CHAPTER 14

# Preferential Arrangements and Regional Issues in Trade Policy

Chapter 13 reviewed the mutual efforts of countries to remove impediments to trade. Their efforts have been largely global (though with the developing countries and formerly centrally planned economies participating only recently). A key principle underlying these efforts has always been to avoid discriminatory trade restrictions—a country's imports from *A* pay higher duties than comparable imports from *B*. Another approach to liberalizing trade, however, flies in the face of this no-discrimination or "most favored nation" rule. That is the formation of preferential trading arrangements by which a group of countries eliminate trade restrictions among themselves while maintaining them against the outside world. Such arrangements are clearly discriminatory, but they are thought to have offsetting virtues, and hence were allowed as an exception to the antidiscrimination rules of the General Agreement on Tariffs and Trade.

## 14.1 Regional Preferences and Regional Trade

Preferential arrangements have long been around, but they have recently enjoyed a spectacular boom. Japan is now the only major country that does not belong to at least one such arrangement. With a few exceptions these groupings are regional, involving countries with common borders, sharing a continent, and often with common ties of culture and language. Casual observation might suggest that these "neighborly" arrangements serve diplomatic rather than economic objectives. Whether or not that perception is accurate, trade flows themselves have a strong regional bias: Neighbors tend to trade heavily with one another, so the restrictions that they maintain or (instead) remove will be important for the efficiency of world trade.

The models of trade presented in Parts I and II of this book all focus on explaining the pattern of a country's trade—why, as David Ricardo first posed it, England exports cloth to Portugal and imports wine. The trading world consists of many countries, however, and we also need an explanation of why, say, England exports its cloth to Portugal whereas Japan ships its cloth exports to Australia. The amounts and composition of

these bilateral trade flows require some new modeling considerations. Suppose we want to explain the total volume of trade (exports plus imports) flowing between various pairs of countries. The volume should clearly depend on two factors. The first is the economic size of each country. The larger a country, the more numerous the types and the greater the volumes of goods it is capable of supplying, and the more goods it does demand when it spends its income. The bilateral trade flow should increase with both partners' economic sizes; indeed, it is likely to increase with the product of their sizes. Second, the bilateral flow should decrease with the cost of transportation between them. Transportation costs depend on the mode used (ocean shipping, for example, is cheap but slow). They increase with distance, although less than proportionally. There is a fixed cost of loading the freight at the source and unloading it at the destination, and a variable cost that increases with the distance shipped. This fixed-plus-variable cost structure explains why total shipping costs increase less than proportionally with distance.

These propositions have led economists to employ the empirical "gravity model," which explains bilateral trade flows very well indeed. Frankel summarized his extensive investigation with the following equation.[1] It is a statistical regression equation in which $T_{ij}$ is the sum of exports and imports flowing between countries $i$ and $j$, $GNP$ is the gross national product of country $i$ or $j$, $pop$ is the population of country $i$ or $j$, and $dist$ is the distance between the two countries. Logarithms are taken of all the variables, so that the coefficients quoted in the equation (which are typical results of estimates based on different time periods and different groups of countries) can be interpreted as elasticities with which the dependent variable responds to a change in each exogenous variable:

$$\log(T_{ij}) = 0.7 \log(GNP_i GNP_j) + 0.3 \log [(GNP/pop_i)(GNP/pop_j)] - 0.7 \log(dist_{ij}).$$

This equation has several important implications. If both countries' GNPs increase because of an increase in population, so that $GNP/pop$ remains constant, bilateral trade will increase 70 percent as fast as the product of the two countries' GNPs. If both GNPs increase related to an increase in productivity, however, trade will increase proportionally with the product of the two GNPs (because $0.7 + 0.3 = 1$). Among countries, then, there is a tendency for those of a given size with higher incomes per capita to trade more extensively with each other than do poorer countries with the same total size. The role of product differentiation in trade (Chapter 8) explains why this might happen: Wealthier consumers buy more types of goods, including more foreign "specialties," and not just the bread-and-butter necessities likely to be produced at home. Finally, trade declines with distance but less than proportionally, which is consistent with the fixed-plus-variable cost structure of transportation charges.

In sum, regional trade is indeed important, and regionally organized preferential trading arrangements hence may matter a great deal for economic welfare.

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[1]Jeffrey A. Frankel with Ernesto Stein and Shang-Jin Wei, *Regional Trading Blocs in the World Trading System* (Washington, DC: Institute for International Economics, 1997), Chapter 4.

## 14.2 Welfare Effects of Trade Preferences

Preferential arrangements may be assumed to involve the elimination of tariffs and nontariff barriers on trade among member countries in all or nearly all goods and services. Even with these restrictions, several important distinctions need to be made. The following terms have come into fairly standard usage:

1. *Free-Trade Area.* Members eliminate tariffs among themselves but keep their original tariffs against the outside world. The North American Free Trade Agreement (United States, Mexico, Canada) provides an example.
2. *Customs Union.* Members not only eliminate all tariffs among themselves but also form a common tariff against the outside world.
3. *Common Market.* Members proceed beyond a customs union to eliminate restrictions on movements of factors of production among themselves. The European Union began as a customs union but is committed to achieving a full common market.
4. *Economic Union.* Members proceed beyond a common market to unify their fiscal, monetary, and socioeconomic policies. Belgium and Luxembourg formed an economic union in 1921.

These preferential arrangements are analytically interesting—and complex—because they both distort and liberalize trade. Trade is freed because some flows face lower restrictions than before. However, trade is also distorted because goods coming into a member country pay different tariffs depending on their origin—the external tariff if from outside the group, a preferential or zero rate if from a partner. The distortion amounts to price discrimination—that is, charging or (in this case) paying different prices for identical goods at a given market location. Because preferential arrangements have this two-faced character, they can either improve or worsen the economic welfare of their members or of the world as a whole.

### Trade Creation and Trade Diversion

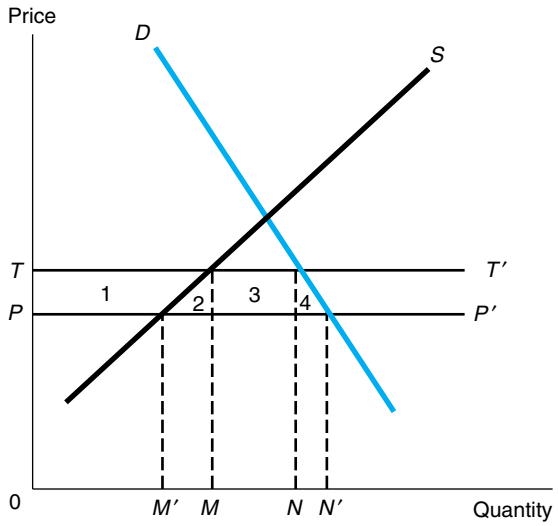
Jacob Viner first showed that preferences could either improve or worsen allocation, by leading either to *trade creation* or to *trade diversion*.[2] Suppose that $A$ and $B$ form a customs union, leaving $C$ (the rest of the world) outside. Previously, $A$ inefficiently produced part of its requirements of good $x$ at home behind its tariff wall. Partner $B$ is the most efficient producer of $x$ and the sole world exporter. When $A$ abolishes tariffs against $B$ (and all the necessary market adjustments have taken place), $A$'s inefficient $x$ industry is partly competed down as $A$'s imports from $B$ expand. Trade has been *created*. The gains are the same as if $A$ had eliminated its $x$ tariff completely.

[2]Jacob Viner, *The Customs Union Issue* (New York: Carnegie Endowment for International Peace, 1950), Chapter 4.

**FIGURE 14.1**

**Welfare Effects of Trade Creation**

*PP′* is the partner-country supply curve. Tariff removal cuts domestic price from 0*T* to 0*P*, expands imports to *M′N′*, and raises welfare by areas 2 + 4.




Because trade creation works just like the removal of a tariff against all foreign suppliers, the analysis of it is a replay of Figure 10.1. In Figure 14.1, *A*'s demand and domestic supply curves for *x* are shown as *D* and *S*, respectively. Suppose that *x* is produced in *B* under conditions of perfectly elastic supply, so that an unlimited quantity is available at price 0*P*. *A*'s external tariff is set at the rate *PT*/0*P*. Before the customs union was formed, the supply function for imports after payment of tariff was *TT′*; thus *A* produced amount 0*M* of its consumption (0*N*) of *x*, importing *MN* from *B*. Elimination of the tariff against *B* now makes *PP′* the relevant import supply schedule and causes consumption to expand to 0*N′*, imports to expand to *M′N′*, and domestic production to shrink to 0*M′*. The four numbered areas in the diagram measure the welfare gain. *A*'s consumers of *x* enjoy a gain in surplus measured by the whole area 1 + 2 + 3 + 4, but not all of this is net gain to the country. Area 1 formerly was profit to *A*'s protected producers of *x*, so this gain to consumers is offset by the loss to producers. Likewise, area 3 formerly represented tariff revenue collected by *A*'s government that is now lost when the preference is given to *B*. If the government was spending its revenues on useful things, such as parks and schools, there is no presumption that any net social benefit derives from (in effect) giving the revenue measured by area 3 to the consumers of *x*; therefore, it is assigned no net welfare significance. Two triangles remain, both measuring net gains to *A*. Area 2 formerly represented part of the real cost of securing 0*M* of domestic production; it is assumed that those resources are now put to other uses, so the extra surplus measured by 2 is a net benefit. Likewise, area 4 represents a pure gain in consumers' surplus not subject to any offset. The net benefit is areas 2 + 4.

Trade diversion can occur for another good, *y*, if *A*'s consumption of *y* was formerly supplied by outsider *C* and if *C* is the world's most efficient producer. Suppose that *B* can also produce *y*—not as efficiently as *C*, but efficiently enough to undercut *C* in *A*'s market when *C* pays *A*'s tariff but *B* does not. In Figure 14.2 *A*'s demand for *y*

**FIGURE 14.2**

**Welfare Effects of Trade Diversion**

$P_B$ indicates pretariff supply price in partner country and $P_C$ pretariff supply price in rest of the world. Tariff preference lowers internal price from $T_C$ to $P_B$. Welfare loss occurs if area 5 exceeds area 4.


appears as *DD*. Suppose *C*'s supply of *y* is perfectly elastic at a domestic cost (and price) of $P_C$; likewise, *B* can supply *y* at the higher constant cost (and price) of $P_B$. Before the customs union is formed, *A* imposes an ad valorem tariff on imports of *y* equal to $P_CT_C/0P_C$ or $P_BT_B/0P_B$—they are the same. *A* would buy from the less costly source after paying the tariff and thus would import $0M_C$ at price $0T_C$. Forming the customs union allows *B*'s exports of *y* to enter duty-free, and *A*'s consumption expands to $0M_B$. Areas in the diagram are labeled to illustrate the significant effects on welfare. Once again, lowering a tariff (even preferentially) allows a gain to *A*'s consumers of *y* (areas 3 + 4). The meanings of these areas match their counterparts in Figure 14.1: Area 3 shows tariff revenue formerly collected on imports from *C,* its loss offsetting the congruent gain in consumer's surplus; and area 4 depicts the remaining pure gain in consumer's surplus that is not subject to any offset. A loss occurs, however, in the form of area 5. Areas 3 + 5 measure the total tariff revenue formerly collected on imports $0M_C$. This revenue now is lost to *A*'s government, and the part denoted by 5 is instead paid by *A*'s consumers to the higher-cost producers of *y* in *B.* It is pure social loss.[3] A *net* welfare loss from trade diversion occurs if area 5 is larger than area 4. It need not be, of course: The loss from switching to a less efficient source of supply could be more than offset by the gain from reducing a distortion of consumers' spending. If a supply curve for domestic producers had been incorporated in Figure 14.2, another gain would have resulted because protected output falls when the domestic price declines from $0T_C$ to $0P_B$ (an area of gain like 2 in Figure 14.1). Also, notice that welfare increases in the trade-creation case, even if the former tariff sheltered no protected production. (The welfare gain is just area 4.)

[3]No welfare gain for country *B* is involved because the resources drawn into the production of *y* presumably were engaged in other activities where their value productivity was just as high.

## Net Gains or Losses?

What can be said about the net influence of these forces? If *A* and *B* consume and trade many commodities, is it possible to establish any presumption that a union leads to net gains? An accurate evaluation depends on the trade pattern for every good. Nonetheless, some rough tests can suggest whether trade creation (which must raise welfare) is likely to prevail over trade diversion (which may or may not). For trade creation to predominate, the economies of *A* and *B* should be *actually competitive* (before the union) but *potentially complementary* (after it comes into effect). Trade-creation gains are greater when protected production is reduced because protective tariffs have made the output pattern of the two economies look similar before they join in a customs union. Thus they should appear actually competitive. However, each member must also be the most efficient producer of goods protected and inefficiently produced by its partner—this condition guarantees trade creation rather than trade diversion.

Other simple tests for a union's welfare significance can also be used. Higher initial tariffs mean greater potential benefit. Higher initial tariffs enlarge area 4 in Figures 14.1 and 14.2. If a common external tariff is formed (as in a customs union), the chances of benefit are enlarged if the new common tariff is lower than the previous individual ones—making trade diversion less likely, reducing the distance $P_C T_C$ (in Figure 14.2) and lowering the probability that $P_B$ will fall within it. A larger preferential arrangement is more likely to be beneficial. This condition is obvious if we imagine enlarging a hypothetical customs union until it includes nearly all the world's economic activity. The less production taking place outside, the more likely is the union to include the most efficient producer; trade diversion is therefore curtailed.

Another factor affecting the balance of welfare effects works in a different way. When countries form a customs union, they must decide on a common external tariff. Of the many possible methods, they usually choose to average the members' previous national tariff rates. Because of the averaging process, there is less variation of the resulting rates among the different classes of imported commodities than existed in the previous national schedules. That reduced dispersion is itself a source of welfare gain because the relative prices of commodities inside the tariff wall are then less distorted from those in the world at large. If each of two products is subject to a 10 percent tariff, both domestic prices are raised 10 percent, and the relative price is the same as in the outside world.[4] Thus, the more tariff schedules are homogenized, the greater the welfare gain.

## Distribution of Gains and Losses

One more building block is needed for this analysis of the effects of tariff preferences. The technique for measuring the welfare effects of trade creation and diversion set forth in Figures 14.1 and 14.2 assumes that the country's terms of trade remain unchanged. That assumption is built into the perfectly elastic supply of imports. If the

[4]Both theory and evidence on this point were developed by Pan A. Yotopoulos and Jeffrey B. Nugent, *Economics of Development: Empirical Investigations* (New York: Harper & Row, 1976), pp. 352–355.

partner's terms of trade with the outside world change, or if one member's terms of trade with its partner change, redistributions of real income take place. The total effect of preferences on any one country's welfare is the sum of effects related to trade creation or diversion and any redistribution stemming from changed terms of trade.

You might suppose that a country would pick its partners for a preferential arrangement so that it would get a terms-of-trade gain, or that the members would select each other to extract a gain from the rest of the world. Countries seem to pick their partners primarily on political grounds, not from economic motives or calculations. Still, whether intended or not, a preferential arrangement is likely to change its members' terms of trade with the outside world and with each other. The possible results are diverse, but consideration of preferential arrangements in the context of general equilibrium reveals some likely outcomes.

Start with a question that has a simple answer. Suppose that *A* and *B* decide to form a preferential arrangement, excluding *C* (the outside world). What tariff structure will maximize their joint gain from the venture? In the absence of any special market distortions, *A* and *B* should clearly adopt free trade with each other and levy the optimum tariff against the outside world (that is, the tariff that maximizes their joint monopoly gain). Even if each member's tariff was optimal before, from its own viewpoint, each gains from the expansion of previously restricted trade with the other. If their individual tariffs had not been optimal, a further gain accrues from switching to the optimal tariff. Notice that their joint monopoly power in trade could well be greater than that of each separately. If they are sole exporters of a product and each previously calculated its optimal tariff by taking the other's as given, further monopoly gains should accrue to them from setting a higher external tariff jointly. Should *A* and *B* form a free-trade area without changing their former external tariffs, the elimination of internal tariffs is still apt to improve their terms of trade with the outside world. The only requirement is the occurrence of some trade diversion. The switch of trade away from *C,* as *A* and *B* adopt preferences and increase their mutual trade, has the same effect on *C* as if *A*'s and *B*'s demand curves for imports from *C* were shifted inward. (Conversely, the preferential arrangement gains from trade creation with no corresponding loss for the outside world.[5])

## 14.3 Preferential Arrangements in Practice

Customs unions and free-trade areas have been popular in the last several decades among both industrial and developing countries, and more than a hundred now exist. The primary ancestor was the European Union (formerly the European Community), formed in 1957 by France, (West) Germany, Italy, the Netherlands, and Belgium-Luxembourg. By 1995 fifteen Western European nations belonged, with only Norway

[5]This terms-of-trade improvement was analyzed and estimated by Howard C. Petith, "European Integration and the Terms of Trade," *Economic Journal,* 87 (June 1977): 262–272. He suggested that Germany's terms of trade may have improved as much as 7 percent, France's as much as 9 percent, when the European Union was initially formed.

and Switzerland staying out. Upon the collapse of the Soviet Union's empire of centrally planned economies, its former members sought E.U. membership, and in 2004 a group of them were admitted—Estonia, Latvia, Lithuania, Poland, Czech Republic, Slovakia, Hungary, and Slovenia. The initial members moved to eliminate tariffs among themselves by staged reductions completed in 1968, and 1992 was the target year for removing many remaining types of nontariff restrictions. The E.U. members also adopted a Common External Tariff, its rates set (with some exceptions) by averaging the rates for individual products that previously appeared in the member nations' tariff schedules.[6]

## Trade Creation and Diversion in the European Union

We saw that the welfare effects of a preferential arrangement are related to trade creation and diversion. Consider the effect of the European Union on international trade in manufactures. It would be insufficient simply to look at the sizes of trade flows—external and internal—before and after the European Union was formed. They changed in response to forces other than tariff rates, such as the growth of national incomes. One reasonable way to estimate trade creation and diversion, however, is to look at changes in the sources of supply of manufactures to the E.U. countries, as Mordechai Kreinin did.[7]

The reduction of internal tariffs resulted in trade creation that was reflected in a reduced share of each E.U. country's consumption of manufactures supplied by its domestic producers. Trade diversion was detected in the increased share of E.U. countries' imports coming from exporters in E.U. partner countries. Even without the European Union, these shares would have changed because of movements in prices and incomes that differed between the European Union and the rest of the world. Kreinin experimented with various adjustments to control for these movements; finding that none was clearly superior to the others, he suggested taking an average of their results. He concluded that, as of 1969 and 1970, the European Union had caused trade diversion of $1.1 billion, but trade creation in the amount of $8.4 billion. For another test of trade creation's prevalence, if a country had the European Union's lowest price for a line of goods before internal tariffs were removed, then it tended to gain a large share of E.U. exports to other E.U. countries by 1966 when internal tariffs were 80 percent eliminated. Tests based on the gravity model suggest that from 1970 to 1990 the E.U. members traded with each other 36 percent more than otherwise identical countries not members of the European Union.[8]

To the static welfare analysis of customs unions set forth here, and that of trade liberalization in Chapter 13, many students respond, "Is that all there is in it?" Are

[6]For a review of the European Union's development and prospects, see Mike Artis and Norman Lee, eds., *The Economics of the European Union: Policy and Analysis,* 2nd ed. (Oxford: Oxford University Press, 1997).
[7]Mordechai E. Kreinin, *Trade Relations of the EEC: An Empirical Investigation* (New York: Praeger, 1974), Chapter 3.
[8]Jeffrey A. Frankel et al., *The Regionalization of the World Economy* (Chicago: University of Chicago Press, 1998), p. 97.

there no gains from greater scale economies, more vigorous competition, new incentives to invest and innovate? To which the economist answers, "If you believe that markets are competitive and always pretty much in equilibrium, yes, that's all there is." If that assumption fails to hold, however, the gains from tariff reduction, whether preferential or general, may be greatly enlarged. Consider these alternative assumptions:

1. Most producers (outside the primary sector) make goods that are specialized and differentiated, so each faces a downward-sloping demand curve for its own output.
2. Elements of oligopoly may be present (especially in pre-E.U. Europe), so that producers' efforts to maintain and share out their collusive profits divert them from making major plant expansions or otherwise getting an innovative jump on their rivals.

Either of the two assumptions suffices to predict that trade liberalization (preferential or general) will induce producers to make a dash for larger-scale and more efficient plants. Under the first assumption, each individual producer foresees the possibility of enlarged export markets that will absorb a substantially increased quantity of output. Under the second assumption, collusion gets harder to sustain when tariff barriers fall, and foreign producers not in the cartel offer their wares at more competitive prices; erstwhile loyalists of the cartel abandon that ship and try instead to make their activities as efficient as possible within a larger and more competitive market.

Evidence indicates that these competitive gains occur and are important. Producers in the original E.U. countries rationalized their product lines, concentrating on what they could make most efficiently, and plant sizes were increased to more efficient scales. Productivity growth in E.U. industries reflects spillover benefits from economic growth in the aggregate, and in the same industry elsewhere in the European Union. If the output of a given industry grows 10 percent elsewhere in the European Union, apparently it will grow by 1 to 2 percent in that industry's branch within any of the core member countries without any growth at all of its inputs.[9]

Economists recognize another productivity gain from enlarging a market that depends on consumers' tastes. Consider an economy that displays all the standard competitive properties, except that each product is differentiated and potentially available in many varieties. To make a new variety available (to produce or import it), its distributor must incur a fixed cost. The larger the market, the more likely it pays to incur this fixed cost. Consumers in a larger market—a country that has joined a customs union, or simply one that has grown—will enjoy a dividend in real income.[10] These additional sources of gain from expanding the scope for unrestricted trade clearly have relevance beyond preferential trading arrangements. In Section 14.5 we report some estimates of their magnitudes.

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[9]Riccardo J. Caballero and Richard K. Lyons, "External Effects and Europe's Integration," in L. Alan Winters and Anthony J. Venables, eds., *European Integration: Trade and Industry* (Cambridge, England: Cambridge University Press, 1991), pp. 34–51.

[10]Paul Romer, "New Goods, Old Theory, and the Welfare Costs of Trade Restrictions," *Journal of Development Economics,* 43 (February 1994): 5–38.

Despite these gains, the European Union has its less-than-rosy side. A keystone of the organization is a scheme to provide massive protection to European agriculture. This protection has imposed large costs of trade diversion, especially on Great Britain, which before joining had a relatively efficient policy toward agriculture. High food prices in the European Union have fostered excess supplies of crops that could be disposed of only through massive export subsidies, which came to squander 70 percent of the European Union's budget (now below half). These outlays financed an elaborate program of production and export subsidies. E.U. consumers bore the burden of high food prices and taxes used to finance the subsidy system. Other losers were efficient agricultural exporters (including developing countries) that were denied the opportunity to sell to the European Union, and indeed were forced to compete with subsidized E.U. exports. As we saw in Chapter 13, the complaints of these frustrated agricultural exporters were a major source of contention in both the Uruguay and Doha rounds, and the European Union finally made a commitment (of unknown firmness) to end export subsidies by 2013.

## "Europe in 1992"

Although the E.U. nations long ago removed tariffs on trade among themselves, in 1988 they attracted considerable attention by agreeing to remove many nontariff restrictions—all internal economic barriers and customs posts—by 1992. In 1985 the European Commission compiled a list of three hundred remaining national nontariff restrictions on intra-E.U. trade. Some of them were no doubt erected as substitutes for the tariffs previously removed. These barriers include inconsistent product safety standards (children's toys, oxygen tanks), national differences in professional licensing requirements (for professions such as accounting); and restrictions on the entry of firms into certain sectors, such as financial services. Not the least of these barriers is so-called administrative protection—the sheer cost of documenting imported goods at the customs post: Intra-E.U. highway trucks had to file up to 75 forms to comply with border-crossing regulations.

The year 1992 came and went with some of the targeted restrictions removed but others still on the books. Energy sales and public-sector procurement resist liberalization. National governments pressed by powerful lobbies continue to invent clandestine forms of protection, such as national technical standards that imports can meet only at a cost. Even with some restrictions remaining, the economic gain merely from eliminating the administrative costs of customs frontiers to shippers and governments is large, estimated at no less than 1.8 percent of the value of goods traded within the European Union.

In 1992 the E.U. members also signed the Maastrict Treaty, committing to a prospect of long-run political unification and limited centralization of political decision making in the Union. A constitution embodying these objectives and codifying many previous agreements among E.U. members was duly prepared and submitted to the member nations for ratification. It required unanimous consent, and negative majorities among voters in France and the Netherlands appeared to leave it stranded. It is not obvious that its defeat will threaten the economic unification already achieved.

## Free-Trade Agreements in North America

In 1987 the United States and Canada negotiated a free-trade arrangement. Starting in 1989, the arrangement called for removal during the following decade of all tariffs and quotas between the two countries on most categories of goods and services. The Canadians expressed concern that the U.S. government would take away—via ad hoc trade restrictions—what it gave in the agreement, and so provision was made for international dispute-settlement panels to replace U.S. courts in final appeals of administrative decisions. Although the agreement left various forms of special protection in place, it did eliminate others in each country. U.S. trade with Canada already constitutes 21 percent of total U.S. trade, and the Canada-U.S. bilateral trade flow is by far the world's largest. The geographical proximity of the two countries and the substantial levels of protection previously in force (especially Canada's) mean that this free-trade agreement could have very important effects.

The Canadian economy is roughly a tenth the size of the U.S. economy. That difference implies that Canada gets proportionally larger benefits, for two reasons. First, the established trade restrictions have caused different sets of relative prices to prevail within the two countries. Free trade will bring these prices together, but with most of the change coming in Canada's prices. As the smaller country, Canada gets the advantage of trading at an "alien" set of prices.[11] Second, when a small country protects its domestic market (and its exports are limited by foreign tariffs), it not only forgoes the usual gains from trade but also suffers because production units in some industries cannot grow large enough to exhaust the available scale economies when serving only the domestic market. Thus the combined effect of the Canadian and U.S. tariffs has been an estimated cost to Canada of approximately 6 to 10 percent of its potential welfare.[12] Over the long run, the free-trade arrangement ought to retrieve that loss. Thus, relative to the United States, Canada will experience a very large reallocation of its resources, but it will also get proportionally much larger benefits in the form of productivity increases because of greater economies of scale.

During 1992 the United States and Mexico negotiated a similar free-trade agreement; Canada and Mexico also reached a bilateral agreement, so the resulting North American Free-Trade Agreement (NAFTA) wraps around the U.S.-Canadian bilateral arrangement and links the three North American economies. The U.S.-Mexico agreement links an industrial with a large developing nation. Because the two countries have quite different factor endowments, the scope for trade diversion would seem large. In Mexico, for example, sophisticated U.S. industrial machinery is likely a better substitute for machinery from Japan or Germany than for machinery produced in Mexico—which sets the stage for trade diversion. However, the scope for inefficient diversion in U.S. imports from Mexico seems small. U.S. trade with Mexico is already very heavy compared to U.S. trade with other Latin American countries. Indeed, before NAFTA the United States already had a preferential arrangement with several Caribbean

[11]This point was made in the basic argument for gains from trade in Chapter 2.
[12]Richard G. Harris, "Applied General Equilibrium Analysis of Small Open Economies with Scale Economies and Imperfect Competition," *American Economic Review,* 74 (December 1984): 1018–1032.

nations (Caribbean Basin Initiative), with its own trade-diverting potential that is countered by NAFTA. And in 2005 the United States formed a free-trade area with a group of Central American nations plus the Dominican Republic (CAFTA), that put them on the same footing as Mexico.

## NAFTA's Effects

There was a general consensus among early assessments of NAFTA that the net benefit to the United States would be positive but small, the effect on Mexico positive and large.[13] The evidence from aggregate trade data is hard to interpret, mainly because Mexico experienced other major disturbances around the same time NAFTA came into effect: a large unilateral reduction of its tariff protection between 1985 and NAFTA's start (1994) and a large devaluation of the peso. The share of U.S. exports going to both Mexico and Canada had been increasing since 1980 and continued to increase to the late 1990s; the same is true of imports from Mexico. This supports the theory that NAFTA creates additional trade. The shift of U.S. import sources toward Mexico coincided with a shift away from East Asia, which suggests trade diversion. A closer look, though, indicates that commodity categories in which Mexico strongly expanded its exports to the United States also saw strong expansion of Mexican exports to other countries.[14] NAFTA's political economy probably benefited Mexico by locking in economic reforms that were already under way and supporting the rapid expansion of industrial activity along the U.S.-Mexico border.

Researchers on trade creation and diversion associated with NAFTA have developed a new microeconomic approach. For two countries joining in a free-trade area, the eliminated tariffs on the goods they trade with each other are high in some cases, low in others. A greater fall of imports from third parties for high-tariff goods indicates trade diversion. A greater increase in trade between the partners in high-tariff goods suggests trade creation. Indeed, a cut of 1 percent in U.S. tariffs on Canadian goods corresponded to a 10 to 11 percent increase in imports from Canada. U.S. imports from sources other than Canada increased significantly with any cut in U.S. non-Canada tariffs, but those imports were unrelated to the preference margin of Canadian goods.[15] Thus there was no evidence of trade diversion. However, a similar approach to Mexican exports did expose trade diversion. For imports from Mexico gaining a high preference at the U.S. border, Mexico's share of U.S. imports rose 224 percent; low-preference items gained only 24 percent. Compare these figures to changes in Mexico's share of E.U. imports, which dropped 77 percent for high-preference goods and rose 64 percent for low-preference goods. Thus some Mexican exports were diverted to U.S. buyers with lower valuations than their former European purchasers.[16]

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[13]Mary E. Burmeister, Sherman Robinson, and Karen Thierfelder, "The Impact of NAFTA on the United States," *Journal of Economic Perspectives,* 15 (Winter 2001): 125–144.

[14]Anne O. Krueger, "NAFTA's Effects: A Preliminary Assessment," *The World Economy,* 23 (June 2000): 761–775.

[15]Kimberly A. Clausing, "Trade Creation and Trade Diversion in the Canada-United States Free Trade Agreement," *Canadian Journal of Economics,* 34 (August 2001): 677–696.

[16]John Romalis, "NAFTA's and CUSFTA's Impact on International Trade," National Bureau of Economic Research, Working Paper No. 11059 (2005).

## 14.4 Trade Problems of the Economies in Transition

The centrally planned economies of Eastern Europe and the former Soviet Union were long studied as a regional trading group. They chose to do much of their trading with each other. Furthermore, because of both ideology and the operating methods of their planned economies, they effectively discriminated against trade with the rest of the world. Their principal trading association, the Council for Mutual Economic Assistance (CMEA), was called a trade-destroying customs union: Economic planners pursued the goal of self-sufficiency for each nation, closing off efficient trade with outside nations and generating what often appeared to be inefficient trade among CMEA members.[17] To everyone's surprise, the political regimes that kept central planning in place vanished almost overnight, leaving their stranded economic systems to find their own paths of transition toward Western-style market economies.

### The Legacy of Central Planning

The managers of the centrally planned economies made no use of prices for allocating resources among activities and uses. State-owned production units were told what and how much to produce on the basis of a central plan. This plan selected a mix of final outputs—consumption goods, investment goods, military equipment, and so on—and then devolved detailed instructions for the state enterprises to deliver all the various inputs required to satisfy the planned final output. In addition to the suppression and distortion of international trade already mentioned, the system suffered from three grave defects that are being painfully removed as these economies make their transition to market organization:

1. The capacities to produce various products bore no relation to what would be the final demands for them if the planned economies' consumers were free to make their choices. Some sectors were "large" because the planners "liked" their outputs: steel and other basic materials, capital goods. At world prices, supplies of these goods would have exceeded demands.
2. Suppliers of goods and services did not bargain with their users or seek directly to respond to the customers' qualitative wishes; instead, they just produced the planners' quotas. Poorly functioning products in clunky and outdated designs were the rule.
3. The state enterprises had little or no incentive to be efficient. Labor could not be discharged, and managers could capture no personal benefit from properly maintaining plants or making them run better. Productivity hence was very low.

When the planning regimes withered away, in essence nothing worked well and nobody knew exactly what reallocations of resources would be viable. It is no wonder that outputs plunged and unemployment swelled as the transition began.

[17]Franklyn D. Holzman, "Comecon: A 'Trade-Destroying' Customs Union?" *Journal of Comparative Economics,* 9 (1985): 410–423.

Trade among the CMEA countries themselves was both constricted and distorted. Little effort was made to coordinate the countries' plans so as to exploit comparative advantage within the CMEA group. Trade of CMEA members with the market economies was distorted because of the necessities of central planning: This trade was regarded as a way to make up shortages of actual from planned domestic outputs, exporting for payment whatever outputs the planners felt they could currently spare. Quantity-based planning made it infeasible for the CMEA traders to quote prices in the manner of a market economy and let the world's buyers go shopping among the wares they produce. One study measured this suppression by fitting the gravity model to bilateral trade among the market economies around 1985; CMEA members' actual trade with the European Union was then only 19 percent of the level predicted for market economies with the same incomes and location.[18]

## Trade Patterns Transformed

With the collapse of central planning, the administered trade among the CMEA members also collapsed, and the newly independent "countries in transition" scrambled to reorient their trade toward the market economies. In 1980, 50.3 percent of their exports (54.7 percent of imports) had been with their CMEA partners. By 1992, early in the transition, the export share had fallen to 19.1 percent (imports to 17.2 percent). Table 14.1 shows how the transition evolved. It distinguishes three groups of transition economies—the Central European and Baltic nations that subsequently joined the European Union, a group of less developed economies in Southeast Europe, and a group of former members of the Soviet Union.[19] The shift away from trading with other transition economies continued, especially for exports and especially for the more distant countries in other transition groups. The shift toward trade with the European Union kept increasing, especially for exports from the transition economies. Trade with the rest of the world behaved irregularly.

The transition economies immediately abandoned the accounting prices used in the CMEA and relied instead on Western market prices. This left some of the state-owned enterprises running heavy losses and reducing output. However, it also revealed patterns of comparative advantage. Early in the transition, economists tried to predict the sectors that would realize an advantage on export markets. They used various strategies, such as the trade pattern between the transition economies and market economies before the transition actually began. Also, they attempted (in the spirit of Heckscher-Ohlin) to identify elements in the factor endowments of the transition economies. The predictions, borne out subsequently, were that the transition economies would generally find their advantage in goods requiring much technical and engineering skill and produced efficiently at large scales. These were exactly the traits that appealed to the CMEA planners, including the emphasis on engineering and technical

[18]L. Alan Winters and Zhen Kun Wang, *Eastern Europe's International Trade* (Manchester, England: Manchester University Press, 1994), Chapter 2.

[19]The distribution of the trade of the former Soviet bloc nations is not shown in the table, but they are included as trading partners in the Other Transition Countries column.

**TABLE 14.1**

Changes in Distribution of Trade, Countries in Transition, 1995–2002 (percentages)

| Country Group | Year | Own Group | Other Transition Countries | European Union | All Other Countries |
|---|---|---|---|---|---|
| | | | *Exports* | | |
| Central Europe, Baltic states | 1995 | 16.4 | 20.7 | 53.4 | 9.6 |
| | 2002 | 15.2 | 9.5 | 62.9 | 12.3 |
| | | | *Imports* | | |
| | 1995 | 10.3 | 19.4 | 54.9 | 15.4 |
| | 2002 | 8.9 | 17.5 | 59.6 | 13.9 |
| | | | *Exports* | | |
| Southern, Eastern Europe | 1995 | 10.7 | 12.5 | 54.0 | 22.9 |
| | 2002 | 9.4 | 7.2 | 64.6 | 18.8 |
| | | | *Imports* | | |
| | 1995 | 12.3 | 17.6 | 52.2 | 17.8 |
| | 2002 | 7.8 | 18.7 | 58.4 | 15.0 |

*Source:* European Bank for Reconstruction and Development, *Transition Report 2003: Integration and Regional Cooperation,* Table A.4.1.1. Central European and Baltic states include Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia. Southern and Eastern European states include Albania, Bosnia, Croatia, Macedonia, Romania, and Serbia/Montenegro.

education. The other advantage lay in exports intensive in natural resources. Resource-intensive exports flowed because of plentiful resource stocks, obviously, but also because of the CMEA's notorious indifference to industrial pollution.[20]

The transition also has its interesting organizational side: How does a nation join the market economy when it has eschewed many tasks and functions important for flourishing in the market? These include minimizing costs, deal-making and contracting practices, development of labor resources and relations, marketing, and product design. Many Western European enterprises have subcontracted the making of parts and components to the transition economies, making use of their skills while dodging their shortcomings. Foreign direct investment by Western European enterprises has also flourished. Some foreign investors have drawn upon low-cost skilled labor for producing traditional manufactured goods and components for export; for example, the nation that produces the most motor vehicles per member of its population nowadays is Slovakia! Other multinationals serve local markets in the transition economies. These firms' proprietary assets (Section 9.3) could not be exploited in the East

[20]Peter Murrell, *The Nature of Socialist Economies: Lessons from Eastern European Foreign Trade* (Princeton: Princeton University Press, 1990); Thomas C. Lowinger, Mudziviri Nziramasanga, and Anil K. Lal, "Economic Transition in Central and Eastern Europe: The Consequences for Trade Structure and Trade Volume," *International Trade Journal,* 14 (Spring 2000): 53–76.

European home markets during the CMEA regime. Now, entrant multinationals find not only unserved current demand but also the prospect of rapidly growing per capita incomes and demands for diversified products.[21]

## 14.5 Trade and Growth: China and the Asian NICs

Although the relationship between trade and development is a vital question for all developing countries, the East Asian region provides a striking case. China is particularly in the news, but its successful development follows the experience of the "Asian NICs" (newly industrialized countries: Korea, Taiwan, Hong Kong, and Singapore) and, before them, Japan. China might be regarded as one of the economies in transition from central planning. However, the economic geography of its transition calls for viewing it in the context of its Asian neighbors.

### China

Since China's modern development began in 1979, its national income has grown at a rate of 9 percent annually and its international trade has grown at more than 20 percent a year. The striking feature is that such rapid growth in a country this large has been heavily concentrated in just a few coastal provinces located adjacent to Hong Kong in the southeast part of the country. This could occur because the Chinese economy had been quite decentralized, without much internal (interregional) trade except in raw materials. Furthermore, most state-owned enterprises were locally administered. In 1984 the central government thus could experiment with economic openness by letting coastal cities set up their own economic and technological development zones outside the reach of central planning.

In Hong Kong and various other Asian locations dwell large numbers of Chinese with entrepreneurial skills, access to capital, and a close familiarity with the international market economy. It proved a relatively easy matter for these entrepreneurs to import to China the machinery needed to make a wide variety of relatively simple manufactures, train the local Chinese workforce to use it, and sell the output on the world market. Furthermore, the relatively low opportunity cost but high potential productivity of Chinese labor meant that the manufactured products competed strongly with goods from countries already integrated into the international economy. Once these lines of simple manufactures were established, China's vast population made them readily expansible. This is evident in the population growth of cities that were central in this development process. The population of one of them, Shenzhen, grew from 320,000 in 1980 to more than 7 million in 2000. The distribution of new lines of manufacturing among the region's cities was far from random: Local specialization is strongly evident, so economies of agglomeration have been one source of advantage.

[21]Saul Estrin, Kirsty Hughes, and Sarah Todd, *Foreign Direct Investment in Central and Eastern Europe: Multinationals in Transition* (London: Pinter, 1997).

The national government's policies were not uniformly benign during this period. The apparatus of central planning and the state-owned enterprises largely remained in place. The state-owned enterprises were only gradually unleashed from the regime of government-controlled prices; once a quota of output was delivered at the official price, output exceeding this could be sold at whatever price it would fetch. (The European transition economies, in contrast, made a dash to the reorganization of their economies on a market basis.) Only since 2000 has the government moved to encourage modernization in some other parts of the country. This choice seems astute because the resources needed to expand this development process more broadly across the country were simply not available.[22]

## The Asian NICs

Although China is immense and important, it is anything but typical of the developing countries. Most others have chosen policies with important impacts but nothing close to central planning. China's Asian neighbors who preceded it in successful development provide an apt case of trade policy and development. Korea, Taiwan, Hong Kong, and Singapore rapidly increased their national incomes per capita (now half that of Japan) and their shares of world trade. Four other nations are apparently following the Asian NICs: Thailand, Malaysia, Indonesia, and the Philippines, called the ASEAN 4 (for their membership in the Association of Southeast Asian Nations). The following data from their period of most rapid growth illustrate the dramatic development of these Pacific Basin countries:

| | Per Capita Income (1980 U.S. Dollars) | | World Trade Share (%) | |
|---|---|---|---|---|
| | 1963 | 1988 | 1963 | 1988 |
| Asian NICs | 974 | 5162 | 1.9 | 7.7 |
| ASEAN 4 | 606 | 1546 | 1.1 | 2.1 |

## Protection and Import-Substituting Industrialization

These nations once shared with most other developing countries a strategy for achieving economic development through the heavy protection of domestic manufacturing industries, or import-substituting industrialization.[23] In Taiwan, for example, nominal tariffs remained, on average, in the 40 to 50 percent range until the 1980s. In the 1960s, the Philippines levied average tariffs of 70 percent on consumer manufactured goods, 55 percent on intermediate-good inputs into construction, and 27 percent on other

[22]Michael J. Enright, Edith E. Scott, and Ka-mun Chang, *The Greater Pearl River Delta and the Rise of China* (Singapore: John Wiley, 2005).

[23]See Marcus Noland, *Pacific Basin Developing Countries: Prospects for the Future* (Washington, DC: Institute for International Economics, 1990), for a general treatment of the Asian countries' development. For an account of these countries' trade policies in the context of their other public policies, see World Bank, *The East Asian Miracle: Economic Growth and Public Policy* (New York: Oxford University Press, 1993).

intermediate goods. The Philippines had also used the policy of imposing heavy effective taxes on its two main agricultural exports, sugar and coconuts, to wring out funds for investment projects and industrialization.

The developing countries once placed faith in the infant-industry argument for tariff protection. This argument holds that a viable import-competing industrial activity might fail to take root in a country because it requires large-scale production to be efficient, demands organizational and technical skills that its workforce has not yet acquired, or depends for efficiency on learning that occurs only after production is under way. Another strand of the infant-industry argument maintains that an unskilled workforce needs to acquire skills, but these are costly for the enterprise employing them. The firm has no assurance that it can recoup its investment in training because the trained employees are free to quit and take their valuable new skills elsewhere.

Both arguments have their analytical flaws, but the point we stress here is that infant-industry protection worked badly in practice. Most developing countries have small domestic markets. Thus the domestic producers springing up behind tariff walls were usually few in number. Unless dynamic gains were forthcoming from learning and experience, local producers were doomed to high costs. (When public policy intervened to attract numerous producers, as in the automobile industries of some Latin American countries, the problem of inefficiently small scale grew that much worse.) Furthermore, little benefit appeared in the form of development gains. Instead, the protected local monopolies and oligopolies showed a pattern often seen in industrial countries as well: When an enterprise has few actual competitors and government assurance against potential rivals, its prime sin appears to be inefficiency and sloth rather than monopoly profits. Besides nurturing inefficiency, protection applied to capital goods and machinery raised the real costs of investment for local producers and reduced rates of capital formation and hence economic growth.[24] Many developing countries further suffered a general-equilibrium consequence of their protection policies: By taxing or otherwise turning the terms of trade against their resource-based export industries, they discouraged investment by farmers and other primary producers and undermined the basis for their gains from trade.

## From Import Substitution to Export Orientation

Lately the developing countries in general (and the Asian NICs in particular) have turned away from import-substituting industrialization. The Asian NICs shifted to export-oriented policies that support the expansion of simple labor-intensive manufacturing for export. Part of these burgeoning exports stemmed from the capture of offshore processing activities, described in Chapter 8. Attuned to these countries' resource endowments and not cramped by the small sizes of domestic markets, these lines of exportable production (footwear, clothing, consumer electronics, and other simple consumer goods and components) expanded rapidly. By 1988 manufactures accounted for

[24]Colin I. Bradford, Jr., "NICs and the Next-Tier NICs and Transitional Economies," in Colin I. Bradford, Jr., and William H. Branson, eds., *Trade and Structural Change in Pacific Asia* (Chicago: University of Chicago Press, 1987), pp. 173–204.

more than 90 percent of the exports of each Asian NIC except Singapore, whereas in 1963 manufactures' share had been less than 47 percent for all except Hong Kong. Capital formation proceeded apace, with physical capital expanding at 8 to 12 percent annually and human capital also growing fast (the Asian NICs have high literacy rates and have trained large numbers of engineers).

These gains, of course, did not emerge just because tariff protection was reduced, but rather because a wide range of economic policies were adjusted to support the expansion of exports. Policies to encourage capital formation were especially important. Nor were all export-oriented policies well chosen: Up to the 1980s Korea continued to promote capital-intensive, large-scale export activities ill-suited to its factor endowment.

The exports-based growth of the NICs is no less impressive for occurring in the face of import restrictions of the United States and other industrial countries. The proportion of Korean exports subject to U.S. nontariff barriers rose from 37.5 percent in 1976 to 43.3 percent in 1985, then fell to 19.7 percent in 1989—not because U.S. controls were being relaxed but because of the rapidly changing commodity composition of Korean exports. Korea had to absorb substantial declines in the values of its exports when these goods were subjected to various forms of administered protectionism.[25] Development for the Asian NICs has involved shifting exports toward more sophisticated goods—partly because of the industrial countries' trade controls but also because of increased competition from the ASEAN 4 and now China.

## Openness and Economic Growth

Partly from reflecting on the Asian economies' success, economists have intensively studied the relation between the openness of national economies and their rates of economic growth. Inefficient restrictions on a country's trade, like distortions (natural or policy-induced) in domestic markets, lower the level of a country's national income relative to its potential. For the distortions also to lower the growth rate, there must be some connection between openness to trade and the sources and mechanisms of economic growth. The candidate mechanisms are exactly the ones we discussed in Section 14.3 as sources of productivity gain from enlarging the market through forming a customs union. For a developing nation, foreign goods, international travel, and foreign direct investment (the presence of foreign business units) tend to increase the stock of human capital and reduce transaction costs.

Research testing this proposition is not unanimous, but productivity growth does seem to increase with openness to the international economy and freedom from price and allocative distortions in the domestic economy. For 78 developing economies Sachs and Warner analyzed the relation between openness and "convergence" during the 1970s and 1980s. They defined openness by the absence both of controls on international trade and payments and intensive regulation of the domestic economy via planning regimes. By convergence they meant the relation between a country's income

[25]Chong-Hyun Nam, "Protectionist U.S. Trade Policy and Korean Exports," in Takatoshi Ito and Anne O. Krueger, eds., *Trade and Protectionism* (Chicago: University of Chicago Press, 1993), pp. 183–218.

growth over a period of time and its shortfall from the most productive economies at the start of the period; economies that are the furthest behind enjoy the greatest opportunity to grow through diffusion and catching-up. Sachs and Warner found no evidence of catch-up among the closed economies in their sample, but strong catch-up processes among the open economies. The following simple averages of annual growth rates of incomes per capita tell the story:

| | Open | Closed |
|---|---|---|
| Developing economies | 4.5% | 0.7% |
| Developed economies | 2.3 | 0.7 |

The open economies overall outran the closed ones, and the developing open economies enjoyed substantial convergence, whereas the closed economies showed none.[26] In a parallel line of research, economists have sought to estimate the relation between a country's trade ratio (exports plus imports divided by GDP) and its income per capita. Trade ratios vary among countries and for a given country over time. Those data allow them to estimate (say) what effect a long-run increase of 10 percent in the trade ratio and the associated change in income per capita—at least 2 percent. This figure covers the productivity and efficiency gains in production, mentioned in Section 14.3. It does not include consumers' gains from the availability of an enhanced array of varieties of differentiated goods; that might be as large as the gain in production efficiency. The long-run gain available to the United States from removing all of its remaining trade restrictions came up with the impressively large magnitude of $1,500 to $2,000 per capita annually.[27]

## 14.6 Preferential Arrangements: New Policy Issues

### Spillovers and Harmonization

Negotiations over preferential arrangements have spotlighted several policy issues that, although affected by these deals, arise in a different context. One group of issues concerns countries' domestic policies such as environmental policies, labor standards, and the like. Negotiations over NAFTA, the World Trade Organization, and other such settings flush out public sentiments that Americans should not trade (or should not trade *more*) with countries whose domestic policies Americans feel are unfair or inappropriate. We should not, some urge, consume goods whose production polluted the

[26]David Dollar, "Outward-Oriented Developing Economies Really Do Grow More Rapidly: Evidence from 95 LDCs, 1976–1985," *Economic Development and Cultural Change,* 40 (April 1992): 523–544; Jeffrey D. Sachs and Andrew Warner, "Economic Reform and the Process of Global Integration," *Brookings Papers on Economic Activity,* 1 (1995): 1–95.

[27]Scott C. Bradford, Paul L. E. Grieco, and Gary Clyde Hufbauer, "The Payoff to America from Global Integration," in C. Fred Bergsten, ed., *The United States and the World Economy* (Washington, DC: Institute for International Economics, 2005), pp. 65–109.

environment at their site of production or involved poor working conditions—child labor or a harsh or hazardous workplace.

Let us consider pollution controls in the context of international agreements on trade liberalization—either preferences such as NAFTA or global deals such as the World Trade Organization. Each country chooses its own set of pollution taxes to restrict outputs that cause local environmental damage (that is, confined to the country in question). Indeed, the optimal tax effectively adds to producers' marginal cost an amount equal to the value of the extra output's environmental damage. Producers are induced to contract their polluting outputs. Now, several such countries come to the bargaining table to negotiate (say) a free-trade area. The negotiators and the public immediately notice that any given polluting industry is subject to a different tax in each country. Should the low-tax country's polluting industry be allowed that cost advantage? Isn't that unfair to the producers who face higher tax rates? The answer is that the low-tax country's advantage is a real one and should be allowed to stand. A lower optimal tax reflects at least one of two factors. First, natural conditions may cause a given volume of pollutants to do less damage in one location than another—think of one producer group located in Beverly Hills, the other in the middle of the Sahara Desert. Second, a lower subjective valuation might be assigned to the effect of a given quantity of pollutants in one country than another. Citizens of higher-income countries are thought to place higher valuations on environmental quality; in a poor country, a pristine environment competes weakly against the provision of life's necessities—food and shelter. Pollution taxes on any given industry in each country should indeed reflect these differences in "technology" and taste for environmental quality. To charge that one country gains an unfair advantage from a lower optimal tax is equivalent to charging that the Caribbean's sunshine and beaches give it an unfair advantage as a vacation spot.[28]

So far, we have assumed that the environmental degradation associated with any good's production is local—specifically, confined within the producing country. Pollution may spill across national boundaries, however, as with the sulfur emissions of midwestern U.S. coal-burning electricity generators, which the prevailing winds carry as acid rain into eastern Canada as well as the northeastern United States. Similar problems arise along the U.S.-Mexican border. Whether as part of a preferential trading arrangement or otherwise, these negative externalities are an appropriate subject for international bargaining. Suppose that the U.S. government taxes sulfur emissions at a rate that is optimal for mitigating acid rain's damage within the country but does not take into account the additional damage done in Canada. Canada might use trade agreement negotiations as an occasion for seeking redress. For that matter, Canada might be better off if it subsidized the relevant pollution-abatement expenditures in the United States. The connection between a trade agreement and redress for international spillovers is tenuous. Lacking a better arrangement, Canada might tax imports of

[28]Jagdish Bhagwati and T. N. Srinivasan, "Trade and the Environment: Does Environmental Diversity Detract from the Case for Free Trade," in Jagdish Bhagwati and Robert E. Hudec, eds., *Fair Trade and Harmonization: Prerequisites for Free Trade?* (Cambridge, MA: MIT Press, 1996), Vol. 1, Chapter 4.

electric power from the United States as an indirect and inefficient way of reducing the spillovers of environmental damage.

Negotiations over preferential arrangements sometimes raise a different issue of harmonization of trading partners' domestic policies. Many policies involve not a simple (presumed) optimal rule such as a pollution tax. Some are simply longstanding conventions. We measure in inches, you measure in centimeters. One works about as well as the other, but harmonization on a single system would increase our gains from trade by reducing the cost of adapting products to a foreign measuring system. Transition costs apart, we could agree both to use the same measuring system and permanently avoid these incompatibility costs. This issue of harmonization has been pursued extensively in the European Union. There, for example, each country has developed different standards for qualifying professionals such as accountants, but there is room for bargaining because no country maintains that its qualifications are uniquely optimal. With a single qualification system, professionals could be mobile among the E.U. countries—another source of potential gains from trade. Harmonization is not a necessary part of an agreement on a preferential arrangement. Also, harmonizing with one trading partner or group might mean deharmonizing with other trading partners. Harmonization nonetheless offers the possibility of mutually beneficial agreements. Harmonization between two trading partners might pay even without a preferential arrangement, but such an arrangement that expands trade is likely to raise harmonization's benefits.[29]

## Preferential versus Multilateral Trade Liberalization

Another policy issue raised by preferential arrangements is their relation to the process of multilateral reduction of trade barriers. If we agree that most trade barriers impair the efficiency of the world economy, and indeed usually the welfare of the countries maintaining them, we look with favor on any strategy for removing them. The track record of multilateral reduction is impressive (Section 13.1), but it has already lowered most tariffs of the developed countries enough to question whether further rounds are worth the negotiating costs. Preferential arrangements provide an opportunity to sweep out trade barriers across the board, though only among particular countries.

Some economists worry, though, that the good (preferential tariff reductions) is the enemy of the best (multilateral free trade). Theoretically, that is possible. If all countries start with a common positive level of tariffs, preferential reduction among a subgroup will raise welfare initially, but welfare declines as the preference margin gets larger and larger. Conversely, any group of countries could in principle form a customs union with a common external tariff that would benefit themselves while leaving the rest of the world just as well off as before. Theory alone cannot resolve the issue.[30]

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[29]Many aspects of harmonization are addressed in Bhagwati and Hudec, eds., *Fair Trade and Harmonization.*
[30]Jagdish Bhagwati, David Greenaway, and Arvind Panagariya, "Trading Preferentially: Theory and Practice," *Economic Journal,* 108 (July 1998): 1128–1148.

Some economists have argued more pragmatically that regional preferential arrangements often unite neighboring countries with large potential gains from trade thanks to low costs of transport and communication. It is difficult, though, to make this argument rigorous (neighbors also have large trade-diversion potential). Much turns in practice on the pattern of political choices made by trading countries inside and outside of preferential arrangements. Are countries grouped in preferential arrangements prone to maintain and raise protection against the outside world, refuse new members, and get into trade wars with others? Or do preferential groups tend to expand, and their members to seek membership in other groups as well? The pattern prevailing in the last few years suggests the latter. But no easy judgment can be reached.[31]

## 14.7 Summary

Preferential trade arrangements eliminate controls on trade among member countries while maintaining restrictions against the outside world; they desirably reduce trade barriers, but they undesirably create discrimination between sources of supply. They usually link up regional neighboring countries, which raises their importance: Transport costs cause a bias in bilateral trade toward regional neighbors, as the gravity model predicts.

Preferential arrangements can either raise or lower economic welfare, in that they both free trade (among their members) and distort trade (with the outside world). Beneficial trade creation results when protected production is competed down and trade expanded between members. The effects are like those of the nondiscriminatory removal of tariffs. Trade diversion occurs when a preference causes a country to switch its purchases from a more efficient to a less efficient supplier. That switch itself imposes a welfare cost, but that cost might be offset by a gain for consumers. A preferential arrangement is most likely to benefit the world when a lot of protected production is competed down, when very high tariffs are lowered, and when the membership comprises a large proportion of the trading world.

A preferential arrangement is likely to shift the terms of trade of each party. The members would maximize their joint welfare by freeing trade among themselves and levying the optimal tariff against outsiders. A member who gives a preference to its partner loses (and the partner gains) if the member's terms of trade with the outside world fail to improve; if they improve, however, the member and the partner may both benefit. Speaking broadly, preferences seem likely to improve their members' terms of trade and welfare and to impose a cost on the outside world.

The European Union seems to have created a good deal of trade in manufactures and diverted little. Its welfare gains were probably much enlarged by the opportunity to raise the productivity of imperfectly competitive industries, but they were shriveled

[31] Anne O. Krueger, "Are Preferential Trading Arrangements Trade-Liberalizing or Protectionist?" *Journal of Economic Perspectives,* 13 (Fall 1999): 105–124.

by its expensive system of agricultural subsidy. The removal of nontariff barriers in 1992 brought significant gains in reduced transaction costs. In the Canada-U.S.-Mexico NAFTA arrangement, a small country such as Canada should gain from access to a new set of relative prices as well as to scale economies that increase its productive efficiency. With Mexico, trade diversion is a more serious concern, but developmental benefits seem substantial.

The centrally planned economies of the former Council of Mutual Economic Assistance (CMEA) nations extinguished trade with the market economies without effectively pursuing comparative advantage among themselves. Their centralized planning apparatus eschewed the use of prices in allocating resources among sectors and created great disincentives for efficiency, innovation, and the provision of high-quality, reliable goods. The collapse of their socialist regimes caused these economies in transition to rush to reestablish trade with the industrial market economies while the administered trade among themselves dried up. The trade of these economies in transition quickly shifted toward the market economies, especially the E.U. members, and that process continued to its denouement in eight Central European countries joining the European Union.

The successful development of newly industrialized countries in Asia is closely related to their participation in the international economy. China's development has concentrated in the coastal provinces near Hong Kong, which gained access thereby to sources of entrepreneurship, capital, and connections to international markets for simple manufactured goods. Before China's rise developmental success was enjoyed by the Asian Newly Industrialized Countries (NICs) (and before them Japan) by the same process of finding export specialties suited to their factor endowments. Formerly, they promoted industrialization by excluding manufactured imports. That policy brought them inefficient, small-scale manufacturing activities often ill-suited to their factor endowments; it also strangled their existing natural-resource-based exports. By contrast, export-oriented policies have allowed the Asian developing countries to industrialize rapidly by exporting manufactures well suited to their endowments of low-skill labor. Success of the NICs typifies the general conclusions of recent research on openness and economic growth: Increases in international commerce bring a nation in contact with new goods, production methods, and techniques of economic organization that let it reduce the gap between its own and the highest attained levels of productivity and income.

Regional arrangements raise two urgent policy issues. First, is there a problem of harmonizing partners' domestic policies toward the environment, labor, and the like? A country with low costs of environmental protection or weak preferences for environmental equality efficiently tends to specialize in polluting activities, although this seems unfair to its more onerously regulated competitors in other countries. Second, does the proliferation of preferential arrangements impede the multilateral liberalization of trade? Neither theory nor empirical evidence gives a clean answer, but preferential trading groups have been notably open toward new members and a source of attraction to those members.

## CHAPTER PROBLEMS

1. Why is it that, as a customs union encompasses a larger proportion of the trading world, its formation becomes more likely to promote net welfare gains for the world at large?
2. A form of economic integration used occasionally is the elimination of trade barriers among countries in the goods produced by a particular sector; an example is a free-trade arrangement in automobiles and parts between the United States and Canada. If the parties keep their tariffs on all other goods, why might freeing trade in one sector cause the wrong country to specialize and export?
3. Suppose that a customs union causes a substantial expansion in its members' real incomes and output through the attainment of scale economies. How does this gain affect the chances that the rest of the world will lose from worsened terms of trade with the customs union?
4. What balance of trade creation and trade diversion will result from the addition of eight Central European countries to the Economic Union? From the evidence on the transition economies (and your general knowledge), suggest some hypotheses about the extent of these two outcomes.
5. The standard analysis of purely competitive markets does not incorporate seemingly important processes by which reduced barriers to international trade can increase welfare. Taking Figure 14.1 as a framework, describe (qualitatively) what sources of welfare gain are omitted.
6. Economists have debated the political economy of regional preferential arrangements in relation to the goal of removing all of the world's inefficient trade restrictions. What ways can you think of, grounded in the political economy of trade policy, by which preferences could pave the way toward world trade liberalization? How could they retard it?

## SUGGESTIONS FOR FURTHER READING

Artis, Mike, and Norman Lee, eds. *The Economics of European Union: Policy and Analysis,* 2nd ed. (Oxford: Oxford University Press, 1997). Review of the European Union's policies.

Bergsten, C. Fred, ed. *The United States and the World Economy: Foreign Economic Policy for the Next Decade* (Washington, DC: Institute for International Economics, 2005). Many papers on current issues in U.S. trade policy.

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