



■ absolute advantage

A country is said to have an absolute advantage over another country in the production of a good or service if it can produce that good or service (the “output”) using fewer *real* resources (like capital or labor, the “inputs”). Equivalently, using the same inputs, the country can produce more output. The concept of absolute advantage can also be applied to other economic entities, such as regions, cities, or firms, but we will focus attention on countries, specifically in relation to their production decisions and international trade flows. The fallacy of equating absolute advantages with cost advantages is a never-ending source of confusion. Deviations between the two are caused by the fact that real resources may receive different remunerations in different countries.

In reaction to the mercantilist literature of the 17th century (which advocated state regulation of trade to promote wealth and growth), a doctrine of free trade emerged at the end of the 18th century, culminating in 1776 in Adam Smith’s masterpiece, *An Inquiry into the Nature and Causes of the Wealth of Nations*. Drawing on the work of others, Smith was able to put many different arguments and elements together in a coherent and systematic framework, organized using a few general principles, and thus providing a new way of thinking about political economy (Irwin 1996). Smith thus provided the first *analysis* of economic reasons for advocating a policy of free trade and, according to Joseph A. Schumpeter (1954, 374), “seems to have believed that under free trade all goods would be produced where their absolute costs in terms of labor are lowest.”

Smith’s arguments can be summarized as follows. First, he points out that regulations favoring one industry draw away real resources from another industry, where they might have been more advantageously employed (opportunity costs). Second, he applies the opportunity cost principle to individuals in a society—for example, by pointing out that the tailor does not make his own shoes (which would cost him a lot of time) but buys them from the shoemaker (who can produce them more efficiently). Each individual is therefore specializing in the production of those goods and services in which he or she has some advantage. Third, Smith applies the same principles of opportunity costs and specialization to international commercial policy and nations. It is better to import goods from abroad where they can be produced more efficiently, because this allows the importing country to focus production on the goods it can itself produce efficiently. The primary (classical) reason for international trade flows is therefore a difference of technology between exporter and importer.

Principle of Absolute Advantage To illustrate the principle of absolute advantage, suppose that there are two countries (the United States and Japan) producing two goods (food and cars), using labor as the only input. Assume that goods can be traded without costs and workers are immobile between the two countries, but mobile between the two sectors within a country. All workers in a country are equally productive. Production technology in Japan differs from that in the United States (see table 1). We assume that Japan requires three units of labor to produce one unit of food, whereas the United States

Table 1
Productivity tables, an example of absolute advantages

	a. Units of labor required to produce one unit of output		b. Units of output produced with one unit of labor	
	food	cars	food	cars
USA	2	8	1/2	1/8
Japan	3	6	1/3	1/6

requires only two units of labor. Similarly, Japan needs six units of labor to produce one car, whereas the United States needs eight units of labor. Since Japan is more efficient in the production of cars and the United States is more efficient in the production of food, Japan has an absolute advantage in the production of cars and the United States has an absolute advantage in the production of food.

To show that specialization of production, coupled with international trade flows according to absolute advantage, can be advantageous, in our example suppose that the United States produces one car less. This frees up eight units of labor, which can now be used to produce $8/2=4$ units of food (opportunity cost of car production in the United States). The United States has now produced one car less and four units of food more. Suppose that the United States wants to consume the same number of cars as before. It must then import one car from Japan. To produce this car Japan needs six units of labor. These laborers must come from the food sector, where production therefore drops by $6/3=2$ units of food (opportunity costs of car production in Japan). Now note that the total production of cars has been unchanged (one car less in the United States and one car more in Japan), while the total production of food has increased by two units (four units more in the United States and two units less in Japan). These extra units of food reflect the potential gains from specialization if both countries concentrate in the production of the good they produce most efficiently. In principle, both countries can gain: for example, if they exchange three units of food for one car.

Complications and Limitations There are several caveats to the foregoing analysis, some of which we discuss now.

Absence of absolute advantage: The example discusses a situation where one country has an absolute advantage in the production of one good and the other country in the production of another good. It is frequently argued that developing countries may lack the technology to gain an absolute advantage in the production of *any* good, such that they cannot possibly compete on the global market and benefit from free trade (in table 1, for example, if the United States needs four laborers to produce one unit of food). This conclusion is wrong, however, according to David Ricardo's model of comparative advantage (which emphasizes labor as the primary production factor and attributes the costs and benefits of trade to the differences in opportunity costs among countries), since technologically disadvantaged countries can compete on the global market by paying lower wages. It turns out that absolute advantage is neither a necessary nor a sufficient condition for exporting a certain good and gaining from international trade.

More factors of production: In reality, goods are produced using several factors of production simultaneously, such as capital, land, and various types of labor. Usually, goods then cannot be ranked according to absolute advantage as their production in one country requires more of one input and simultaneously less of another input than in another country. These issues are analyzed in the Heckscher-Ohlin (factor abundance) theory of international trade.

Intra- versus interindustry trade: The example discusses interindustry trade, which is the exchange of one type of good (cars) for another type of good (food). Many countries engage in intraindustry trade, the exchange of similar types of goods (e.g., simultaneously exporting and importing car parts). This type of trade is becoming ever more important. It can be based on market power and economies of scale, as analyzed in New Trade Theory.

Absolute Advantage, Income, and Wages Despite the limitations and complications just discussed, absolute advantages (as reflected by differ-

ences in technology) *are* important for explaining current international trade flows and differences between countries in terms of income levels and wage rates. Daniel Trefler (1995) systematically analyzes these issues by combining the Heckscher-Ohlin model with technology differences, while taking into consideration the empirically observed home country bias (a consumer preference for domestically produced goods over otherwise identical imports). This combination explains about 93 percent of international trade flows. It also shows that technology differences are largely responsible for the deviations in income levels (and wage rates) between, say, the African countries and the high-income countries of the Organisation for Economic Co-operation and Development. For this reason absolute advantage does retain relevance for understanding the modern world economy.

See also comparative advantage; economies of scale; gains from trade; Heckscher-Ohlin model; intraindustry trade; new trade theory; revealed comparative advantage; Ricardian model; trade and wages

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■ access to medicines

The term *access to medicines* encompasses the array of problems faced by the world's lowest-income inhabitants, who often cannot afford, or do not have access to, medications that could greatly reduce the disease burden under which they suffer. The problems include deficient medical infrastructure, imbalances between prices and ability to pay, and the lack of incentive to develop medicines that would treat diseases endemic to low-income nations.

During the 20th century, numerous technological breakthroughs in pharmaceutical therapy made it possible to cure or at least alleviate most of the diseases that have killed or debilitated millions of people each year. But the ability to purchase those medicines is concentrated in relatively affluent nations, where the vast majority of pharmaceutical sales occur. At the other extreme, roughly 60 percent of the world's population live in nations defined by the United Nations in 2000 as "low income," with per-capita gross national product averaging less than \$530 (at prevailing exchange rates) a year in 1998. The World Health Organization (WHO) (2004, 61) estimates that in 1999 those nations made only 2.9 percent of the world's pharmaceutical purchases. The WHO has predicted that by expanding access to available health interventions, and especially essential medicines, 10.5 million lives could be saved annually by the year 2015. Lack of access to medicines and complementary health care in turn perpetuates a vicious spiral: poor health impairs productivity and economic development, while low productivity keeps the citizens of the least-developed nations too poor to afford appropriate health care.

Affordability The medicine access problem has several facets. The overriding problem is inability of individuals to afford medicines. Health insurance is an absent corrective; an estimated 90 percent of the people in developing nations lack such insurance. Inability to pay restricts not only the demand for medicines but also the supply of physicians able to diagnose diseases and recommend appropriate therapies. Nations classified as low income in 1998 by the United Nations had 70 physicians per 100,000 population; those classified as high income, 252. In

many instances, the only advice available comes from traditional practitioners whose herbal remedies may work for some indications, but with at best erratic success due to the lack of evidence from controlled experiments. For diseases such as AIDS, malaria, and tuberculosis, carefully administered therapy regimens must be maintained to inhibit the emergence of resistant strains. Counterfeit versions of first-world drugs continue to be a significant problem, in part because third-world health-care authorities lack systematic testing and approval institutions.

In their efforts to combat the burden of disease, health authorities at the WHO and in individual less-developed nations have since 1977 published “model lists” of so-called essential drugs. Drugs have been included on the list in part because of their proven efficacy and partly because of their relatively low cost. Low cost in turn has been achieved by emphasizing generic drugs, that is, those on which patent rights restricting supply to a single firm have expired. Historically, more than 90 percent of drugs on the WHO’s model lists have been generics. However, this emphasis was threatened by the emerging epidemics of HIV/AIDS and related opportunistic diseases such as resistant tuberculosis and cryptococcal meningitis. Virtually all of the drugs effective against those diseases were patented and, at least initially, available only at costs for a year’s treatment exceeding total average incomes of citizens in low-income nations.

The Trade-Related Aspects of Intellectual Property (TRIPS) agreement culminating the World Trade Organization’s (WTO) Uruguay Round Treaty, signed at Marrakech in April 1994 and implemented in 1995, exacerbated this situation. Up to that time, many less-developed nations, emulating some more prosperous countries, were able either to produce or, more likely, import patented drugs because they granted no patent rights on pharmaceutical product inventions. TRIPS required that signatories to the Marrakech treaty begin awarding such patents—within one year for the wealthiest nations, five years for middle-income countries, and ten years (later extended to the year 2015) for the least-developed nations. Transitional provisions also re-

quired grants of marketing exclusivity for post-1994 inventions on which initial patent applications were filed. Especially for AIDS and AIDS-related diseases, this posed special problems. Up to that time, the newest and most effective drugs might be available generically from India and other nations that had not awarded pharmaceutical product patents. But as the TRIPS provisions began to bind on India, Brazil, South Africa, and other nations, their ability to continue supplying low-cost generics atrophied.

The combination of TRIPS and the AIDS epidemic precipitated a crisis. Two main solutions emerged. First, at a joint WHO–WTO conference in Høsbjør, Norway, in April 2001, a consensus emerged encouraging the world’s leading research-oriented pharmaceutical companies to practice “differential” or “Ramsey” pricing. The companies would charge high prices in rich nations and make life-saving drugs available to consumers in low-income nations at prices approaching marginal cost. From what had been near parity of AIDS drug prices across rich and poor nations (Scherer and Watal 2002), wholesale prices were shown by Lucchini et al. (2003) and the UK Department for International Development (2005, 22) to have plummeted in the least-developed nations, in some cases by as much as 98 percent. One consequence of such discriminatory pricing was the reexport of low-price drugs to high-price nations, but steps to suppress this “parallel trade” were quickly implemented. Donations from multinational pharmaceutical firms to organizations providing health care in less-developed nations—in effect, sales at a zero price—also helped increase access to essential medicines.

Second, because of exceptions written into the original TRIPS agreement, nations were able to threaten or actually implement compulsory licensing of existing or new patents on AIDS and other epidemic disease drugs in order to authorize generic production. Threats of compulsory licensing induced multinational patent holders to reduce sharply the prices of their branded drugs in the third world and enter into voluntary agreements with such nations as Brazil and South Africa to permit generic supply. A limitation in the original TRIPS text was

that production under a compulsory license was to be “predominantly for the supply of the [Member’s] domestic market.” However, many of the world’s least-developed nations lacked both the technological know-how and sufficient market scale to produce generics for their own use. A permissive amendment to the TRIPS agreement accepted in August 2003 following a mandate issued at the Doha Round of international trade negotiations in 2002 alleviated this problem. The TRIPS agreement does not require nations formally to report compulsory licensing decrees, and as of 2006, only an AIDS drug license by Thailand to a government entity, minimally controversial under TRIPS, had come to light publicly. The existence of other unreported cases cannot be ruled out. Alternatively, post-2000 price and voluntary license developments may have been sufficient to satisfy the limited ability of low-income nations to distribute drugs effectively.

Incentives for Drug Development Another fundamental problem preventing access to medicines is the lack of innovative drugs targeted specifically toward diseases prevalent only in the third world, for instance, sleeping sickness, Chagas disease, and leishmaniasis. Because low-income nations have limited purchasing power, multinational pharmaceutical firms lack demand-based incentives for research and testing on drugs targeted toward the so-called tropical diseases and the resistant strains that continue to evolve. A study for *Medicines sans Frontières* (2001) revealed that among 1,393 new drug chemical entities introduced into world markets between 1975 and 1999, only 13 (or 15 counting tuberculosis) drugs were indicated for tropical diseases. Also deficient has been the development of vaccines that could *prevent* diseases curable using modern medicines, but at costs too high to be sustained by overstressed third-world medical care providers.

Here too the AIDS crisis played an important role in inducing corrective initiatives. Some large multinational pharmaceutical companies, seeing the problem as a moral challenge, increased research and development (R&D) efforts targeted at third-world diseases and established new laboratories nearer the potential markets. Private philanthropic organiza-

tions such as the Gates Foundation have provided generous subsidies to support R&D on new drugs and vaccines to combat third-world diseases. Their efforts complemented the work of the UN AIDS initiative and similar programs by national governments. In 2005–6, delegates from the world’s eight largest market economies (the G-8) approved in principle a program to stimulate the development of vaccines by agreeing to purchase at generous pre-specified prices \$3 billion worth (in each category) of new vaccines effective against AIDS, malaria, and tuberculosis. However, as of 2006, the G-8 member nations were tardy in backing their good intentions with actual purchase guarantees and the national budget commitments necessary to implement them.

Progress is being made in increasing the supply of affordably priced medicines to low-income nations, but much remains to be done. Overcoming the remaining barriers to access to medicines could alleviate disease worldwide and contribute to economic development.

See also Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS); health and globalization; HIV/AIDS

FURTHER READING

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■ affiliate

See foreign direct investment (FDI)

■ African Caribbean Pacific–European Union (ACP–EU) partnership agreements

The trade and development relationship between the European Union (EU) and the African, Caribbean, and Pacific (ACP) countries has been shaped by a number of formal treaties and agreements since the end of World War II. The aim of these agreements has been to promote, with EU participation, opportunities for growth and development among the ACP countries by both direct and indirect policy measures. The more direct methods have included development funds, investment loans, and compensatory payments, while indirect methods have centered on trading arrangements and protocols that favor exports from ACP countries in a bid to generate

growth. Underpinning these specific aspects, though, has been a more general focus on engendering wider social, political, and economic development as part of an understanding (often referred to as the *acquis*) between the EU and the ACP countries, which reflects the fact that the relationship is not only a trading club.

The Treaty of Rome, which established the European Economic Community (EEC) in 1957, included a section entitled “The Association of the Overseas Countries and Territories.” This made specific provisions for the relationship between the EEC and the overseas territories and former colonies of member states under Articles 131 to 136. The association with former colonies of the six members of the EEC was designed “to promote the economic and social development of the countries and territories and to establish close economic relations between them and the Community as a whole” (Article 131, Treaty of Rome). In practice, these arrangements had their greatest effect on the former French colonies in West Africa and the Caribbean. Preferential trading arrangements formed the major part of the association with a commitment to review the policy after five years.

The Yaoundé Conventions The first review produced a new set of arrangements embodied in the first Yaoundé Convention (or Yaoundé I) signed on July 20, 1963, in the Cameroon capital by 18 countries of the Association of African States and Madagascar (AASM) and the six EEC states. Yaoundé I aimed to encourage the development of the AASM countries mainly by allowing preferential treatment of their manufactured exports into the EEC, but with only limited preference for agricultural exports. In return, the EEC was permitted to export limited volumes of manufactures to the AASM with similar duty arrangements. In addition to trade provisions, there was also agreement on technical and financial issues, on rights of establishment that allowed for, among other commercial features, the establishment of companies in associated states, and also on the institutions that would oversee the governing of the convention. The agreement ran from 1964 to the end of 1969.

Countries that were not part of the Yaoundé I sought associate status. Under the Arusha Agreement signed in Tanzania on September 24, 1969, Kenya, Tanzania, and Uganda negotiated associate status with the EEC. This came into force at the same time as the second Yaoundé Convention (Yaoundé II), which was in effect from 1971. While reinforcing the preferential and reciprocal trade arrangements, Yaoundé II also included provision for investment by the EEC in the associated states. Specifically, funds were provided mostly for the European Development Fund (EDF) with a small amount going to the European Investment Bank (EIB) for loan-supported project work. The specific aim was to broaden the relationship between the two groups, from trade policy to wider development areas. The Arusha Agreement only contained trading elements and none of the financial aid offered under Yaoundé II.

From Yaoundé to the ACP In 1975, the developing country signatories to the Yaoundé Conventions formed a new alliance with the 20 Commonwealth countries associated with the United Kingdom (UK). The new body was called the African Caribbean and Pacific (ACP) Group. The terms of this new body were established within the Georgetown Agreement. The main aim was to coordinate negotiations for ACP countries with the EEC, a process that had begun in 1973 as part of a review of Yaoundé II. The negotiations were concluded with the signing on February 28, 1975, of the first Lomé Convention (Lomé I) in Togo, by 46 ACP countries and the then nine EEC Member States.

Lomé I had a number of provisions but the key ones again related to trade. Free access for most ACP exports to the EEC, although unlike Yaoundé II without reciprocal terms, lay at the heart of it. In addition, the agreement introduced specific protocols for sugar, rum, bananas, and beef and veal. In the Sugar Protocol, for example, the EEC agreed to volume import quotas of raw (cane) sugar from ACP producers at a guaranteed minimum price. The protocol reflected the UK's entry into the EEC and its established trading agreements with its former colonies. ACP sugar producers were allocated quotas for exports with the aim of aiding their producers

without harming EEC producers of beet sugar. The other commodities had similar export quota and guaranteed price arrangements, although beef and veal saw refunds of tax at 90 percent on imports.

In addition to these trade arrangements, the convention also provided for a Council of Ministers. This body was drawn from members of the Council and Commission of Ministers for the EEC and representatives from each ACP country, with the presidency alternating between the two groups. The other significant innovation was a change in the nature of EDF financing. The STABEX (shorthand for stabilization of export earnings) scheme aimed to provide stabilizing finance when export earnings fell due to a decline in prices for a producer's main (often primary) exports. This reflected the concerns about volatility in world commodity prices and the impact on exporters and countries' macroeconomic planning and policies. Coupled with further EDF and EIB monies, the convention moved explicit financial aid more prominently into the relationship between the EEC and the ACP, albeit with a continued emphasis on expenditure on infrastructure.

Lomé II was agreed and signed in 1979. Although it did not offer new trading provisions, within its EDF provisions it did introduce SYSMIN (stabilization of export earnings from mining products), a system of loans for helping the mining industries in those countries that relied heavily on exports of minerals for revenue generation, to diversify into other sectors. Lomé III (1984) signaled a shift from direct encouragement of export-led growth to encouragement of self-sufficiency and especially security of food supplies. Rural development was promoted as a means of achieving these goals. Finally, Lomé IV (1990) covered a 10-year period with a five-year review of financial support. However, it also became apparent that wider social issues, such as the environment, women's roles, and diversification of the economy were given much greater prominence as the ACP countries continued to develop. The EU recognized a desire for greater self-determination of policy.

A major review of the Lomé Convention came in 2000. The Cotonou Agreement of 2000 was signed

in Benin and built on the Lomé acquis but took a new, longer-term approach to the political, trade, and development aspects of ACP-EU relations. Globalization had appeared to pass many ACP countries by, with their share of foreign investment flows being very small and their trade shares equally limited. Tied to decreasing donor aid, this presented a problem that the Lomé IV had not dealt with. Indeed, compliance with World Trade Organization (WTO) rules meant protective trade arrangements could no longer provide an answer even if they were desired. Instead, focus on poverty reduction via good governance, macroeconomic stability, and new trading arrangements increased. To integrate ACP countries more fully with global markets, the EU liberalized virtually all imports from least-developed countries (LDCs), not just ACP countries, under a General System of Preferences (GSP). The protocols for sugar and beef and veal remained, however. Funding was now via grants totaling 11.3 billion euros and for risk capital, which totaled 2.2 billion euros.

In 2001 the EU concluded its amendment of the GSP and developed its “Everything but Arms” policy. This policy extended duty-free access to all LDC exports apart from arms and munitions, with some restrictions still applying over a longer period for bananas, rice, and sugar. Of the 48 LDCs, 39 were ACP (Cotonou signatory) countries.

The WTO continued to put pressure on the EU to move away from preferential treatment of ACP exports, and in 2002 Economic Partnership Agreements (EPAs) became the focus for ACP-EU trading relationships. The negotiations with regional groupings sought to encourage partnership, regional integration, development, and ultimately integration of the ACP countries into the WTO. EPAs were scheduled to be in place by 2008.

Given the scope, scale, and relative complexity of the various ACP-EU agreements, it is possible to view them as central to a continuing process of different countries working together for mutual benefit. Although not comprehensive in either geographic or economic coverage, ACP-EU agreements have played a major role in shaping trading policies for

many countries and have offered possible options for others to follow.

See also European Union; international trade and economic development; World Trade Organization

FURTHER READING

European Commission External Relations Directorate. <http://europa.eu/scadplus/leg/en/s05032.htm>. This site provides a wealth of materials relating to the establishment and development of EU-ACP trade agreements as well as links to other helpful documents.

Secretariat of the African, Caribbean and Pacific Group of States. <http://www.acpsec.org/>. The ACP site offers a number of useful resources that provide greater detail on the trade agreements with the EU, as well as giving an overview of the structure of the ACP group and how it operates.

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■ African Development Bank

See regional development banks

■ African Union

Open to all countries in the African continent, the African Union (AU) is an organization designed to foster political and economic cooperation and development among its member countries. To such ends, it stands ready to address any and all issues relevant to state building, security, and economic development and integration among countries on the African continent. Hence the AU can contribute to factors deemed essential to greater integration of the continent in the world economy. It was officially launched on July 9, 2002, replacing the Organization of African Unity (OAU), whose charter was signed on May 25, 1963, with an original membership of 33 countries; the AU has 53 members. The headquarters are in Addis Ababa, Ethiopia, although the various organs can be located in other member states; for example, the Pan-African Parliament is in Midrand, South Africa.

Political Stability and Security In order to advance political stability and security, the AU focuses on conflict resolution within and between states, peer review among the African states to facilitate state building and the democratization process, and building solidarity to increase the leverage exercised by African countries at the international level. Still, the AU has found it difficult to speed up democratic transition in the continent; impediments to this transition include the manipulation of institutions by elites or breakdowns in the democratic political process because of ethnic conflicts or political fragmentation. The AU has also been handicapped in dealing with the resolution of conflicts in which the sources of conflict are deep seated and the combatants well armed.

With few exceptions, the AU has supported the territorial integrity of the African states since independence from colonialism, as well as noninterference in the internal affairs of those states. Enshrined in the Constitutive Act of the AU are the “condemnation and rejection” of “political assassinations,” “subversive activities,” and “unconstitutional changes of governments.” Moreover, the AU has pronounced resolutely in favor of human rights. Thus one of the tenets of the Constitutive Act is the “right of the union to intervene in a Member State pursuant to a decision of the Assembly in respect of grave circumstances, namely war crimes, genocide and crimes against humanity.”

Economic Integration The economic integration program of the AU is contained in the June 1991 Treaty Establishing the African Economic Community (AEC) signed in Abuja, Nigeria. That treaty has been operational since May 1994. The plan contained in the treaty calls for the AEC to reach fruition after a period of 34 to 40 years from 1994. The consequence, among other things, would be a single domestic market and a Pan-African Economic and Monetary Union, a single African Central Bank, and a single African Currency. A number of regional economic communities (RECs) operate under the aegis of the AEC, as part of the transition to full, continentwide union, namely, the Arab Maghreb Union (AMU), the Economic Community of the

Central African States (ECCAS), the Common Market for Eastern and Southern Africa (COMESA), the Southern African Development Community (SADC), and the Economic Community of West African States (ECOWAS).

Progress in economic integration has been hampered by certain political and economic strains, overlapping membership among the RECs, competing subregional groupings within RECs, and a lack of clear commitment to integration among the populations and the political leadership. Political difficulties have included personal animosity among heads of states and governments; ideological differences among leaders; deep-seated disputes such as that over the Western Sahara (independence for a Sahrawi Arab Democratic Republic), in the case of the AMU; and regional conflicts, as in the Great Lakes area for ECCAS. But prospects are improving in these respects: Increasing democratization and acceptance of market solutions to economic problems are reducing ideological differences. Conflicts involving many states simultaneously are diminishing in number and those that remain are being better handled by the AU. Moreover, proponents of integration have been working hard to ensure that institutions and organizations of regional economic communities can function in spite of temporary personal hostilities in high political circles.

There is need to rationalize membership of RECs by encouraging countries to join only one. Also, subregional organizations with the same goal of economic integration exist. The best example is the East African Community (EAC), the three members of which are also members of either COMESA or SADC. In addition, the Francophone African countries are apparently happy with their monetary union arrangements. But they have been expanding their cooperation objectives in the direction of general economic integration, despite their membership in ECOWAS and ECCAS.

Economic obstacles to integration include (1) fear of a loss of national sovereignty over macroeconomic policy to some union authority or body; (2) disagreements over the nature and content of protection of local industries through tariffs and nontariff

barriers, which reduce certain imports of commodities and services from outside an REC; and (3) concern about unequal distribution of gains and losses of REC membership. The RECs continue to make progress toward resolving these issues.

For instance, a common external tariff is an important objective of the RECs, and the structure of a tariff system has important implications for the protection bestowed on different commodities. If a simple rule were established, such as equal protection for all commodities, then the determination of tariff rates could be left to technical experts to decide. But to assist infant industry and foster industrial development, African countries want differential protection. Given the economic structure and the state of development of the various countries concerned, different schedules of tariff rates have dissimilar implications for comparative advantage of the countries. Hence, such considerations seriously affect discussions of the detailed tariff schedules to be put into effect.

Many in the continent fear that gains to countries from economic unions will be positively related to the degree of their economic development and/or the size of their domestic economies. The allegedly “unfair” distribution of gains and losses is widely believed to have been at the root of the breakup of the first EAC, where it was felt that Kenya’s industrialization was greatly helped but, in the process, Tanzania’s may have been adversely affected. An attempt to use differential intraunion tariffs—designated transfer taxes—could not alleviate the problems, at least not to the satisfaction of Tanzania.

In general, many want some kind of internal (intraunion) tariff structure that protects some national domestic production activities from direct competition within an REC. But once the principle is accepted (and applied) that the location of industries among countries should be determined in a world of open competition and free mobility of all factors of production including labor, rather than in an arena of negotiated industrial planning buttressed by restricted mobility of factors, especially labor, the case for transfer taxes becomes weak.

A challenge would still remain as to how to balance such a market-oriented approach to the location of industries with permitting selective intervention of governments for economic development of the countries, as deemed useful by all the countries. The difficulty would be compounded by the need to observe certain macroeconomic constraints set by the union as a whole—for example, limits on government budget deficits and on government debt in relation to gross domestic product.

Differences in taxation systems and structures also continue to engender issues of unequal gains and losses. In particular, countries have different reliance on import taxes as sources of government revenue. This fact has slowed down reduction of intraunion tariffs, since a formula to compensate those who will lose tax revenue from large intraunion tariff reductions is not easy to negotiate. Thus countries realize they need to reform their tax systems to lessen their dependence on import taxes if substantial and rapid intraunion tariff reductions are to occur in practice. The attempts of countries to reform their tax systems and to move toward greater reliance on income, profits, and value-added taxes should be of help in this regard.

One theme in the integration debate in the African continent is the degree to which African leaders are committed to full economic integration in the foreseeable future. For many of the countries, intraregional trade is very small in relation to extraregional trade, and the countries in each of the regions often produce similar goods. Hence countries sometimes do not feel an urgent need for a common market, given the widespread belief that integration would not yield substantial economic benefits for some time.

Still, every single leader of the countries voices the view that, in time, the benefits of integration will be substantial, as the effective size of domestic markets will greatly enlarge, so that technological economies of scale can be realized and the returns to investment enhanced. Hence it is along these lines that the most fervent proponents of integration have argued their case. Those who prefer a slower pace are content to

push now for (1) promotion of greater intraregional trade, employing the instrument of a common external tariff, probably supplemented by some form of transfer tax or *taxe de coopération régionale*, until full labor mobility becomes socially and politically feasible; (2) cooperation in infrastructure and industrial “regional” projects; and (3) some harmonization of policies (especially macroeconomic) as feasible. This could be followed, in the eyes of the gradualists, by some form of monetary union. Only later, when mass support for integration is strong and ideological obstacles are minor, according to this perspective, should full integration be pursued.

Governance and the African Peer Review Mechanism The AU aims at improving *governance* in African countries, in a context of enhanced country *ownership* of policymaking. In 2001, the AU launched the Millennium Partnership for the African Recovery Program (MAP). It was billed as a pledge by African leaders to take decisive steps to improve governance, reduce poverty, and enhance economic growth of their countries. In particular, it claimed that a new crop of leaders was emerging in Africa committed to democracy and the integration of their countries into the world economy. It called for “a new relationship” with the international community, especially the industrial countries: African countries would take charge of their own destiny, and the rest of the international community was called on to make a concerted effort to enhance resource flows to the continent via “improvements” in aid, trade, and debt relationships. Several goals were specified, including most notably achieving a 7 percent average annual growth rate of gross domestic product over the following 15 years. Among the “policy thrusts” to achieve the objectives would be negotiating “a new partnership” with the industrialized countries and multilateral organizations. African “ownership, leadership, and accountability” were thus highlighted as central elements of the MAP. The African peoples were henceforth going to set and direct their agendas and shape their own destinies. This, then, is the idea of the New Partnership for Africa’s Development (NEPAD).

Within the NEPAD framework, the African countries have instituted the African Peer Review Mechanism (APRM). Participating countries will do self-assessments, using the services of domestic autonomous bodies and individuals who in turn involve business and civil society groups throughout the countries. The governments will then draw up programs of action to address weaknesses identified in the self-assessments in the areas of political governance, economic governance, corporate governance, and socioeconomic governance. Review teams of African experts will visit the countries to assess the integrity of the self-assessment exercise and make recommendations, including on the action plans of the governments. Future expert teams will visit to review progress in implementing the action plans. Central in this arrangement will be a panel of eminent persons of the continent, overseeing the APRM processes to ensure their integrity and guiding the preparation of the country reports drafted mainly by the experts to be presented to the African Peer Review Forum. This forum comprises heads of state and government of participating countries (the “peers”).

If high and transparent standards are maintained, the APRM can be an effective means of separating those African countries committed to good policies from the rest, because only those countries whose leaders are committed to implementing good policies will want to have their progress continuously reviewed and made known to the global community. In this respect, the APRM could address a major credibility problem: Africa as a region is considered high-risk for investors, and the credit ratings of countries within the region are adversely affected simply by their being there. The APRM can contribute to separation of African countries into those with good policy environments and those without. In addition, if the reports get widely circulated within the continent, and especially in those countries that have chosen not to participate, the APRM will help provide essential information to potential actors in civil society.

Moreover, if the APRM is to have any effect on NEPAD, and especially influence the aid and debt

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relationships, it would be important that it become credible among aid donors, who then allow it transparently to influence their aid policies. Those of the international community interested in providing aid to support good policies may want to see evidence that the APRM is influencing governance in the right direction, for recent research in the social sciences has concluded that good policies emerge exogenously, when countries own such policies and voluntarily adopt them.

Future of the African Union The AU is poised to have an enhanced, though still limited, role in the world economy in the foreseeable future. Its efforts are bringing peace, political stability, and democratization to African states. Peace and political stability are good for economic growth and democratization improves governance. But good political leadership remains elusive and this ultimately is the route by which the political regime has its greatest influence on economic growth. The AU is not likely to have much influence on political leadership in individual African countries. Economic integration also will proceed more slowly than envisaged by official AU pronouncements. But economic cooperation will accelerate, leading to faster infrastructure development, policy harmonization within the regional economic communities, and more efficient and development-oriented industrial, agricultural, and service projects. Moreover, in arenas such as the International Monetary Fund, the World Bank, and the World Trade Organization, African countries more frequently will speak with one coherent voice under the aegis of the AU.

See also Common Market for Eastern and Southern Africa (COMESA); Economic Community of West African States (ECOWAS); European Union; regionalism

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OMOTUNDE E. G. JOHNSON

■ agglomeration

See New Economic Geography

■ agglomeration and foreign direct investment

The spatial clustering of foreign direct investment (FDI) is clearly visible in the location of multinationals investing in the United States, the European Union, China, and other regions. This agglomeration is at least partly the result of policy, as in China's special economic zones, but spatial concentration is also characteristic of domestic firms and of FDI in economies with few controls. These observations suggest that market forces, as well as policy, lead to clustering.

That new establishments tend to go to the same locations as earlier entrants suggests that productivity rises with the level of economic activity, especially as firms often must pay higher land prices to locate in clusters. If such productivity-enhancing effects, or

agglomerative economies, exist and spill over to domestic activities, a case may be made for government incentives to multinationals to induce local affiliate production. Indeed, dozens of countries favor FDI through tax breaks and subsidies. Through these incentives, governments hope to begin a self-reinforcing process whereby subsidized early entrants attract additional investment.

To better design such policies, researchers have sought evidence that agglomerative economies exist and, if they do, the extent of their benefits to local productive factors. Location-choice studies seek to measure the attractiveness of local characteristics for foreign investors and thus provide a way to estimate the self-reinforcing power of FDI. Virtually all location-choice studies find that the existing stock of foreign investment is a significant predictor of the location a multinational will choose for new local affiliates. However, most countries receive a relatively small number of new multinational affiliates in a given year and for these projects there is often limited information, constraining our ability to identify the specific sources of agglomerative economies.

Head and Ries (1996) observe a relatively large number of investment projects, 931 equity joint ventures in 54 Chinese cities from 1984 to 1991. Their study is noteworthy for its careful modeling of the agglomerative process, emphasizing local input sharing as the source of positive firm spillovers. Using conditional logit analysis to estimate the likelihood that a particular city is chosen as the investment site, Head and Ries find that agglomerative economies greatly magnify the direct impact of government incentives. Their simulation analysis suggests that two-thirds of the gains from incentives can be attributed to the self-reinforcing nature of earlier investments. Not all locations gained equally, however, as cities considered attractive for other reasons, such as infrastructure and industrial base, gained the most. Similarly, Devereux, Griffith, and Simpson (2007) find that firms are less responsive to government subsidies in areas where there are fewer established plants in their industry.

Evidence that past investment increases the likelihood of new investment does not necessarily imply

the existence of agglomerative economies. Agglomeration arises because there are benefits to locating near similar firms and because certain locations have natural advantages—features of a location that are independent of firm location decisions. A common example of how natural advantages influence location choice is the North American steel industry, which concentrated in the Great Lakes region largely because of the location of iron ore and coal deposits. In measuring the extent of agglomerative economies, researchers confront an identification problem: Are firms choosing a common location because its inherent characteristics make them more productive or are they more productive because they have all chosen the same location?

Head and Ries (1996) try to separate the roles played by natural advantages and agglomerative economies in two ways. First, they include in their logit analysis a set of variables that attempt to control for local characteristics that influence firm productivity, particularly infrastructure. Second, they allow for spatially correlated errors by including provincial fixed effects. These two approaches are standard in the literature, and data limitations often make it difficult to do more to avoid bias caused by omitted local characteristics or endogeneity. For example, it is often impossible to include fixed effects at the same geographic scale as the unit of location choice (e.g., city fixed effects in the Head and Ries study) because they cannot be estimated for regions that received no investment. However, to fully control for all features of a location that attract investment is impossible, and even in the most careful studies omitted variables likely remain a problem.

Some studies have tried to assess the relative attractiveness of various kinds of prior investment for new entrants. Examining Japanese investment in the United States electronics industry from 1980 to 1998, Chung and Song (2004) ask whether firms agglomerate with their competitors or with their own prior investments. They find that firms tend to collocate only with their own prior investments, with the exception of firms that have little of their own experience, who do tend to collocate with competitors.

More recent work emphasizes the role of trade costs and market access as an alternative explanation for FDI clustering. Head and Mayer (2004) develop a theoretical model in which firms prefer to locate where demand is highest and serve smaller markets by exporting. They confront the data with this hypothesis, measuring market potential by a term that weights demand in all locations by its distance from the proposed investment site. Head and Mayer use standard logit techniques to analyze the European regions chosen as the sites of 452 Japanese investments. They decompose existing investment in each region into three firm counts distinguished by their relatedness to the new entrant: domestic establishments in the same industry, Japanese affiliates in the same industry, and Japanese affiliates with the same parent or network. They find that all three measures of prior investment have a large and positive influence on the likelihood that a region will be chosen by a new entrant, with this effect larger the closer the relations between firms. Thus there are strong agglomeration effects even when controls for market potential are included in the analysis.

An important issue for policy is whether domestic productivity is enhanced by the presence of foreign-owned firms. Most productivity-spillover studies are of specific industries or are case studies, both of which are limited as a guide to policy. Haskel, Pereira, and Slaughter (2007) offer evidence on domestic spillovers from FDI using a plant-level panel of all UK manufacturing firms from 1973 to 1999. Several previous studies using plant-level data find a negative or insignificant effect of industry-level FDI on local productivity. The UK data are unique in that they cover the whole of manufacturing in a developed country. Haskel, Pereira, and Slaughter estimate plant-level productivity and regress it on industry-level FDI, controlling for inputs and the level of competition. They estimate that a 10-percentage-point increase in foreign presence in a UK industry raises the total factor productivity of that industry's domestic plants by about 0.05 percent. They compare the value of these estimated spillover effects to per-job incentives offered in spe-

cific cases and find that these expenditures outweigh the benefits.

Haskel, Pereira, and Slaughter (2007) use a variety of methods to deal with identification problems. In addition to explaining variation in gross output, they time-difference the data, explaining the change in output as a function of changes in inputs and foreign industry presence. This method accounts for plant-specific effects. The authors also include time, industry, and region fixed effects in their regression analysis. They also worry about the possibility that changes in industry FDI levels are correlated with changes in domestic productivity, and use instrumental variable techniques to minimize endogeneity bias. Their findings provide the strongest evidence to date that foreign investment does raise domestic productivity, but more work is needed before we have a clear guide to policy.

In sum, locations are more attractive the larger the existing stock of foreign investment, especially when the existing investments are by firms that are closely related (same industry, nationality, or parent firm). Government incentives are a significant determinant of multinational affiliate location choice but incentives are most effective when a location is desirable for other reasons. Although recent evidence suggests that foreign-owned firms enhance the productivity of local establishments, the value of these domestic spillovers appear to be less than the incentives used to attract foreign investment.

See also location theory; New Economic Geography; technology spillovers

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MARY E. LOVELY

■ Agreement on Agriculture

The Uruguay Round Agreement on Agriculture (URAA) came into effect in 1995 as a part of the Marrakesh Agreement that established the World Trade Organization (WTO). Contained in Annex IA of the Marrakesh Agreement, the URAA both modifies and greatly elaborates on those Articles of the General Agreement on Tariffs and Trade (GATT) that specifically dealt with agricultural trade by specifying significant constraints on government behavior in this area. The scope of the URAA covers all agricultural products (defined as products in Chapters 1–24 of the Harmonized System of tariff headings, excluding fish and fish products but including cotton, wool, hides, flax, hemp, and a few other products as specified in Annex 1). The agreement, by internal reference, also includes the country schedules that were appended to the WTO Treaty

(Articles 3.1, 4.1, and 6.1). These schedules contained maximum permitted levels for export subsidies and for certain types of domestic subsidies, as well as commitments for the reduction of "bound" tariffs (tariff levels that cannot be exceeded without negotiating compensation for effected exporters).

The central elements of the URAA are often referred to as the three "pillars"—market access, domestic support, and export competition. In all three areas, new rules and reductions in trade barriers form a comprehensive framework for the regulation of measures that restrict trade in agricultural products.

Market access rules include the conversion of all nontariff import barriers (quotas and restrictive licenses) to tariffs (Article 4.2), and a footnote to Article 4.2 specifies some of the nontariff measures that are prohibited. Moreover, it was agreed that tariff levels were to be bound and that tariff rate quotas (TRQs, or quantities that can be imported at a zero or low tariff) were to be established to maintain market access as tariffication (replacement of nontariff barriers with tariffs) took place. These TRQs were to represent "current access" in cases of existing trade or a "minimum access" of 3 percent of domestic consumption (rising to 5 percent over the implementation period) in cases where there were no imports in the base period. Tariffs were to be reduced from the base period (1986–90) by an (unweighted) average of 36 percent, with a minimum cut of 15 percent for each tariff line, over a six-year period (1995–2000). In addition, the agreement established a special safeguard regime that countries could use to counter import surges or price drops in markets in which they had newly established tariffs (Article 5).

Domestic support was defined to include payments to farmers in addition to the transfers from consumers through border policies. These included deficiency payments, direct income supplements, administrative price systems, and subsidies for agricultural research and government advisory programs for farmers for conservation compliance, and for other programs that benefited farmers directly. These elements of domestic support were put into three categories, which have become known as the Amber Box, the Blue Box, and the Green Box.

Amber Box measures were those tied to output or input prices or to current output levels. These were to be reduced by 20 percent (in aggregate) relative to the base period (1986–90) subject to de minimis amounts that were excluded from the commitment. The Blue Box contained subsidies that were tied to supply control programs: such subsidies were regarded as less obviously output-increasing. There was no reduction obligation for Blue Box policies, but such subsidies were restricted to payments based on fixed acreage and yield or paid on a maximum of 85 percent of production (Article 6.5). Green Box subsidies were defined (in Annex 2) as those unrelated to price and output (“decoupled”), which included research and extension, payments designed to compensate farmers for the cost of compliance with environmental regulations, and domestic food assistance programs. Both the general criteria (that they be provided from public funds and not act as price supports) and the specific criteria for each type of subsidy identified have to be met. Those subsidies that qualified as Green Box payments were not constrained, though they had to be notified by governments to the WTO Committee on Agriculture.

The domestic support commitments were implemented by means of a calculation of the Total Aggregate Measure of Support (Base AMS) (Article 6) for the base period. This included market price support given by administered prices (calculated by a price gap relative to a reference price), nonexempt direct payments, and other subsidies. Exemptions included the Blue Box and Green Box subsidies and a de minimis amount of 5 percent of the value of production for non-product-specific subsidies and 5 percent of the value of the output of an individual commodity for product-specific payments. The reduction commitments were applied to the Base AMS to give the annual commitment levels included in the country schedules, and each year the Current Total AMS is compared to this commitment.

The rules regarding export competition included a prohibition on new export subsidies (Article 8) and a reduction of existing subsidies by both volume and expenditure. A list of export subsidy practices

that are covered is given in Article 9.1. Following the agreed modalities, country schedules were drawn up that provided for subsidy reductions relative to the base period of 36 percent by expenditure and 21 percent by quantity subsidized. In addition, rules were made more explicit with regard to food aid (Article 10.4), and countries agreed to negotiate limits on export credit guarantees (government underwriting of sales to purchasers that might lack creditworthiness) (Article 10.2).

To provide for “special and differential treatment” for developing countries, the level of reductions for tariffs and subsidies was set at two-thirds of that of developed countries, and the period of transition was extended from 6 to 10 years (i.e., 1995–2004). Developing countries were also allowed to exempt de minimis subsidies of up to 10 percent of product value for product-specific payments and 10 percent of total agricultural production for non-product-specific payments. In addition, certain additional categories of both domestic support (Article 6.2) and export subsidies (Article 9.4) were allowed. In the case of least-developed countries, no reduction commitments were required (Article 15.2). These least-developed countries are defined as the 48 countries eligible for World Bank/International Development Association assistance, and developing country status is self-declared.

In addition to the three pillars, the URAA mandated the formation of an Agricultural Committee (Article 17), charged with the monitoring of adherence to the agreement. Countries were to notify the committee in a timely fashion of their subsidy levels and any new subsidies that were introduced. Notifications have lapsed, however, and some major countries have not notified beyond the year 2001. The Agriculture Committee became the locus for new negotiations on the continuation of trade reform, meeting in special session.

In addition, the URAA provided a degree of shelter for domestic programs through a “Peace Clause” (Article 13) that limited the scope for the challenge of agricultural subsidies under the Agreement on Subsidies and Countervailing Measures. The Peace Clause was to operate for a period of three

years after the implementation period; it expired in 2003.

A further innovation in the URAA was the inclusion of a clause (Article 20) that mandated a continuation of the process of reductions in support and protection. To this end, there were to be new negotiations by the end of the period of transition (in effect, before 2000). Negotiations did indeed start in March 2000, and were incorporated in the Doha Development Agenda (DDA) at the Doha Ministerial in November 2001. The DDA talks were suspended in July 2006 and revived in January 2007.

The need for the development of new rules for agricultural trade in the Uruguay Round reflected both the unsatisfactory nature of the constraints incorporated in the GATT articles and the “disarray” that had characterized these markets for decades. The three GATT articles that had caused the most conflict were Article XI, which prohibits nontariff measures; Article XVI (as modified in 1955), which limits export subsidies; and Article XX, which permits the use of trade barriers in support of a range of domestic health and safety measures.

The part of Article XI that was considered unsatisfactory was the clause (Article XI.2(c)(i)) that allowed an exception to the prohibition of nontariff trade barriers in cases where the domestic production of an agricultural product was subject to supply control. Many countries had relied on this clause to restrict imports by quantitative trade barriers when domestic markets were being managed. As it was difficult to monitor the extent to which the domestic supply control was effective, exporters of the products concerned claimed that the import restrictions were in effect the dominant policy rather than just an adjunct to help reinforce the domestic production limits. Examples were quotas on Canadian dairy and poultry imports and those imposed by the United States under Section 22 of the Agricultural Adjustment Act (as amended), which mandated quantitative restrictions on imports of a number of goods when domestic programs were “materially interfered with” by imports.

Another complication related to Article XI was whether a “variable levy” (a tariff that changed fre-

quently depending on the level of import prices, so as to stabilize domestic markets) was an “ordinary customs duty.” If not, then it would have been constrained by Article XI. The European Economic Community (EEC, later the European Union, EU) had built its Common Agricultural Policy on such an import policy instrument. So the question as to whether the EEC was acting within the limits of the GATT was continually raised by exporting countries—though it was never resolved.

In the case of export subsidies, the problems revolved around the ambiguous nature of Article XVI. Though the original GATT article subjected both primary and manufactured product export subsidies to the same notification and consultation procedures, in 1955 it was agreed to add an explicit prohibition on export subsidies on manufactured goods. Agricultural export subsidies were constrained only by the obligation not to use such subsidies to capture “more than an equitable share” of world markets. Successive GATT panels failed to come up with a satisfactory definition of this concept, and agricultural export subsidies in effect escaped any discipline.

The problems that had arisen in the application of Article XX centered on the difficulty posed by the need to distinguish between those measures that were legitimate and effective regulations to protect against disease and those that were largely inspired by the desire to protect the economic interest of domestic producers. The clarification of Article XX was addressed by the Sanitary and Phytosanitary (SPS) Agreement, which was complementary to the URAA. By requiring risk assessment in the case of all health and safety regulations related to trade in plants and animals, the SPS Agreement created a greater degree of accountability. Regulations that are clearly motivated by economic rather than health protection can now be (and have been) challenged in the WTO.

The URAA has rendered the provisions in Article XI regarding supply control moot, as quantitative import restrictions are now prohibited. Similarly, the variable levy is explicitly included in the list of import barriers that are not allowed. By banning new export subsidies and including existing subsidies in

schedules to be reduced, the URAA has largely resolved the issue of the “exception” for primary products. And the constraints on domestic support have had the effect of restricting the ability of countries to reproduce by domestic subsidies the protection levels previously granted by reduced tariffs and export subsidies. Thus the rule changes have to a large extent met the need to incorporate agricultural trade in a rules-based trade system.

The impact that the URAA has had on individual countries varies greatly. All countries converted nontariff barriers to tariffs and bound those tariffs—with the sole exception of rice quotas in Japan and Korea, which were allowed as temporary exceptions. Developing countries were allowed to declare “ceiling bindings” in place of product-by-product calculations of tariff equivalents, however. These ceiling bindings were commonly set at levels up to 100 percent or more, and thus had little impact on the actual level of tariffs used and the degree of market access. Tariffication had more impact in developed countries, where the quantitative restrictions were usually associated with sensitive products. In these cases the degree of market opening depended on the size of the TRQ agreed upon and the administration of that quota. Many countries considered the increased trade generated by the market access provisions of the URAA disappointing, and this increased the pressure for substantial market opening in the Doha Round.

The constraints on export subsidies have generally been successful, in that countries have appeared to stay within their scheduled limits for those subsidies included in their schedules. WTO panels have found (notably in the Canada dairy, U.S. cotton, and EU sugar cases), however, that there have been subsidies that were not included in the schedules, and the panels have declared these to be prohibited. Domestic subsidy constraints have also been generally respected, mainly because domestic policies in developed countries have tended to switch away from Amber Box subsidies. But there is continued concern that such subsidies cause considerable harm to other countries, and this has been confirmed by the panel in the U.S. cotton case.

Agreeing on disciplines on agricultural trade (as well as ending the quota system for textile imports) was a major step in completing the agenda embodied in the GATT of bringing all sectors in goods trade under the same regime. All agricultural tariffs are now bound, though they remain at a level several times higher than for manufactured goods. Nontariff barriers are no longer used, though TRQs still restrict market access. Though it does not directly mandate the type of policy instruments countries can use, the URAA has in effect provided a template for domestic policymakers: if they use WTO-compatible policies for their farm sectors they will be free from the constraints of the URAA. Export subsidies are still used but in much more restricted ways. The agricultural talks in the DDA have attempted to build on the achievements of the URAA.

See also agricultural trade negotiations; agriculture; Doha Round; multilateral trade negotiations; tariff rate quotas; Uruguay Round; World Trade Organization

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TIM JOSLING

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