however, the losers (continuing grain producers) would have an incentive to try to prevent the country from opening itself up to trade. Historically this problem has continued to fuel opposition to a free trade policy that reduces barriers to trade. A good example is Japanese farmers who stand to lose their livelihood if the government opens up Japan to lower-priced agricultural imports.

A more complicated picture of the determinants and effects of trade emerges when one of the trading partners has an absolute advantage in the production of both goods. However, trade under these conditions still brings gains, as David Ricardo first demonstrated in his theory of comparative advantage.

Theory of comparative advantage

Theory of comparative advantage
A trade theory which holds that nations should produce those goods for which they have the greatest relative advantage

The theory of comparative advantage holds that nations should produce those goods for which they have the greatest relative advantage. In terms of the previous example of two countries, North and South, and two commodities, cloth and grain, Ricardo's model can be illustrated as follows:

Labor cost (hours) of production for one unit

	Cloth	*Grain*
North	50	100
South	200	200

In this example North has an absolute advantage in the production of *both* cloth and grain, so it would appear at first sight that trade would be unprofitable, or at least that incentives for exchange no longer exist. Yet trade is still advantageous to both nations, provided the *relative* costs of production differ in the two countries.

Before trade, in North one unit of cloth costs (50/100) hours of grain, so one unit of cloth can be exchanged for one-half unit of grain. In North, the price of cloth is half the

price of grain. In South, one unit of cloth costs (200/200) hours of grain or one grain unit. In South, the price of cloth equals the price of grain. If North can import more than a half unit of grain for one unit of cloth, it will gain from trade. Similarly, if South can import one unit of cloth for less than one unit of grain, it will also gain from trade. These relative price ratios set the boundaries for trade. Trade is profitable between price ratios (price of cloth to price of grain) of 0.5 and 1. For example, at an international price ratio of two-thirds, North gains from trade. It can import one unit of grain in return for exporting one and a half units of cloth. Because it costs North only 50 hours of labor to produce the unit of cloth, its effective cost under trade for one unit of imported grain is 75 labor-hours. Under pretrade conditions it costs North 100 labor-hours to produce one unit of grain. Similarly, South gains from trade. It imports one unit of cloth in exchange for two-thirds unit of grain. Prior to trade, South spent 200 labor-hours to produce the one unit of cloth. Through trade its effective cost for one unit of cloth is $2/3 \times 200$ or 133 labor-hours – cheaper than the domestic production cost of 200 labor-hours. Assuming free trade between the two nations, North will tend to specialize in the production of cloth and South will tend to specialize in the production of grain.

This example leads to a general principle. There are gains from trade whenever the relative price ratios of two goods differ under international exchange from what they would be under conditions of no trade. Such domestic conditions are often referred to as *autarky*, which is a government policy of being totally self-sufficient. Research shows that free trade is superior to autarky. In particular, free trade provides greater economic output and consumption to the trade partners jointly than they can achieve by working alone. By specializing in the production of certain goods, exporting those products for which they have a comparative advantage, and importing those for which they have a comparative disadvantage, the countries end up better off.

The general conclusions of the theory of comparative advantage are the same as those for the theory of absolute advantage. In addition, the theory of comparative advantage demonstrates that countries jointly benefit from trade (under the assumptions of the model) even if one country has an absolute advantage in the production of *both* goods. Total world efficiency and consumption increase under free trade.

As with the theory of absolute advantage discussed previously, Ricardo's theory of comparative advantage does not answer the question of the distribution of gains between the two countries, nor the distribution of gains and losses between grain producers and cloth producers within each country. No country will lose under free trade, but in theory at least all the gains could accrue to one country and to only one group within that country.

Active learning check ✔

Review your answer to Active Learning Case question 1 and make any changes you like. Then compare your answer with the one below.

1. How does the process of the UK finding market niches help to illustrate the theory of comparative advantage?

The theory of comparative advantage holds that nations should produce those goods for which they have the greatest relative advantage. The finding of market niches helps illustrate this theory because it shows that the UK is picking those areas where it has a relative advantage over the competition and exploiting its strengths in these markets. Given the rise of competitiveness in all areas of worldwide exports, few nations have been able to maintain their market share for very long. So the UK will have to continue to use this approach in order to remain one of the world's major export nations.

Factor endowment theory

Factor endowment theory A trade theory which holds that nations will produce and export products that use large amounts of production factors that they have in abundance and will import products requiring a large amount of production factors that are scarce in their country

Heckscher–Ohlin theory A trade theory that extends the concept of comparative advantage by bringing into consideration the endowment and cost of factors of production and helps to explain why nations with relatively large labor forces will concentrate on producing labor-intensive goods, whereas countries with relatively more capital than labor will specialize in capital-intensive goods

In recent years more sophisticated theories have emerged that help to clarify and extend our knowledge of international trade. Factor endowment theory holds that countries will produce and export products that use large amounts of production factors that they have in abundance, and they will import products requiring large amounts of production factors that are scarce in their country. This theory is also known as the Heckscher–Ohlin theory (after the two economists who first developed it). The theory is useful in extending the concept of comparative advantage by bringing into consideration the endowment and cost of factors of production. The theory also helps to explain why nations with relatively large labor forces, such as China, will concentrate on producing labor-intensive goods, and countries like the Netherlands, which has relatively more capital than labor, will specialize in capital-intensive goods.

However, there are some weaknesses with the factor endowment theory. One weakness is that some countries have minimum wage laws that result in high prices for relatively abundant labor. As a result, the country may find it less expensive to import certain goods than to produce them internally. Another weakness with the theory is that countries like the US actually export relatively more labor-intensive goods and import capital-intensive goods, an outcome that appears surprising. This result, discovered by Wassily Leontief, a Nobel Prize economist, is known as the Leontief paradox and has been explained in terms of the quality of labor input rather than just man-hours of work. The US produces and exports technology-intensive products that require highly educated labor. The Leontief paradox shows one of the problems with factor endowment theory and helps us to understand why no single theory can explain the role of economic factors in trade theory. Simply put, the subject is too complex to be explained with just one or two theories.

International product life cycle theory

Leontief paradox A finding by Wassily Leontief, a Nobel prize economist, which shows that the US, surprisingly, exports relatively more labor-intensive goods and imports capital-intensive goods

International product life cycle theory (IPLC) A theory of the stages of production of a product with new "know-how"; it is first produced by the parent firm, then by its foreign subsidiaries, and finally anywhere in the world where costs are the lowest; it helps to explain why a product that begins as a nation's export often ends up as an import

Another theory that provides insights into international theory is Vernon's international product life cycle (IPLC) theory, which addresses the various stages of a good's life cycle. In particular, the theory helps to explain why a product that begins as a nation's export often ends up becoming an import. The theory also focuses on market expansion and technological innovation, concepts that are relatively de-emphasized in comparative advantage theory. IPLC theory has two important tenets: (1) technology is a critical factor in creating and developing new products and (2) market size and structure are important in determining trade patterns.

Product stages

The IPLC has three stages: new product, maturing product, and standardized product. A new product is one that is innovative or unique in some way (see Figure 6.1*a*). Initially, consumption is in the home country, price is inelastic, profits are high, and the company seeks to sell to those willing to pay a premium price. As production increases and outruns local consumption, exporting begins.

As the product enters the mature phase of its life cycle (see Figure 6.1*b*), an increasing percentage of sales are achieved through exporting. At the same time competitors in other advanced countries will be working to develop substitute products so that they can replace the initial good with one of their own. The introduction of these substitutes and the softening of demand for the original product will eventually result in the firm that developed the product now switching its strategy from production to

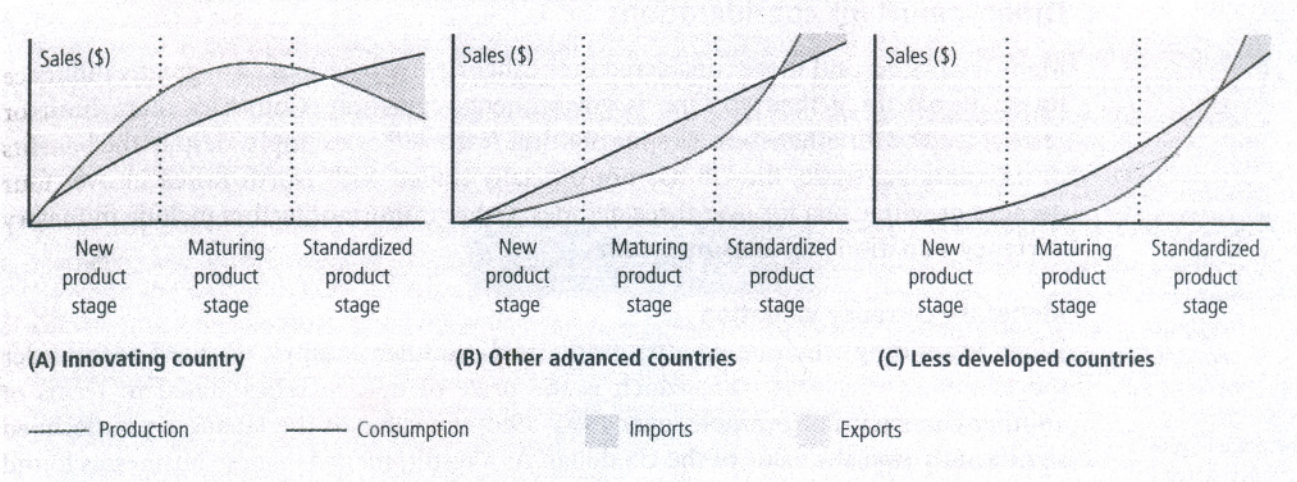

Figure 6.1 **The international product life cycle**

Source: Raymond Vernon and Louis T. Wells, Jr, *The Manager in the International Economy* (Englewood Cliffs NJ: Prentice-Hall, 1991), p. 85.

market protection. Attention will also be focused on tapping markets in less developed countries.

As the product enters the standardized product stage (see Figure 6.1*c*), the technology becomes widely diffused and available. Production tends to be shifted to low-cost locations, including less developed countries and offshore locations. In many cases the product will end up being viewed as a generic and price will be the sole determinant of demand.

Personal computers and the IPLC

In recent years a number of products have moved through the IPLC and are now in the standardized product stage. Personal computers (PCs) are a good example, although there is a wide variety of PCs and some versions are in the new product and the maturing product phases. For example, the early version of PCs that reached the market in the 1984 to 1991 period were in the standardized product stage by 1995 and sold primarily on the basis of price. Machines that entered the market in the 1996 to 1998 period were in the maturing stage by 1999. PCs with increased memory capability that were in the new product stage in 1999 quickly moved toward maturity, and by 2002 they were being replaced by even better machines.

The next five years are likely to see desktop PCs replaced by laptop and notebook models that are even lighter, faster, more sophisticated, and less expensive than their predecessors. In turn these machines will eventually be replaced by notebooks with advanced Pentium chips, color monitors, long-term battery capability, and diskettes capable of holding billions of bytes. These units are also likely to have telephonic equipment and to serve as a complete communications center from which the international executive can communicate anywhere in the world. These machines will first be manufactured locally and then in foreign markets. Thus PCs will continue to move through an international product life cycle.

The IPLC theory is useful in helping to explain how new technologically innovative products fit into the world trade picture. However, because new innovative products are sometimes rapidly improved, it is important to remember that one or two versions of them may be in the standardized product stage while other versions are in the maturing stage and still others are in the new product phase.