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Introduction: The Problem of Agricultural Subsidies

Benin

In February of 1968, along with about 25 other young Americans, I arrived in Cotonou, Dahomey, a West African country that subsequently changed its name to Benin. We were there to begin our tours of duty as Peace Corps Volunteers working on various agricultural, educational, and public health programs. I was assigned to the village of Golo Djigbe in the southern part of the country where I worked on a project to introduce low-cost grain storage systems. Maize is the staple crop along much of the West African coast where there is abundant rainfall distributed over two separate seasons so that farmers are able to grow two crops a year. Maize is often grown in conjunction with another staple food, cassava (a starchy tuber also known as manioc, tapioca or, in Latin America, yucca). Farmers typically practice slash-and-burn agriculture which involves cultivation of the same plots for several years without extensive use of fertilizer. When the soil nutrients are exhausted on a particular plot, it is abandoned to natural fallow, a new plot is cleared and the vegetation is burned off. It can take as long as 10 or more years before the soil in the original plot is naturally rejuvenated so that the field can be brought back into cultivation. Most of the food produced is consumed by members of the household itself rather than sold on the market. Because of the humid climate, farmers lose substantial amounts of maize to moisture damage and insects during storage and it was that problem that I and some of my Peace Corps colleagues spent the next several years trying to solve.

Other volunteers were assigned to different projects in the drier regions of Benin where crops such as sorghum, millet, and peanuts were more common than maize. In many of these regions, cotton was becoming an important cash crop. Data on Benin's average annual exports are shown in Table 1.1 for the periods 1968–70 and 2002–4. During the earlier period, palm oil and other

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Table 1.1 Average annual merchandise exports from Benin, 1968–70 and 2002–4 (millions of current US dollars and percentages)

	<i>Total exports, 1968–70 in million \$</i>	<i>% total exports, 1968–70</i>	<i>% agricultural exports 1968–70</i>	<i>Total exports, 2002–4 in million \$</i>	<i>% total exports, 2002–4</i>	<i>% agricultural exports 2002–4</i>
Total merchandise exports	54.8	100.0	–	514.0	100.0	–
Total agricultural exports	22.9	41.8	100.0	223.3	43.4	100.0
Palm and palm kernel products	11.1	20.3	48.5	15.4	3.0	6.7
Cotton and cotton products	4.1	7.5	18.0	166.8	32.5	74.7
Cashew nuts	–	–	–	21.4	4.1	9.6
Karite (sheanuts)	0.7	1.2	2.8	3.5	0.7	1.6
Peanut products	1.0	1.9	4.5	–	–	–

Sources: Food and Agriculture Organization (FAO) at www.faostat.fao.org (FAOSTAT, statistical databases); World Bank (*World Tables*, 1989–90 Edition, Johns Hopkins University Press, Baltimore, 1990); World Trade Organization (WTO, 2007) at www.wto.org; and author's calculations.

products from the oil palm constituted the main export crops. Oil palms are grown in the more humid regions of West Africa where they are a source of products that can be sold for cash and exported as well as used domestically. Palm oil is the basis for the local cuisine in much of southern Benin. Oil palms produce large bunches of small, hard kernels that are like miniature coconuts encased in an oily pulp. The pulp can be pressed for oil (palm oil) as can the kernels (palm kernel oil). Palm oil and palm kernel oil are saturated which limited their use in processed foods until recently when food manufacturers recognized that palm oil could be a relatively healthy alternative to ingredients containing trans fats (partially hydrogenated vegetable oils, for example). Palm kernel oil is used mainly to manufacture soap. In fact, Palmolive soap took its name from the fact that it was originally made from palm and olive oils (About Business and Finance, <http://inventors.about.com/library/inventors/blsoap.htm>). In recent years, demand for palm oil has increased both as a replacement for trans fats in processed foods and as a source of oil for biodiesel fuel (Bradsher, 2008). In its unrefined form, palm oil is fairly

nutritious containing beta-carotene and vitamin E. The sap from oil palms can be tapped and fermented to make palm wine which is drunk directly or distilled to make stronger alcoholic beverages. The Nigerian writer Amos Tutuola tells a fantastic story involving palm wine in his extraordinary novel, *The Palm-Wine Drinkard and his Dead Palm-Wine Tapster in the Dead's Town*.¹

Over the last three decades, oil palm products have been replaced by cotton as Benin's major export crop as shown in Table 1.1. It appears that cotton currently accounts for about a third of Benin's exports, although other sources suggest the proportion is somewhat higher. According to the World Trade Organization (WTO, 1998), 36 percent of Benin's exports in 1996 were re-exports, that is goods destined for other countries that transited through the major port in Cotonou. Using the WTO data for 1996, cotton lint and seed accounted for almost 85 percent of exports of goods produced within Benin and 54 percent of all exports, including re-exports. Any of these estimates of the importance of cotton exports supports the conclusion that cotton has become a key element in Benin's economy. It turns out that similar changes have occurred in other African countries, including Chad, Burkina Faso, and Mali. In 2003, the government of Benin teamed up with the governments of these three countries to submit a proposal for a special initiative on cotton to the Director-General of the WTO (WTO, 2008b). The four African countries pointed to the harm to their cotton industries they believe has been caused by cotton subsidies in the United States and Europe and called for elimination of these subsidies.

The cultivation of cotton in West Africa has a relatively long history. Bassett traces the development of cotton in the region of Korogho in northern Côte d'Ivoire noting that there were thriving indigenous industries devoted to growing and weaving cotton prior to the arrival of French colonialists. According to Bassett (2001), local traders competed vigorously with French colonial officials for the raw cotton destined for both local and European textile industries. Following the Second World War, a French company, the *Compagnie française pour le développement des fibres textiles (CFDT)*, jointly owned by the French government and private French commercial

¹ The central figure in the novel is a young aristocrat who spends his time drinking palm wine brought to him by a servant hired by his father for the specific task of tapping the oil palms and keeping his master constantly supplied with palm wine. One day, the tapster falls from the tree and dies. The young man then sets off to the land of the dead to find his tapster and bring him back to continue supplying him his palm wine. The main part of the story concerns the adventures the young man has in the land of the dead including encounters with all kinds of ghosts and incredible creatures.

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interests, began actively promoting new cotton varieties and cultivation techniques in Africa (Bassett, p. 176).² With the help of the colonial governments in French West Africa and French Equatorial Africa, the CFDT was able to establish vertically integrated monopolies that controlled the supply and distribution of seed and other inputs, the ginning (separating the cotton fibers from the seeds) and commercialization of harvested cotton, and research on new varieties and technologies in most of the French colonies in Africa (Bassett, p. 176).

In 1958, French President Charles de Gaulle organized a referendum in France's African colonies on the question of independence. The French government was proposing that the colonies maintain an association with France until 1960 when they would be granted full independence. Guinea was the only colony to vote for immediate independence, angering the French who withdrew support for the newly independent country (World Bank, 2008a). Benin, along with seven other former French colonies in West Africa, duly achieved independence in 1960. As was the case in several of the new countries, a state-owned cotton monopoly was eventually established in Benin. The Société nationale pour la promotion agricole (SONAPRA) maintained the vertically integrated structure that had been developed by the CFDT prior to independence. On some accounts, the national cotton monopolies were often quite effective at expanding production and this was certainly the case in Benin where cotton production has increased from an average of 3,400 metric tons per year in the 1960s to more than 150,000 metric tons per year since 2000 (World Bank, 2002 and FAOSTAT).

The first decade of Benin's independence was characterized by extreme political instability:

During the nine years between 1963 and 1972 there were six military coups d'état in Dahomey. Prior to this, during the six years between 1957 and 1963, there had been nine different civilian governments, each the result of civilian seizure of power in the form of elections or coalitions (Ronen, 1975, p. 187).

One reason for this political turmoil was the fact that the Beninese had shown themselves to be particularly adept at colonial administration and had been posted by the French colonial authorities throughout West Africa. With

² In 2001, the CFDT was renamed DAGRIS (Développement des Agro-industries du Sud). The French government no longer participates in the company which continues to trade cotton and oilseeds. See <http://www.dagris.fr/> <http://r0.unctad.org/infocomm/anglais/cotton/companies.htm>.

independence, the Beninese bureaucrats were replaced by citizens of the new countries and forced to return to Benin which wound up with large numbers of unemployed civil servants. Another reason was the significant regional and ethnic division in this small country. Benin has a surface area about the same as that of Pennsylvania but with more than 20 ethnic groups speaking different, although sometimes related, languages (Ronen, p. 5). Substantial linguistic and cultural differences prevailed between the northern and southern parts of the country and there were historic inter-ethnic animosities due to centuries of war and the participation of certain ethnic groups in the European slave trade.³ Citizens of the new country had little reason to view themselves as participants in a common national project.

At independence, three aspirants to national leadership had emerged each with a base in a particular region of the country. Hubert Maga from the north, Sourou Migan Apithy from the area around the capital of Porto Novo in Southeastern Benin, and Justin Ahomadegbe from the dominant southern ethnic group, the Fon, each took a turn as president of the country in the aftermath of successive coups, finally joining together in a Presidential Council in 1970.⁴ This arrangement, which specified that each would serve successive two-year terms as head of the Council, lasted through the first rotation when Ahomadegbe succeeded Maga as Council head in May 1972 (Ronen). Shortly thereafter, a new political figure, army Major Mathieu Kérékou, emerged to stage another coup d'état and put an end to the political instability that had come to characterize the country. Kérékou was to remain in power for the next 17 years, a truly remarkable accomplishment in a country that had previously changed governments almost every other year.

In 1974, Kérékou ushered in a shift in economic policy and, in 1975, a change in the country's name to the République Populaire du Bénin or People's Republic of Benin (Westebbe, 1994, p. 82). The Marxist-Leninist policy orientation initiated at this time meant state control of most economic activity including state-owned sugar and cement complexes, public monopolies for export products, and state farms (Westebbe, p. 82). It also meant the termination of the Peace Corps' grain storage program on which I had worked in line with a common worry in socialist states about hoarding in the countryside. Socialist

³ The southern coast of West Africa was traditionally divided into sections corresponding to major commodity exports—ivory, gold, and slaves—along the different parts of the coast. Today, the country of Côte d'Ivoire (Ivory Coast) retains one of these names while the British colony known as the Gold Coast is part of the nation of Ghana. Because of the large number of slaves taken from Togo and Benin, that stretch of coastline was known as the slave coast.

⁴ In addition to several interim governments led by military officers, another civilian leader, Emile Zinsou, held the presidency from 1968 to 1969 (Ronen, p. 249).

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development strategies were quite common during the 1970s and 1980s throughout Africa, Asia, and Latin America. In addition to state-owned enterprises, such strategies usually included overvalued exchange rates, expansionary monetary policies, protectionist trade policies, and large government bureaucracies. These policies invariably led to debt problems and balance of payments crises. Since independence, Benin has been a member of the West African Economic and Monetary Union (UEMOA).⁵ This monetary union has a common currency, the CFA franc,⁶ backed by the French Treasury. As a result, Benin's currency was less overvalued and inflationary monetary policies were less prevalent than was the case in many other developing countries. In other respects, however, Benin's economic policies were fairly typical.

Benin is a poor country with per capita income of about \$570 in 2007 (World Bank 2008b) and per capita income growth rates less than 1 percent per year prior to 1990 (UNDP, 2008). Its rank on the UNDP Human Development Index for 2007 was 163 out of 177 countries. Benin experienced fairly strong economic growth in the 1970s as a result of investment in new industries (sugar and cement), high commodity prices, foreign borrowing (the 1970s were characterized by very low real interest rates), and development of Benin's re-exportation activities (Westebbe, p. 84). The transit trade was encouraged by the petroleum boom in Nigeria and the discovery and commercialization of uranium in landlocked Niger to the north. Economic prosperity was short-lived, however, as international inflation rates subsided, commodity prices stagnated, and interest rates began to rise. As the economic crisis became more severe, the Kérékou government encountered increasing difficulty in paying its employees. In 1989, the government agreed to economic policy reforms in return for financial support from the World Bank and

⁵ Originally, the Union monétaire ouest-africaine, UMOA, it became the Union économique et monétaire ouest-africaine, UEMOA, in 1994 (www.izf.net/IZF/FicheIdentite/UEMOA.htm).

⁶ The initials "CFA" originally stood for Colonies françaises d'Afrique. Following independence, its meaning was changed to Communauté financière d'Afrique. From 1960 until 1994, the CFA franc had a fixed exchange rate with the French franc of 50 CFA francs equal to one French franc. In 1994, the CFA franc was devalued to 100 CFA francs equal to one French franc. In 1999, the euro was introduced as the common currency among some members of the European Union (EU). The French franc disappeared at that time but France and the EU continue to guarantee the CFA franc used in West Africa as well as the CFA franc in circulation in six Central African countries (Gabon, Equatorial Guinea, Central African Republic, Chad, Cameroon, and Republic of Congo). The CFA franc is now in a fixed parity with the euro based on the euro/French franc conversion rate at the time the euro was introduced. This works out as 665.957 CFA francs to the euro (<http://www.un.org/ecosocdev/geninfo/afrec/subjindx/124euro3.htm>).

the International Monetary Fund (IMF). Westebbe argues that these reforms undermined the ability of politicians in Benin to enrich themselves at the expense of the general public leading to political reforms and democratic elections in 1991. In the 1991 elections, Kérékou was defeated by Nicephore Soglo but was returned to office in 1996 and again in 2001. Yayi Boni, was elected president in 2006 (Infoplease).

Western Agricultural Subsidies

At independence, most African states were led by nationalist politicians who had spent many years working for independence and were democratically elected. In some cases, the regimes became authoritarian and nepotism and corruption were common. Disillusion with the initial wave of democratically elected, civilian governments gave rise to military takeovers and by the 1970s many African states were headed by military dictators or one-party governments. Financial crises in the 1980s and the discrediting of socialist development models following the collapse of the Soviet Union led to widespread rejection of the authoritarian, one-party states and military dictatorships in Africa. Widner (1994) notes that about half the countries in sub-Saharan Africa moved toward multi-party democracies in the period 1989–92. Benin was one of the first sub-Saharan African countries to make this transition and has been one of the more successful of the new African democracies having held a series of free and fair elections that led to peaceful changes in the elected leaders. The government of Benin has abandoned its Marxist–Leninist approach to development, embracing democratic politics and free-market economics. Major reforms are underway in Benin’s cotton sector focusing primarily on the transfer of SONAPRA’s economic activities to firms in the private sector. In 1994, the CFA franc was devalued making cotton and other exports from countries in the UEMOA less expensive on the world market.

According to some observers, however, these progressive moves risk being undermined by the agricultural policies pursued in wealthy countries. Agricultural subsidies encourage production in the industrialized countries and this extra output is sold on world markets where it depresses the prices received by unsubsidized farmers in low-income countries. U.S. cotton subsidies reached \$3 billion in 2001 and totaled more than \$19 billion over the period 1995 to 2005 (Environmental Working Group). In 2002, Benin’s gross domestic product (GDP) was \$2.7 billion compared with \$2.4 billion in U.S. cotton subsidies for that year. According to the Environmental Working Group (EWG), 85 percent of U.S. cotton subsidies are distributed among only 25,000 cotton farmers (see also Oxfam International, 2002). With annual U.S. subsidies

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averaging about \$2.3 billion over the period 2000–4, this translates into an annual transfer on the order of \$78,000 per cotton farmer. Compare this with per capita GDP in Benin of \$400–\$500 per year. According to a study by the IMF (2004), costs of producing cotton in Benin are lower than many other countries and only about half the cost of production in the United States. This suggests that without the subsidies, U.S. cotton exports would not be competitive with those of Benin and many other cotton producers.

In 2002, Brazil filed a dispute settlement case with the WTO, claiming that U.S. cotton subsidies violated U.S. commitments under the WTO Agreement on Agriculture. As noted earlier, Benin, Mali, Chad, and Burkina Faso successfully petitioned the WTO in 2003 for the creation of a cotton initiative with the goal of eliminating cotton subsidies in high-income countries. Several economic studies were done around this time in an effort to measure the precise impact of the subsidies being challenged by Brazil and the African countries. Sumner (2008a,b) estimated that world cotton prices over the period 1999–2002 would have been almost 13 percent higher if there had been no U.S. cotton subsidies.⁷ He argued further that an increase in world prices of this magnitude would have a significant impact on poverty reduction and the economic well-being of cotton growers in low-income countries (see also Dugger, 2007). Several other studies came to similar conclusions (Gillson *et al.*, 2004; Baffes, 2005). On the other hand, Shepherd (2004) reports results of a statistical analysis that show limited effects of U.S. subsidies on world cotton prices. Another study found that the price increase following the elimination of U.S. subsidies would be substantially less than predicted by Sumner and the increase would be eroded fairly quickly as farmers expand production in response to the higher prices (Pan *et al.*, 2004).

Although there is disagreement about some of the details, most analysts appear to concur that cotton subsidies in the industrialized countries have depressed world prices at least to some extent. This is also the consensus of those publishing less formal analyses (Oxfam, 2002; FAO, 2004; de Rato, 2005). In addition, there is some evidence that lower world cotton prices have a negative impact on the economic well-being of rural people in low-income, cotton-exporting countries. Minot and Daniels (2002) use a farm-level survey to model the impact of a decline in cotton prices on rural poverty in Benin, finding that a 40 percent decline in cotton prices would lead to a fall in rural per capita income of 5–7 percent and a substantial increase in rural poverty.

⁷ Sumner conducted his analysis as background for Brazil's case before the WTO. One version of the analysis was submitted to the WTO dispute resolution panel for Brazil's cotton case as Annex I. Annex I and another unpublished version of the study are available at the internet addresses listed in the references.

Between 2000 and 2002, world cotton prices fell by more than 20 percent (IMF, 2008). The IMF (2004) study of Benin's cotton sector also concludes that elimination of cotton subsidies would make a significant contribution to poverty reduction and increased farm income. Boccanfuso and Savard (2007) found that the elimination of cotton subsidies would also reduce poverty significantly in Mali.

It is not just small African countries that may be harmed by agricultural subsidies. In the early 1990s, many countries in Latin America and Asia embraced globalization and free-market trade policies in the hope that these strategies would finally bring the economic prosperity that had so long eluded them. The newfound enthusiasm for trade and globalization in Latin America followed a long period during which Latin American countries had pioneered the kinds of socialist development strategies noted above, including protectionism, overvalued exchange rates, loose monetary policy, and government budget deficits. These policies combined with worldwide inflation, low interest rates, and other global developments in the 1970s and 1980s led to the severe Latin American debt crises of the 1980s. The international community agreed to reschedule or cancel much of that debt but demanded that extensive policy reform, referred to as structural adjustment programs (SAP), be undertaken to avoid a repeat of these problems. The SAP generally included currency devaluation, reductions in government spending, tight monetary policies, and trade liberalization. The rationale for these measures is often referred to as the "Washington consensus" because of the role in their implementation played by the World Bank and IMF, both located in Washington, DC. In the 1990s, Latin American governments began to take more active roles in carrying out the new policy orientation. Mexico joined the United States and Canada in the North American Free Trade Agreement (NAFTA) in 1994 and Argentina, Brazil, Paraguay, and Uruguay expanded their 1991 trade pact known as MERCOSUR (MERCOSUL in Brazil), the southern cone common market. Other Latin American countries entered into trade agreements and many of the former autocratic regimes were replaced with democratically elected governments.

Less than a decade later, the enthusiasm for globalization and free trade in Latin America evaporated as first Brazil and then Argentina began to experience financial strains and reduced standards of living (*The Economist*, May 20, 2006). Since 2000, several left-wing governments have taken power in Latin America and there appears to be widespread skepticism about the benefits of the Washington consensus, now frequently referred to as "neoliberalism," a term that is meant to be derogatory. Whether this skepticism is warranted or not will be hotly debated for many years to come. For many economists, the problems in Latin America and other developing countries do

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not stem from globalization as such but rather from poor policy decisions by governments in both the industrialized and developing countries as well as by the World Bank and the IMF. Joseph Stiglitz, one of the winners of the 2001 Nobel Prize in economics, has argued quite forcefully that unthinking application by the World Bank, IMF, and some Western governments of policies based on trade liberalization and fiscal and monetary austerity in countries that lack the legal institutions needed for markets to function effectively has caused untold damage to people in low-income countries (Stiglitz, 2003). The financial crisis in Argentina was exacerbated by decisions in the United States as well as some of the policies of the Argentine government itself. From this perspective, globalization is not the cause of economic stagnation in low-income countries and, in fact, can be a force for economic growth and development if managed appropriately. The problem is to discover how to avoid the policy mistakes that compromise the ability of all countries to take advantage of the beneficial aspects of globalization.

Agricultural subsidies in high-income countries are considered by many to be one of the worst of these policy errors reducing the benefits to low-income countries of actively participating in world trade. The editorial page of the *New York Times* has been quite outspoken on the immorality of farm subsidies in the United States, the European Union (EU), and other high-income countries.⁸ Articles in the *Washington Post* have drawn attention to the cost of farm programs and a 2008 public television broadcast of Bill Moyers Journal focused on the impact of these programs on U.S. taxpayers and world hunger (Morgan, 1979; Bill Moyers Journal, 2008). The charitable development organization, Oxfam International, has also weighed in with extensive criticisms of U.S. and EU agricultural policies.⁹ As noted in the Prologue to this volume, it was widely reported at the 2002 World Food Summit in Rome that the wealthy countries are spending a billion dollars a day to subsidize their farmers with disastrous effects on farmers in low-income countries.

These criticisms have not remained empty intellectual exercises. In September 2004, the WTO ruled in favor of Brazil's complaint about U.S. cotton subsidies. The United States modified some of the offending policies while it appealed the WTO decision. In June of 2008, the appeals process reached its conclusion with most of the original ruling upheld. This left the

⁸ See, for example, "The Hypocrisy of Farm Subsidies," December 1, 2002; "The Case Against King Cotton," December 7, 2003; "Those Illegal Farm Subsidies," April 28, 2004, or "Cow Politics," October 27, 2005; all from the editorial pages of the *New York Times*.

⁹ Among many others, see "The Great EU Sugar Scam," August 6, 2004; "Cultivating Poverty: The Impact of US Cotton Subsidies on Africa," September 25, 2002; "A Little Blue Lie: Harmful Subsidies Need to be Reduced not Redefined," July 21, 2005; all available at www.oxfam.org.

United States with a choice between modifying its cotton policies in a way that would satisfy Brazil or doing nothing which would mean that the WTO would give Brazil the green light to impose retaliatory trade barriers on U.S. products (WTO, 2008c). In August 2004, the WTO established a cotton sub-committee in response to the proposal by the four African countries, and the Doha Development Round of WTO trade negotiations that began in 2001 has included much discussion aimed at reducing agricultural subsidies and other barriers to trade in agricultural goods.

There has also been serious discussion in the high-income countries themselves about the desirability of costly subsidies that often seem to have more to do with pork-barrel politics than saving family farms. Some have suggested that the farm subsidies actually are of greater benefit to large agribusinesses than to U.S. or European farmers, although it is likely that some of these farmers would go out of business without the subsidies. In June 2007, the EWG published the names of all the recipients of U.S. government subsidy payments from 2003 to 2005 on its website. Many of the beneficiaries listed in the EWG database turned out to be wealthy individuals with fairly tenuous connections to farming (see Berga, 2007). The story about rich Americans who receive agricultural subsidies created something of a furor and was picked up by numerous media outlets across the country (EWG, 2007). The overall tone of this discussion was highly critical of U.S. farm programs.

Assessing the actual impact of agricultural subsidies in wealthy countries on the poor who live in low-income countries is not simple. As in the case of the impact of U.S. cotton subsidies on world cotton prices, analysts often come to different conclusions about the precise effect such subsidies have on world agricultural markets. In addition, even if one accepts that the additional output induced by the subsidies depresses world prices, such an outcome may not be detrimental to all people living in low-income countries. On average, Nigerians spend 75 percent of their income on food (ERS, 2008e). Low-income households in Nigeria, a country that is a net importer of food, may actually benefit from the lower food prices caused by Western agricultural subsidies. Of course, one reason a country like Nigeria imports much of its food is that its government has traditionally pursued cheap food policies that result in low food prices. These low prices in turn discourage Nigerian farmers from adopting new technologies that would make the country's agricultural sector more productive and the country less dependent on imported food. Moreover, if the goal is to provide low-cost food to poor consumers in developing countries, direct cash transfers would be a more efficient way to achieve this result than to subsidize farmers in wealthy countries. Nevertheless, the fact that farm subsidies may give rise to positive effects that offset some of their negative consequences will need to be kept in mind in assessing these policies.

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So far, I have not defined the subsidies that have been the object of so much criticism. As will become evident when we examine the OECD data on agricultural subsidies in greater detail in a later chapter, deciding just what constitutes a subsidy and what does not is not without controversy. A clear understanding of the nature and scope of these subsidies is needed, however, to assess their impact, in both low-income countries and in the wealthy countries themselves, and to investigate the reasons why governments have elected to establish costly agricultural policy mechanisms in the first place. For the time being, let us define an agricultural subsidy as any government intervention that causes agricultural prices, firm revenues, or farm household incomes to differ from what they would be in the absence of the intervention. Some subsidies involve direct government payments. In the United States, for example, the government has provided a supplement to the market price (known as a loan deficiency payment) so that farmers may receive a final price higher than the market price. The higher price encourages them to produce more, depressing the market price and widening the gap between that price and the price received by the farmer. In the absence of this program, there would be only one price which would fall between the depressed market price and the subsidized price received by farmers. The gap between the two prices is financed by the government using revenue from taxpayers to write the checks.

In other cases, the subsidy is financed by consumers rather than taxpayers. This is the case when trade barriers such as import tariffs or customs duties are applied to imported goods so that their price within the country is higher than the world price. U.S. trade barriers on imported sugar raise the U.S. price well above the world price, protecting U.S. sugar producers from foreign competition. In this book, farm subsidies are understood to include both those financed through the government budget and those that are supported by real or implicit taxes on traded goods. Not all subsidies are directed exclusively at producers, however. Low-income countries often use subsidies to lower food prices as does the United States with its food stamp program. It turns out that the suggestion that the wealthy countries are spending a billion dollars a day on agricultural subsidies is based on the inclusion of food stamps, publicly supported agricultural research, and other similar programs as well as trade barriers and programs aimed more directly at farmers. On the other hand, the subsidies reported by the Environmental Working Group, the \$19 billion in cotton subsidies over the period 1995 to 2005 noted earlier, for example, include only government expenditures on producer subsidies, excluding subsidies created by trade barriers as well as such subsidies as food stamps and publicly funded research. The purpose of this book is to develop as clear a picture as possible of the nature and effects of the farm subsidies that have

become such an important public policy issue, as well as to critically assess the justifications offered in support of these policies and the arguments against them.

Organization of the Book

Accomplishing these goals will require substantial background information as a basis for a more detailed examination of the problem. The next three chapters are designed to provide that information. Chapter 2 is a review of some basic economic arguments concerning government intervention in markets. Its main purpose is to introduce some technical concepts and terminology that will facilitate subsequent discussions. In general, economists believe that prices act as signals that influence individual decisions and that the best decisions are made if prices are not distorted by government policy interventions or by other types of market imperfections. A case can be made for government intervention if there is a market failure, that is, a situation which leads to prices that do not accurately reflect the underlying costs and benefits associated with a particular good or service. Economic reasoning provides a justification for government intervention only in these special circumstances and one of the objectives of Chapter 2 is to provide a foundation for studying the extent to which actual farm policies are consistent with such justifications.

Chapter 3 describes the structure of the world food system including the production, exchange, and consumption of food throughout the world. Over the past 200 years, Malthus's predictions that population growth would outstrip increases in food production have turned out to be completely wrong. Because of technological advances, there is more food available today, on average, for each person on earth than at any previous time in history. The stupendous increases in food production have occurred as world population has more than sextupled, increasing from around a billion at the time Malthus wrote his *Essay on the Principle of Population* in 1798, to more than 6.5 billion in 2006. Despite the fact that more than enough food is produced each year to feed everyone adequately, some 854 million people, about 13 percent of the world population, are undernourished (FAO, 2006). While food production has been increasing around the world, the ways in which agricultural products are processed, traded, and consumed have also evolved. Complex global interconnections call into question food and agricultural policies that have been driven primarily by domestic concerns and that were initiated in a substantially different economic setting. In Chapter 4, the implications of globalization for food and agriculture are examined with particular attention

to the role of the WTO in dealing with broad international trade policies and disputes over national agricultural policies that have an impact on trade.

The next part of the book is devoted to a detailed examination of the agricultural subsidies described in the OECD database. Chapter 5 identifies broad subsidy categories and presents summary statistics on the amounts spent by OECD member states either through government transfers directly to producers and consumers or through import barriers that drive a wedge between domestic and world prices. The next three chapters discuss the agricultural policies of some of the central parties to this debate, the United States, the European Union, and the Pacific Rim countries of Japan, Korea, Australia, and New Zealand. Each chapter contains a brief history of agricultural policy in the country or region under review along with descriptions of the types of policy mechanisms chosen and special political and philosophical perspectives that condition the country's approach to food and agriculture. Agricultural policies in low-income countries are the subject of Chapter 9 in which a distinction is made between developing countries that are major exporters of food and agricultural products and those that are importers.

The final chapter summarizes what has been learned about this issue and draws out the implications of these results for public policy and the debate about farm subsidies. Although there is wide variation in the estimated impacts of eliminating farm subsidies, most analysts find that the net effect of such a change would be positive. The political impediments to agricultural policy reform are formidable, however, and it is not clear that politicians in wealthy countries will be able to muster the strength to overcome the opposition. The ethical dilemma, of course, is that wealthy countries with the means to find other ways to provide social insurance to their vulnerable farmers have chosen methods that shift the burden onto the shoulders of poor farmers in low-income countries. It is worth noting that the agricultural policy debate has changed substantially in the past 15 years. Previously, belief in the virtues of family farmers coupled with the sense that these hard-working individuals are generally less well-off than others have made farm policies a kind of, with apologies, sacred cow in many industrialized countries. As the industrialization of the farm sector becomes more evident in the high-income countries, it is more difficult to maintain the myth of poor, hard-working farmers deserving of special protection even if that protection comes at the expense of poor farmers in developing countries and consumers and taxpayers in the wealthy countries themselves. This book will provide a basis for evaluating arguments for and against farm subsidies highlighting the economic and political realities that are at the base of current agricultural policies.