**Introduction**

As discussed in the opening case of this chapter, thanks to the rise of Donald Trump, trade policy is currently at the center of political discourse in the United States and elsewhere. President Trump has made statements that suggest he may be the most antitrade president in modern history. If Trump follows through on his threats, he could upend 70 years of American-led policy designed to lower barriers to the free flow of goods and services between and among nations. That policy was founded on the belief that free trade promotes economic growth in all nations that participate in a free trade system. Free trade is what economists call a positive-sum game; it is a policy under which all nations win. The Trump administration, in contrast, appears to see trade as a zero-sum game, in which there are winners and losers. To truly understand the debate over trade, we need to take a close look at the intellectual foundations for trade policy; at the impact of trade policy on jobs, income, and economic growth; and at how global trade policy has evolved over the last 70 years. We should also consider the reasons for foreign direct investment (FDI) by corporations because FDI may be a substitute for trade (i.e., exports), or it may support greater global trade.

In this chapter, we focus on the theoretical foundations of trade policy. We will also look at what the economic evidence tells us about the relationship between trade policies and economic growth.

**An Overview of Trade Theory**

We open this chapter with a discussion of mercantilism. Propagated in the sixteenth and seventeenth centuries, mercantilism advocated that countries should simultaneously encourage exports and discourage imports. Although mercantilism is an old and largely discredited doctrine, its echoes remain in modern political debate and in the trade policies of many countries. Indeed, one could argue that Donald Trump espouses mercantilist views. Next, we look at Adam Smith’s theory of absolute advantage. Proposed in 1776, Smith’s theory was the first to explain why unrestricted free trade is beneficial to a country. Free trade refers to a situation in which a government does not attempt to influence through quotas or duties what its citizens can buy from another country or what they can produce and sell to another country. Smith argued that the invisible hand of the market mechanism, rather than government policy, should determine what a country imports and what it exports. His arguments imply that such a laissez-faire stance toward trade was in the best interests of a country. Building on Smith’s work are two additional theories that we review. One is the theory of comparative advantage, advanced by the nineteenth-century English economist David Ricardo. This theory is the intellectual basis of the modern argument for unrestricted free trade. In the twentieth century, Ricardo’s work was refined by two Swedish economists, Eli Heckscher and Bertil Ohlin, whose theory is known as the Heckscher–Ohlin theory.

**THE BENEFITS OF TRADE**

The great strength of the theories of Smith, Ricardo, and Heckscher–Ohlin is that they identify with precision the specific benefits of international trade. Common sense suggests that some international trade is beneficial.

The theories of Smith, Ricardo, and Heckscher–Ohlin go beyond this commonsense notion, however, to show why it is beneficial for a country to engage in international trade even for products it is able to produce for itself. This is a difficult concept for people to grasp.

However, the theories of Smith, Ricardo, and Heckscher–Ohlin tell us that a country’s economy may gain if its citizens buy certain products from other nations that could be produced at home. The gains arise because international trade allows a country to specialize in the manufacture and export of products that can be produced most efficiently in that country, while importing products that can be produced more efficiently in other countries.

Although such import controls may benefit particular groups, such as textile businesses and their employees, the theories of Smith, Ricardo, and Heckscher–Ohlin suggest that the economy as a whole is hurt by such action. One of the key insights of international trade theory is that limits on imports are often in the interests of domestic producers but not domestic consumers.

**THE PATTERN OF INTERNATIONAL TRADE**

The theories of Smith, Ricardo, and Heckscher–Ohlin help explain the pattern of international trade that we observe in the world economy. Some aspects of the pattern are easy to understand. Climate and natural resource endowments explain why Ghana exports cocoa, Brazil exports coffee, Saudi Arabia exports oil, and China exports crawfish. However, much of the observed pattern of international trade is more difficult to explain.

David Ricardo’s theory of comparative advantage offers an explanation in terms of international differences in labor productivity. The more sophisticated Heckscher–Ohlin theory emphasizes the interplay between the proportions in which the factors of production (such as land, labor, and capital) are available in different countries and the proportions in which they are needed for producing particular goods. This explanation rests on the assumption that countries have varying endowments of the various factors of production. Tests of this theory, however, suggest that it is a less powerful explanation of real-world trade patterns than once thought. One early response to the failure of the Heckscher–Ohlin theory to explain the observed pattern of international trade was the product life-cycle theory. Proposed by Raymond Vernon, this theory suggests that early in their life cycle, most new products are produced in and exported from the country in which they were developed. As a new product becomes widely accepted internationally, however, production starts in other countries. As a result, the theory suggests, the product may ultimately be exported back to the country of its original innovation. In a similar vein, during the 1980s, economists such as Paul Krugman developed what has come to be known as the new trade theory. New trade theory (for which Krugman won the Nobel Prize in economics in 2008) stresses that in some cases, countries specialize in the production and export of particular products not because of underlying differences in factor endowments but because in certain industries the world market can support only a limited number of firms. (This is argued to be the case for the commercial aircraft industry.) In such industries, firms that enter the market first are able to build a competitive advantage that is subsequently difficult to challenge. Thus, the observed pattern of trade between nations may be due in part to the ability of firms within a given nation to capture first-mover advantages.

In a work related to the new trade theory, Michael Porter developed a theory referred to as the theory of national competitive advantage. This attempts to explain why particular nations achieve international success in particular industries. In addition to factor endowments, Porter points out the importance of country factors such as domestic demand and domestic rivalry in explaining a nation’s dominance in the production and export of particular products.

**TRADE THEORY AND GOVERNMENT POLICY**

Although all these theories agree that international trade is beneficial to a country, they lack agreement in their recommendations for government policy. Mercantilism makes a case for government involvement in promoting exports and limiting imports (and Donald Trump seems to advocate such policies). The theories of Smith, Ricardo, and Heckscher–Ohlin form part of the case for unrestricted free trade. The argument for unrestricted free trade is that both import controls and export incentives (such as subsidies) are self-defeating and result in wasted resources. Both the new trade theory and Porter’s theory of national competitive advantage can be interpreted as justifying some limited government intervention to support the development of certain exportoriented industries. We discuss the pros and cons of this argument, known as strategic trade policy, as well as the pros and cons of the argument for unrestricted free trade, in Chapter 7.

**Mercantilism**

The first theory of international trade, mercantilism, emerged in England in the mid- sixteenth century. The principle assertion of mercantilism was that gold and silver were the mainstays of national wealth and essential to vigorous commerce.

The main tenet of mercantilism was that it was in a country’s best interests to maintain a trade surplus, to export more than it imported. By doing so, a country would accumulate gold and silver and, consequently, increase its national wealth, prestige, and power. As the English mercantilist writer Thomas Mun put it in 1630: The ordinary means therefore to increase our wealth and treasure is by foreign trade, wherein we must ever observe this rule: to sell more to strangers yearly than we consume of theirs in value.1 Consistent with this belief, the mercantilist doctrine advocated government intervention to achieve a surplus in the balance of trade. The mercantilists saw no virtue in a large volume of trade. Rather, they recommended policies to maximize exports and minimize imports. To achieve this, imports were limited by tariffs and quotas, while exports were subsidized.

Hence, according to Hume, in the long run, no country could sustain a surplus on the balance of trade and so accumulate gold and silver as the mercantilists had envisaged. The flaw with mercantilism was that it viewed trade as a zero-sum game. (A zero-sum game is one in which a gain by one country results in a loss by another.) It was left to Adam Smith and David Ricardo to show the limitations of this approach and to demonstrate that trade is a positive-sum game, or a situation in which all countries can benefit. Despite this, the mercantilist doctrine is by no means dead. Donald Trump appears to advocate neo-mercantilist policies.2 Neo-mercantilists equate political power with economic power and economic power with a balance-of-trade surplus. Critics argue that several nations have adopted a neo-mercantilist strategy that is designed to simultaneously boost exports and limit imports.

**Absolute Advantage**

In his 1776 landmark book The Wealth of Nations, Adam Smith attacked the mercantilist assumption that trade is a zero-sum game. Smith argued that countries differ in their ability to produce goods efficiently.

Thus, a country has an absolute advantage in the production of a product when it is more efficient than any other country at producing it. According to Smith, countries should specialize in the production of goods for which they have an absolute advantage and then trade these goods for those produced by other countries.

 Smith’s basic argument, therefore, is that a country should never produce goods at home that it can buy at a lower cost from other countries. Smith demonstrates that by specializing in the production of goods in which each has an absolute advantage, both countries benefit by engaging in trade. Consider the effects of trade between two countries,

**Comparative Advantage**

David Ricardo took Adam Smith’s theory one step further by exploring what might happen when one country has an absolute advantage in the production of all goods. Smith’s theory of absolute advantage suggests that such a country might derive no benefits from international trade. In his 1817 book Principles of Political Economy, Ricardo showed that this was not the case. According to Ricardo’s theory of comparative advantage, it makes sense for a country to specialize in the production of those goods that it produces most efficiently and to buy the goods that it produces less efficiently from other countries, even if this means buying goods from other countries that it could produce more efficiently itself. While this may seem counterintuitive, the logic can be explained with a simple example.

The basic message of the theory of comparative advantage is that potential world production is greater with unrestricted free trade than it is with restricted trade. Ricardo’s theory suggests that consumers in all nations can consume more if there are no restrictions on trade. This occurs even in countries that lack an absolute advantage in the production of any good. In other words, to an even greater degree than the theory of absolute advantage, the theory of comparative advantage suggests that trade is a positive-sum game in which all countries that participate realize economic gains. As such, this theory provides a strong rationale for encouraging free trade. So powerful is Ricardo’s theory that it remains a major intellectual weapon for those who argue for free trade.

Although a detailed extension of the theory of comparative advantage is beyond the scope of this book, economists have shown that the basic result derived from our simple model can be generalized to a world composed of many countries producing many different goods.6 Despite the shortcomings of the Ricardian model, research suggests that the basic proposition that countries will export the goods that they are most efficient at producing is borne out by the data.

**EXTENSIONS OF THE RICARDIAN MODEL**

**Immobile Resources**

In our simple comparative model of Ghana and South Korea, we assumed that producers (farmers) could easily convert land from the production of cocoa to rice and vice versa. While this assumption may hold for some agricultural products, resources do not always shift quite so easily from producing one good to another. A certain amount of friction is involved.

Resources do not always move easily from one economic activity to another. The process creates friction and human suffering too. While the theory predicts that the benefits of free trade outweigh the costs by a significant margin, this is of cold comfort to those who bear the costs.

**Diminishing Returns**

The simple comparative advantage model developed above assumes constant returns to specialization. By **constant returns to specialization** we mean the units of resources required to produce a good (cocoa or rice) are assumed to remain constant no matter where one is on a country’s production possibility frontier (PPF). Thus, we assumed that it always took Ghana 10 units of resources to produce 1 ton of cocoa. However, it is more realistic to assume diminishing returns to specialization. Diminishing returns to specialization occur when more units of resources are required to produce each additional unit.

Diminishing returns to specialization occur when more units of resources are required to produce each additional unit.

It is more realistic to assume diminishing returns for two reasons. First, not all resources are of the same quality. A second reason for diminishing returns is that different goods use resources in different proportions.

Diminishing returns show that it is not feasible for a country to specialize to the degree suggested by the simple Ricardian model outlined earlier. Diminishing returns to specialization suggest that the gains from specialization are likely to be exhausted before specialization is complete.

**Dynamic Effects and Economic Growth**

The simple comparative advantage model assumed that trade does not change a country’s stock of resources or the efficiency with which it utilizes those resources. This static assumption makes no allowances for the dynamic changes that might result from trade. If we relax this assumption, it becomes apparent that opening an economy to trade is likely to generate dynamic gains of two sorts.10 First, free trade might increase a country’s stock of resources as increased supplies of labor and capital from abroad become available for use within the country. For example, this has been occurring in eastern Europe since the early 1990s, with many Western businesses investing significant capital in the former communist countries. Second, free trade might also increase the efficiency with which a country uses its resources. Gains in the efficiency of resource utilization could arise from a number of factors.

**Evidence for the Link between Trade and Growth**

Many economic studies have looked at the relationship between trade and economic growth.16 In general, these studies suggest that as predicted by the standard theory of comparative advantage, countries that adopt a more open stance toward international trade enjoy higher growth rates than those that close their economies to trade.

The message seems clear: Adopt an open economy and embrace free trade, and your nation will be rewarded with higher economic growth rates. Higher growth will raise income levels and living standards. This last point has been confirmed by a study that looked at the relationship between trade and growth in incomes.

**Heckscher–Ohlin Theory**

Ricardo’s theory stresses that comparative advantage arises from differences in productivity.

Swedish economists Eli Heckscher (in 1919) and Bertil Ohlin (in 1933) put forward a different explanation of comparative advantage. They argued that comparative advantage arises from differences in national factor endowments.23 By factor endowments they meant the extent to which a country is endowed with such resources as land, labor, and capital. Nations have varying factor endowments, and different factor endowments explain differences in factor costs; specifically, the more abundant a factor, the lower its cost. The Heckscher–Ohlin theory predicts that countries will export those goods that make intensive use of factors that are locally abundant, while importing goods that make intensive use of factors that are locally scarce. Thus, the Heckscher–Ohlin theory attempts to explain the pattern of international trade that we observe in the world economy. Like Ricardo’s theory, the Heckscher–Ohlin theory argues that free trade is beneficial. Unlike Ricardo’s theory, however, the Heckscher–Ohlin theory argues that the pattern of international trade is determined by differences in factor endowments, rather than differences in productivity.

**THE LEONTIEF PARADOX**

Leontief postulated that because the United States was relatively abundant in capital compared to other nations, the United States would be an exporter of capital-intensive goods and an importer of labor-intensive goods. To his surprise, however, he found that U.S. exports were less capital intensive than U.S. imports. Because this result was at variance with the predictions of the theory, it has become known as the Leontief paradox.

**The Product Life-Cycle Theory**

Apparently, the pioneering firms believed it was better to keep production facilities close to the market and to the firm’s center of decision making, given the uncertainty and risks inherent in introducing new products. Also, the demand for most new products tends to be based on nonprice factors. Consequently, firms can charge relatively high prices for new products, which obviates the need to look for low-cost production sites in other countries. Vernon went on to argue that early in the life cycle of a typical new product, while demand is starting to grow rapidly in the United States, demand in other advanced countries is limited to high-income groups. The limited initial demand in other advanced countries does not make it worthwhile for firms in those countries to start producing the new product, but it does necessitate some exports from the United States to those countries. Over time, demand for the new product starts to grow in other advanced countries (e.g., Great Britain, France, Germany, and Japan). As it does, it becomes worthwhile for foreign producers to begin producing for their home markets. In addition, U.S. firms might set up production facilities in those advanced countries where demand is growing. Consequently, production within other advanced countries begins to limit the potential for exports from the United States. As the market in the United States and other advanced nations matures, the product becomes more standardized, and price becomes the main competitive weapon. As this occurs, cost considerations start to play a greater role in the competitive process. Producers based in advanced countries where labor costs are lower than in the United States (e.g., Italy and Spain) might now be able to export to the United States. If cost pressures become intense, the process might not stop there. The cycle by which the United States lost its advantage to other advanced countries might be repeated once more, as developing countries (e.g., Thailand) begin to acquire a production advantage over advanced countries. Thus, the locus of global production initially switches from the United States to other advanced nations and then from those nations to developing countries. The consequence of these trends for the pattern of world trade is that over time, the United States switches from being an exporter of the product to an importer of the product as production becomes concentrated in lower-cost foreign locations.

**PRODUCT LIFE-CYCLE THEORY IN THE TWENTY-FIRST CENTURY**

However, the product life-cycle theory is not without weaknesses. Viewed from an Asian or European perspective, Vernon’s argument that most new products are developed and introduced in the United States seems ethnocentric and increasingly dated. Although it may be true that during U.S. dominance of the global economy (from 1945 to 1975), most new products were introduced in the United States, there have always been important exceptions. These exceptions appear to have become more common in recent years. Many new products are now first introduced in Japan (e.g., video-game consoles) or South Korea (e.g., Samsung smartphones). Moreover, with the increased globalization and integration of the world economy discussed in Chapter 1, an increasing number of new products (e.g., tablet computers, smartphones, and digital cameras) are now introduced simultaneously in the United States and many European and Asian nations.

**New Trade Theory**

The new trade theory began to emerge in the 1970s when a number of economists pointed out that the ability of firms to attain economies of scale might have important implications for international trade.30 Economies of scale are unit cost reductions associated with a large scale of output. Economies of scale have a number of sources, including the ability to spread fixed costs over a large volume and the ability of large-volume producers to utilize specialized employees and equipment that are more productive than less specialized employees and equipment. Economies of scale are a major source of cost reductions in many industries, from computer software to automobiles and from pharmaceuticals to aerospace.

New trade theory makes two important points: First, through its impact on economies of scale, trade can increase the variety of goods available to consumers and decrease the average cost of those goods. Second, in those industries in which the output required to attain economies of scale represents a significant proportion of total world demand, the global market may be able to support only a small number of enterprises. Thus, world trade in certain products may be dominated by countries whose firms were first movers in their production.

**INCREASING PRODUCT VARIETY AND REDUCING COSTS**

Imagine first a world without trade. In industries where economies of scale are important, both the variety of goods that a country can produce and the scale of production are limited by the size of the market. If a national market is small, there may not be enough demand to enable producers to realize economies of scale for certain products. Accordingly, those products may not be produced, thereby limiting the variety of products available to consumers. Alternatively, they may be produced but at such low volumes that unit costs and prices are considerably higher than they might be if economies of scale could be realized.

Now consider what happens when nations trade with each other. Individual national markets are combined into a larger world market. As the size of the market expands due to trade, individual firms may be able to better attain economies of scale. The implication, according to new trade theory, is that each nation may be able to specialize in producing a narrower range of products than it would in the absence of trade, yet by buying goods that it does not make from other countries, each nation can simultaneously increase the variety of goods available to its consumers and lower the costs of those goods; thus, trade offers an opportunity for mutual gain even when countries do not differ in their resource endowments or technology.

**ECONOMIES OF SCALE, FIRST-MOVER ADVANTAGES, AND THE PATTERN OF TRADE**

A second theme in new trade theory is that the pattern of trade we observe in the world economy may be the result of economies of scale and first-mover advantages. **First-mover advantages** are the economic and strategic advantages that accrue to early entrants into an industry.31 The ability to capture scale economies ahead of later entrants, and thus benefit from a lower cost structure, is an important first-mover advantage. New trade theory argues that for those products where economies of scale are significant and represent a substantial proportion of world demand, the first movers in an industry can gain a scalebased cost advantage that later entrants find almost impossible to match.

IMPLICATIONS OF NEW TRADE THEORY

The theory also suggests that a country may predominate in the export of a good simply because it was lucky enough to have one or more firms among the first to produce that good.

New trade theory is at variance with the Heckscher–Ohlin theory, which suggests a country will predominate in the export of a product when it is particularly well endowed with those factors used intensively in its manufacture.

Perhaps the most contentious implication of the new trade theory is the argument that it generates for government intervention and strategic trade policy.34 New trade theorists stress the role of luck, entrepreneurship, and innovation in giving a firm first-mover advantages.

Herein is a rationale for government intervention: By the sophisticated and judicious use of subsidies, could a government increase the chances of its domestic firms becoming first movers in newly emerging industries,

**National Competitive Advantage: Porter’s Diamond**

Michael Porter, the famous Harvard strategy professor, has also written extensively on international trade. Porter and his team looked at 100 industries in 10 nations. Like the work of the new trade theorists, Porter’s work was driven by a belief that existing theories of international trade told only part of the story. For Porter, the essential task was to explain why a nation achieves international success in a particular industry.

Porter theorizes that four broad attributes of a nation shape the environment in which local firms compete, and these attributes promote or impede the creation of competitive advantage (see Figure 6.5). These attributes are ∙

**Factor endowments**—a nation’s position in factors of production, such as skilled labor or the infrastructure necessary to compete in a given industry. ∙

**Demand conditions**—the nature of home demand for the industry’s product or service.

**Related and supporting industries**—the presence or absence of supplier industries and related industries that are internationally competitive. ∙

**Firm strategy, structure, and rivalry**—the conditions governing how companies are created, organized, and managed and the nature of domestic rivalry.

FIGURE 6.5 The determinants of national competitive advantage: Porter’s diamond. Source: Michael E. Porter, The Competitive Advantage of Nations (New York: Free Press, 1990; republished with a new introduction, 1998), p. 72

Porter speaks of these four attributes as constituting the diamond. He argues that firms are most likely to succeed in industries or industry segments where the diamond is most favorable. He also argues that the diamond is a mutually reinforcing system. The effect of one attribute is contingent on the state of others. For example, Porter argues favorable demand conditions will not result in competitive advantage unless the state of rivalry is sufficient to cause firms to respond to them.

**FACTOR ENDOWMENTS**

Factor endowments lie at the center of the Heckscher–Ohlin theory. While Porter does not propose anything radically new, he does analyze the characteristics of factors of production. He recognizes hierarchies among factors, distinguishing between basic factors (e.g., natural resources, climate, location, and demographics) and advanced factors (e.g., communication infrastructure, sophisticated and skilled labor, research facilities, and technological know-how). He argues that advanced factors are the most significant for competitive advantage.

**DEMAND CONDITIONS**

Porter emphasizes the role home demand plays in upgrading competitive advantage. Firms are typically most sensitive to the needs of their closest customers. Thus, the characteristics of home demand are particularly important in shaping the attributes of domestically made products and in creating pressures for innovation and quality.

**RELATED AND SUPPORTING INDUSTRIES**

The third broad attribute of national advantage in an industry is the presence of suppliers or related industries that are internationally competitive. The benefits of investments in advanced factors of production by related and supporting industries can spill over into an industry, thereby helping it achieve a strong competitive position internationally.

One consequence of this process is that successful industries within a country tend to be grouped into clusters of related industries.

**FIRM STRATEGY, STRUCTURE, AND RIVALRY**

The fourth broad attribute of national competitive advantage in Porter’s model is the strategy, structure, and rivalry of firms within a nation. Porter makes two important points here. First, different nations are characterized by different management ideologies, which either help them or do not help them build national competitive advantage.

Porter’s second point is that there is a strong association between vigorous domestic rivalry and the creation and persistence of competitive advantage in an industry.

**EVALUATING PORTER’S THEORY**

Porter contends that the degree to which a nation is likely to achieve international success in a certain industry is a function of the combined impact of factor endowments, domestic demand conditions, related and supporting industries, and domestic rivalry. He argues that the presence of all four components is usually required for this diamond to boost competitive performance (although there are exceptions). Porter also contends that government can influence each of the four components of the diamond—either positively or negatively. Factor endowments can be affected by subsidies, policies toward capital markets, policies toward education, and so on. Government can shape domestic demand through local product standards or with regulations that mandate or influence buyer needs. Government policy can influence supporting and related industries through regulation and influence firm rivalry through such devices as capital market regulation, tax policy, and antitrust laws.