

Farm support policies of the United States: Review and prospects for minimizing production and trade distortions

David Orden and David Blandford¹

Introduction

The adverse effect of agricultural support and protection in developed countries on agricultural production and the prospects for alleviating rural poverty in developing countries is internationally contentious. The difficulty of coordinating developed-country commitments to reduce agricultural support and border protection has been central to a stalemate in the Doha Development Agenda (Doha Round) World Trade Organization (WTO) negotiations. The benefits of such commitments would be to reduce distortions in world market prices, eliminate subsidized exports, and expand market opportunities for low-cost developing-country and other agricultural producers.

This chapter provides a review of the farm support policies of the United States from the creation of the WTO in 1995 through the five-year U.S. “farm bill” enacted in June 2008, which specifies planned support policies through 2012. The first purpose of the chapter is to describe the evolving objectives and instruments of key farm programs and sources of policy change and continuity in the United States. The second purpose is to review the various policies in light of available assessments

¹ David Orden is Senior Research fellow at the International Food Policy Research Institute (IFPRI), and director of the Global Issues Initiative, Institute for Society, Culture and Environment at Virginia Polytechnic Institute and State University (Virginia Tech) (e-mail: d.orden@cgiar.org); David Blandford is Professor at the Department of Agricultural Economics and Rural Sociology, The Pennsylvania State University (e-mail: dblandford@psu.edu).

of the extent of the distortions they create, discuss likely future policy directions, and examine what opportunities exist for moving towards less distortive policy.

The chapter is organized as follows. In the next section we outline the rationale and goals of U.S. farm programs to provide context for the subsequent analysis and conclusions. In a third section, we focus on the farm support policies that have been articulated in the three U.S. farm bills enacted since 1996, concentrating on the Food, Conservation and Security (FCE) Act of 2008. We highlight three policy components and their shifting relative importance over time: commodity price and income support, long-term land idling and other conservation and environmental (agri-environmental) programs, and crop and revenue insurance and disaster relief. The patterns of expenditures on these programs during 1995-2007 are summarized using U.S. notifications of domestic support to the WTO. Section four turns to assessments of the impacts of U.S. farm policies, particularly the degree to which certain commodity-related policies create distortions in production and trade. We briefly examine policies aimed at increasing productivity and achieving environmental goals, whose effects are related to those of the commodity programs. We also highlight the effects on production and trade of tax credits and mandates for the production of biofuels. These policies are largely outside WTO disciplines on farm support and their effects on world markets are quite different from the support programs that have been the center of attention in the Doha Round and related policy debate of the last eight years.

A final section brings these threads together in a forward-looking manner. We examine whether the draft December 2008 Doha Round modalities for domestic support might constrain expenditures on some of the most market-distorting U.S. policies, including an optional new state revenue guarantee program (ACRE) enacted in 2008. We are realistic in noting limitations in the design and effectiveness of WTO rules, recognizing that the United States will inevitably continue to devote public resources to the support of agriculture. We discuss the political economy of U.S. farm policy in the context of a bipartisan consensus to provide a safety net for farmers and examine some options for moving toward less distorting support.

3.1 Rationale and goals of U.S. policies

The underlying rationale and specific goals of agricultural support policies in the United States have long been subject to political debate. This policy churn is reflected in multi-year farm support legislation, nearly annual decision reconsiderations by Congress, and continuous adjustments to program administration by executive branch agencies. The most recent farm bill was incubated in the legislative process for more than two years and the final act runs to nearly 700 pages.

The degree of consensus reached about farm policy can be glimpsed in the 2008 election-year national platforms of the Democratic and Republican parties. The Democrats titled their agricultural plank “Real Leadership for Rural America” and the Republicans “Supporting our Agricultural Communities.” These planks shared several core themes. The Democrats called for a “strong safety net for family farms;” the Republicans for a “sensible economic safety net for farmers.” The Democrats noted American farmers’ unrivaled capacity to produce and called for “expansion of agricultural research;” the Republicans argued that farmers must have the technology to generate higher yields with fewer inputs and that “USDA must remain the international leader in agricultural research.”

Beyond these two common touchstones of providing a safety net and investing in agricultural research, the two statements diverged in ways both specific to agriculture and reflecting ideological differences. The Democrats highlighted supportive government interventions (promoting economic development and investing in renewable energy, infrastructure and schools). The Republicans promised non-intrusive government (opposition to inheritance taxes and heavy-handed mandates while supporting incentives for conservation). The Democrats promised to balance an emphasis on agricultural trade with policies that “promote sustainable and local agriculture.” The Republicans asserted that agriculture should meet the surging demand for food and biofuels but also that the government should “end mandates for ethanol and let the free market work.”

Gardner (2002) articulates the conceptual and historical framework that underpins these centrist but differing party platforms. He traces two fundamental developments of American agriculture in the 20th century: the evolution of production agriculture as an enterprise and the evolution of farm household incomes. He argues that the driving force that explains agriculture’s development is a quadrupling of multifactor productivity growth from about 0.4 percent annually before the mid 1930s. The long-term decline in real agricultural prices attributable to the subsequent more rapid technical change has had many benefits but has also caused many difficult adjustments. Gardner traces the consequent developments through a declining number and increased size of farms, decreased labor use, and increasing concentration of production. He describes agriculture as a production enterprise that became more divergent, not more convergent, over the 20th century. But not so for farm household incomes, where the data suggest convergence to nonfarm incomes and increased equality among farm households within and across regions.

The virtue of taking a long-term view is evident in Gardner’s analysis. The pervasiveness of government involvement in the agricultural economy emerges through infrastructure investments, research, taxation, and numerous dimensions of market regulation. Gardner provides positive assessments of the emergence and impacts of these policies but is critical of the distortionary effects of interventions to

support product prices, which he calls a “more nakedly political area of agricultural policy.” He concludes tentatively that the case is not strong that enhanced productivity growth was an outcome of the commodity market interventions whose effects he criticizes.

Gardner’s far-reaching assessment of the transformation of American agriculture over the past century provides the intellectual foundation that undergirds centrist arguments on the objectives of current U.S. policy. Yet, there remain competing visions of the technologies and behaviors that will emerge to address modern health, energy and climate challenges². Shorter-term agricultural policy operates in this context of unknown developments that are likely to prove as far reaching in the 21st century as those of the previous one.

3.2 Specific policy components

The modernization of American agriculture has created a trimodal farm sector. A small number of highly-efficient commercial farms produce the bulk of food and fiber; small farms account for most of the enumerated units but only a small share of output; and a group of mid-sized farms are caught in the dynamics of modernization. American agriculture is also trimodal in terms of the protection and support it receives from government. A few commodities are highly protected by tariffs and import restrictions (dairy, sugar, peanuts, and tobacco). Another group of commodities receives most of the subsidy payments (grains, oilseeds, and cotton). A third group of commodities (fruits and vegetables, livestock, and poultry) receives relatively little protection or government support.

Reforms of U.S. farm policy have been undertaken as production and the income of farmers have undergone change. The basic direction of reform has been a shift away from supply controls combined with prices supported above market-clearing levels to less supply intervention and more direct income support, at least for crops that are exported. Support payments increased from less than 6 percent of farm income in the 1950s to more than 20 percent in the 1960s, but farm programs remained dependent on idling land to control supply and boost market prices. A global market boom briefly eliminated many government interventions in commodity markets in the early 1970s, but farm support proved impossible to terminate in the inflationary era that followed. A second shift came in the mid-1980s, when payments that required production but were based on fixed area and yields were again offered to farmers in lieu of higher prices.

² A broad critique of modern agriculture is laid out by Pollan (2008). “Whatever we may have liked about the era of cheap, oil-based food” he writes, “it is drawing to a close.” He calls his big idea to replace it with “energy of the sun.” Essentially, Pollan argues for reversing the transformation from a solar-based to fossil-fuel-based agriculture that Gardner concludes is basically a story of success over the 20th century.

The 1996 Federal Agriculture Reform and Improvement (FAIR) Act initiated three additional changes in U.S. farm support programs for wheat, feedgrains, oilseeds, cotton, and rice. Farmers who received government support were given the flexibility to plant whatever crops they chose (except for most fruits and vegetables) on their base acreage³. The authority of the U.S. Department of Agriculture (USDA) to require annual idling of acreage to limit crop supplies was terminated. Farmers received fixed income transfers, known as production flexibility contract (PFC) payments, which were based on past production and independent of current market prices. These fixed direct payments replaced the earlier deficiency payments that had required production of the crop on which they were made. By 1996, mechanisms had also been put in place that allowed farmers to receive a cash payment for most supported crops when prices fell below levels guaranteed by commodity loan rates. Farmers received these cash payments instead of forfeiting their crops into government-owned storage. Thus loan rates continued to support prices for producers, but market prices were freed from a floor level and the government was extricated from cumbersome commodity stockpiling.

Changes to farm policy in 1996 moved further in the direction of providing direct income transfers instead of using land idling or government stockholding to keep prices above free-market-clearing levels. An upward spike in crop prices in 1995-1996 helped prompt the reforms but as prices fell sharply starting in 1997 the combination of PFC payments and the built-in expenditures for loan-rate price guarantees under the FAIR Act provided less support to farmers than would have been the case under earlier programs. Congress stepped in with “emergency” legislation, providing supplemental annual crop market loss assistance (MLA) payments, and new disaster relief and crop and revenue insurance subsidies.

The next farm bill, the Farm Security and Rural Investment (FSRI) Act of 2002, was written with farm commodity prices still low. This Act took few constructive steps toward the reduction of subsidies. MLA payments were institutionalized as countercyclical payments based on target prices, but farmers retained the planting flexibility legislated in 1996. As a result, payments were more decoupled from production decisions than in earlier legislation under which production of specific crops was required.

3.2.1 Buyouts as a reform mechanism

A more radical policy reform option in the form of buyouts (Orden, Paarlberg and

³ Base acreage refers to the acreage on which payment eligibility is determined; deficiency payments refer to subsidies provided on a fixed amount of base-acre output when market prices are below a legislated target price, and loan rates refer to price guarantees for all output of the covered commodities. The 1990 farm bill provided limited flexibility under which farmers could shift part of their base acreage among crops without that land permanently losing payments eligibility, but deficiency payments were suspended on that acreage during years when alternative crops were grown.

Roe 1999) has been used for peanuts and tobacco. These commodities provide evidence about the conditions conducive to a buyout and its cost. Restructuring of the peanut program in the FSRI Act included a buyout of production quota rights and lower prices for the edible-peanut domestic market, together with new fixed direct and countercyclical payments and a higher loan rate for previously non-quota peanuts used in processing or exported. A tobacco buyout under separate legislation in 2004 ended production quotas and completely eliminated price support without implementing new payment mechanisms.

The peanut and tobacco buyout payments have provided quite lucrative compensation, especially given the declining benefits to quota owners that triggered the reforms. For peanuts, buyout payments of \$0.55 per pound of existing uota were equivalent to an average of past rental payments, discounted at a 5 percent rate, for a period of 24 years (Orden 2007). Payments to quota owners for flue-cured and burley tobacco were equivalent to discounted average quota rental payments for 15-20 years. The buyout payments exceeded these potential future payment streams to the extent that domestic prices or the quantities eligible for the peanut or tobacco quotas under the earlier programs would have declined under their continuation.

3.2.2 Conservation and environmental programs

Conservation and environmental programs play an important role in U.S. agricultural production decisions. The United States has enacted conservation-oriented land idling as a supply control measure during times of low prices (the 1930s, the 1960s, and again in 1985) and let these programs expire when market demand was relatively strong. The Conservation Reserve Program (CRP) enacted in 1985 has a supply-depressing effect as well as providing environmental benefits. It is estimated that roughly two-thirds of the enrolled acreage would return to crop production if the program were ended (Heimlich 2006). The FSRI Act raised the authority for the CRP to 39.2 million acres, compared with 36.4 million under the FAIR Act. Other agri-environmental programs offer technical assistance, cost sharing, and incentive payments to assist livestock and crop producers whose resources remain in production.

There have been several refinements in the implementation of agri-environmental programs and a shift in policy objectives over time (Cox 2007). Modifications mirror the movement toward less intrusive commodity support programs. Land idling has become more targeted toward acreage that provides identifiable environmental benefits. There has been a shift from on-farm productivity-enhancing conservation measures toward managing off-farm environmental damage and promoting off-farm environmental benefits. These reforms increase the efficiency of agri-environmental programs and limit production distortions. Estimates are that non-market benefits from the CRP, primarily from improved water quality and

wildlife habitat, roughly equal the direct cost of the payments made to landowners (Heimlich 2007). Still, just as commodity program reform has not brought an end to the government's involvement in providing support to producers of the basic crops, in the conservation and environmental area farmers continue to receive preferential treatment (Kuminoff 2006) through exemptions from environmental regulations, substantial expenditures through voluntary incentive-based programs to address adverse environmental impacts of production, and paid idling of nearly one-tenth of U.S. crop acreage. Critics of the U.S. agri-environmental programs (e.g. Heimlich, Cox and Kuminoff) argue that they have not been reformed enough to increase cost effectiveness and environmental gains.

3.2.3 Crop and revenue insurance and disaster relief

A third key dimension of support for U.S. agriculture arises from subsidized crop and revenue insurance and annual disaster relief assistance. These subsidies and assistance are targeted toward risk-sharing related to localized adverse within-year shocks to yields or revenue. In the mid 1980s, crop insurance subsidies averaged less than \$500 million annually even while commodity support expenditures rose dramatically and the CRP was launched with a goal of idling 40 million acres. Crop and revenue insurance subsidy costs had more than doubled by the time of the 1995-1996 commodity price boom. Subsequently, insurance subsidies and disaster relief expenditures combined averaged roughly \$3 billion annually during the 1999-2007 period.

Tension has existed over expenditures on crop and revenue insurance versus disaster relief. Disaster relief was criticized in the 1970s as being costly and leading to distorted production incentives in marginal cropping areas. Crop insurance programs suffer from adverse selection and moral hazard problems that stifle the development of private insurance markets. These problems are not unique to agricultural risks, and farmers have other risk management strategies available, but again agriculture has benefitted from preferential treatment. As Glauber (2006) put it, the policy debate has focused "not on whether" to provide subsidies "but rather on the form the assistance should take."

The 1980 Federal Crop Insurance Improvement Act was designed to replace the annual relief expenditures with more systematic subsidized insurance as the main form of disaster protection. However, sign-up rates and levels of coverage remained low with the levels of subsidies provided and in several years (particularly 1989 and 1994) Congress appropriated substantial disaster relief expenditures. The Crop Insurance Reform Act of 1994, and then the Agricultural Risk Protection Act of 2000, increased premium subsidies. Coverage availability for losses of yields or revenue expanded to over 350 commodities and over 80 percent of insurable acreage became enrolled (Glauber 2006). Political support for the programs has increased among farmers, even though insurance subsidies are a relatively inefficient instrument for delivering

income transfers. Yet, the fundamental issue of policy instrument choice has never been resolved. Despite the expanded insurance coverage, Congress has continued to approve substantial annual disaster relief expenditures.

As with the commodity and agri-environmental support programs, there has been a progression of modest reforms in the implementation of the insurance programs that has improved their efficiency. Delivery was transferred under the 1980 Act from government agencies to private companies (generating their political support for the programs). Diversity has emerged in available contracts. Experience, accumulation of data and policy design decisions have improved loss ratios from averaging over 2 to near 1, although there remain regional differences in the extent to which premiums have covered indemnities. Critics remain concerned about double indemnity (Glauber 2006) arising from overlapping insurance and disaster relief programs and the underlying problems of adverse selection and moral hazard that have required large subsidies for crop insurance to be viable.

3.2.4 Continued support under the Food, Conservation, and Energy (FCE) Act of 2008

The FCE Act of 2008 was legislated during a period of relatively high farm commodity prices. It mandates expected expenditures for fiscal years 2008-2012 similar to levels anticipated under the 2002 legislation. Total expected outlays were increased by \$5 billion and spending was shifted among categories at the margin, as shown in Table 3.1, so that the FCE Act attracted a broad coalition of supporters.

TABLE 3.1

Aggregate anticipated expenditures under the 2008 FCE Act

Category	Projected baseline under 2002 FSRI	Projected FCE Act expenditures
	<i>(US\$ billion)</i>	
Commodity support	43.3	41.6
Conservation	21.4	24.1
Crop insurance	25.7	21.8
Energy	0.0	0.6
Nutrition	186.0	188.9
Other	7.9	12.0
Total	284.0	289.0

Sources: Congressional Budget Office 2008 and Johnson 2008

Because of strengthened world agricultural commodity prices by 2007 there was an anticipated squeeze down of traditional commodity subsidies under the FCE Act with countercyclical payments and loan-rate-related price support expected to fall

sharply. Commodity program spending of \$41.6 billion was projected (mostly for fixed direct payments), whereas commodity support during the previous five fiscal years had been projected to be \$78 billion when the 2002 FSRI Act was written (Chite 2007). Authority for the CRP was reduced to 32 million acres in 2008, but total expected expenditures for agri-environmental programs increased to \$24.1 billion, equivalent to almost 60 percent of the sum for projected commodity support. In the event of continued high prices, a substantial relative shift toward agri-environmental programs will take place in support outlays.

One cause of the boom in commodity market prices in 2007-2008 was the U.S. ethanol fuel tax credit and ethanol use mandates designed to promote corn-based fuel production. These product-specific policy instruments are reinforced by a high import duty. Initiated in 1978, the tax credits had only induced a modest level of ethanol output (less than 2 billion gallons in 2005) until oil prices rose and new ethanol use mandates were enacted. The Energy Policy Act of 2005 mandated that production reach 7.5 billion gallons by 2012 and the Energy Independence and Security Act of 2007 expanded the mandate for biofuels to 36 billion gallons by 2022, of which 15 billion gallons were to come largely from corn-based ethanol production. A model-based estimate of the effect on corn market prices (de Gorter and Just 2007) suggested an increase of 25 percent (\$0.74 per bushel) in 2006 due to the tax credit, assuming the mandate was not binding (see also Babcock (2008) and FAPRI (2008)).

With high commodity prices, the fixed direct payments to farmers came under scrutiny in the domestic debate over the FCE Act. While decoupled income support is exempted from expenditure constraints under WTO rules, with the fixed direct payments being so large a share of anticipated farm support the proponents of other initiatives eyed a reduction in those payments as a potential source of funding. The direct payments were retained only after a rancorous domestic dialogue, particularly over income eligibility limits for recipients.

The sharp rise in prices in 2008 also shifted policy toward one new policy instrument, as rising prices had in 1996. In the FCE Act, however, the shift was not toward greater decoupling but toward a program closely tied to production and market prices. The Act includes an optional Average Crop Revenue Election (ACRE) program which is product-specific, trade-distorting support. Starting with the 2009 crop, farmers electing ACRE for all covered commodities for the duration of the FCE Act incur a 20-percent cut in their fixed direct payments and a 30-percent cut in their loan rates. In exchange, they secure a revenue guarantee, adjusted to their farm, of 90 percent of an amount derived from applying a two-year national average of lagged prices to the five-year Olympic average of state average yields per acre. Unlike loan-rate price support levels, there is no legislated floor on the ACRE revenue guarantee. However, the guarantee per acre cannot vary by more than 10 percent from year to year, potentially moderating any sharp revenue downturn from high levels, such as those in 2007 and 2008.

Subsidies for traditional crop and revenue insurance were also projected to be higher during 2008-2012 than the average under the FSRI Act due to higher crop prices⁴. And the FCE Act included mandatory funding for five disaster relief programs, ensuring at least partial availability of funds without requiring annual congressional appropriations.

Farmers also remain well protected if prices turn out to be lower than projected. Slight increases in loan rates and target prices contained in the FCE Act strengthen policy instruments coupled to production. These will prove ineffective (with the exception of an increase in the sugar loan rate) if market prices remain well above loan-rate levels as projected⁵. Yet, the argument made, and which will be extended if farm price and income conditions deteriorate from their 2008 levels, is that higher energy prices and related production costs render inadequate the safety net that was lauded by many farm groups from 2002 to 2007. Traditional price and income support levels that were raised only slightly in 2008 could be increased further in the future. Just such an adjustment occurred in 2009 when USDA announced temporary increases of about 15 percent in dairy price supports after market prices fell sharply.

Despite these considerations, the high world prices that were straining the global food system in mid 2008 had only modest effects on the commodity support provisions in the latest U.S. farm bill. The veto-proof majorities assembled in Congress for the FCE Act demonstrated the ability of the farm lobby to secure a continuation of support programs that largely serve the same purposes and benefit the same interest groups as earlier legislation. Still, the farm sector did not avoid, at least for the time being, a projected squeeze down of most anticipated subsidy payments under the price-linked support programs.

3.2.5 WTO notifications of U.S. domestic support

Data on the timing and comparative magnitude of the U.S. farm support expenditures during 1995-2007 is provided in notifications to the WTO under the Agreement on Agriculture. The main notified components of U.S. support for agricultural producers include fixed direct payments and agri-environmental payments in the green box; market price supports for dairy and sugar and

⁴ Most of the claimed five-year savings shown in Table 3.1 were achieved simply by postponing the timing of some insurance payments past 2012. The FCE Act also stipulated that total premiums be adjusted slightly to equal anticipated total indemnities (resulting in an expected loss ratio equal to one) and it reduced delivery cost reimbursements to insurance agents.

⁵ The loan rate for raw cane sugar rises from \$0.18 per pound to \$0.1875 by 2012. The Secretary of Agriculture is required to set domestic marketing allotments at no less than 85 percent of estimated quantities for domestic human consumption and to purchase sugar to produce biofuels if necessary to avoid forfeitures of sugar to the Commodity Credit Corporation.

substantial price-linked, loan-rate-related subsidy expenditures in the product-specific (PS) Aggregate Measurement of Support (AMS); and crop MLA payments, countercyclical payments, and crop and revenue insurance subsidies notified as *de minimis* non-product-specific (NPS) support. Most U.S. disaster assistance has been notified as meeting the criteria of the green box. Table 3.2 shows the aggregate expenditures in each category. Blue-box support was eliminated by the FAIR Act.

Green-box support

Table 3.3 shows that the largest and most rapidly growing category of green-box expenditures is for domestic food aid. Public research expenditures funded at both the federal and state levels fall into the general services category. In 2007, the most recent year for which notification data are available, the U.S. notified \$2.9 billion in federal expenditure on agricultural research, education and extension and an additional \$4.3 billion on a range of state programs for agriculture including research and extension.

Decoupled income support has been the most important component of payments to farmers notified in the green box. This support is composed mostly of the fixed direct payments initiated in 1996, but also includes peanut and tobacco buyout payments. Conservation (resource retirement) and environmental payments have also been important green-box agricultural expenditures and disaster relief has been substantial in some years. Together these categories total roughly \$11 billion annually in recent notifications. Some leeway is accorded from the fundamental green-box criterion that payments have no or minimal impact on production or trade through the specific criteria for environmental programs. Agri-environmental payments can be linked to production methods and inputs, but the amount of payment must be limited to the extra costs or loss of income involved in complying with clearly defined conservation or environmental objectives⁶.

Product-specific support

Table 3.4 provides a breakdown of the product-specific AMS (before the application of *de minimis*) by type of measure⁷. The market price support (MPS) component

⁶ While not all U.S. agri-environmental programs (or indeed those in other countries) conform exactly to these criteria most do. Several U.S. programs provide grants for environmental improvements based on a cost-sharing approach and the FCE Act makes specific reference to payment for costs incurred or income foregone in respect of several programs. Land is accepted into the CRP on the basis of a benefit-cost assessment, i.e., what a producer is prepared to accept for placing a parcel of land in the reserve in comparison to the environmental benefits that are expected to result.

⁷ Product-specific *de minimis* has not been a major factor in reducing notified support. It has been less than \$250 million except in 2002-2004 and never more than \$1.6 billion (2002). However, this exclusion has reduced significantly the number of years for which AMS support has been notified for a wide range of commodities. For example, an AMS applied to barley in 12 of the 13 years from 1995-2007, but after the application of *de minimis* less than half of these years have a barley AMS included in the U.S. Total AMS.

TABLE 3.2
Summary of U.S. domestic support notifications, 1995-2007

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
	(US\$ billion)												
Total AMS	6.21	5.90	6.24	10.39	16.86	16.80	14.41	9.64	6.95	11.63	12.94	7.74	6.26
De minimis ^a	1.48	2.27	0.80	4.74	7.43	7.34	7.04	6.69	3.24	6.46	5.98	3.60	2.26
Blue	7.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Green	46.04	51.83	51.25	49.82	49.75	50.06	50.67	58.32	64.06	67.43	71.83	76.04	76.16
Total support	60.77	59.99	58.29	64.95	74.05	74.20	72.13	74.65	74.25	85.51	90.75	87.38	84.68
	Share of total support (%)												
Total AMS	10	10	11	16	23	23	20	13	9	14	14	9	7
De minimis ^a	2	4	1	7	10	10	10	9	4	8	7	4	3
Blue	12	0	0	0	0	0	0	0	0	0	0	0	0
Green	76	86	88	77	67	67	70	78	86	79	79	87	90
Total support	100	100	100	100	100	100	100%	100%	100%	100%	100%	100%	100%

Source: WTO notifications and authors' calculations.

^a Includes product-specific and non-product-specific *de minimis*.

TABLE 3.3
U.S. green-box notifications

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
	(US\$ billion)												
General services	6.42	6.55	6.80	7.23	7.69	8.55	9.21	10.26	10.94	11.20	11.35	10.78	10.75
Public stockholding/food security	0	0	0	0	0	0	0	0	0	0	0	0	0
Domestic food aid	37.47	37.83	35.96	33.49	33.05	32.38	33.92	38.01	42.38	45.86	50.67	54.18	54.41
Decoupled income support ^a	0	5.19	6.29	5.66	5.47	5.07	4.10	5.30	6.49	5.27	6.16	6.14	6.13
Income insurance/safety nets	0	0	0	0	0	0	0	0	0	0	0	0	0
Disaster relief	0.10	0.16	0.16	1.41	1.64	2.14	1.42	2.12	1.69	1.96	0.17	1.07	0.93
Producer retirement	0	0	0	0	0	0	0	0	0	0	0	0	0
Resource retirement	1.73	1.73	1.69	1.69	1.43	1.48	1.62	0	0	0	0	0	0
Investment aids	0.08	0.09	0.09	0.09	0.13	0.13	0.11	0.12	0.11	0.09	0.08	0.14	0.12
Environmental payments	0.23	0.28	0.27	0.26	0.33	0.31	0.29	2.51	2.45	3.04	3.40	3.73	3.83
Regional assistance	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	46.04	51.83	51.25	49.82	49.75	50.06	50.67	58.32	64.06	67.43	71.83	76.04	76.16

Source: WTO notifications.

^a Subtracting peanut and tobacco buyout payments; fixed direct payments are \$5.27 billion in 2003, \$5.26 billion in 2004, \$5.22 billion in 2005, and \$5.18 billion in 2006 and 2007.

TABLE 3.4
Composition of the Total AMS by type of measure (before the application of de minimis)

Type of measure	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
	(US\$ million)												
Market Price Support	6,213	5,919	5,816	5,776	5,921	5,840	5,826	5,771	5,758	5,832	5,908	6,154	6,238
Dairy	4,693	4,674	4,455	4,332	4,437	4,377	4,483	4,509	4,515	4,646	4,794	4,882	5,011
Peanuts	412	308	315	350	303	330	311	0	0	0	0	0	0
Sugar	1,108	937	1,045	1,093	1,180	1,133	1,032	1,262	1,242	1,186	1,114	1,272	1,227
Emergency payments	0	0	0	331	697	1,526	6	1,409	1	41	90	56	5
Price-linked subsidies	88	6	578	4,106	9,706	9,042	8,429	3,525	1,141	5,549	6,616	1,357	8
Other support ^a	10	12	80	338	567	498	446	523	487	853	447	347	245
Total	6,311	5,938	6,475	10,550	16,891	16,906	14,706	11,227	7,386	12,275	13,061	7,913	6,497
Type of measure	% of total												
Market Price Support	98	100	90	55	35	35	40	51	78	48	45	78	96
Emergency payments	0	0	0	3	4	9	0	13	0	0	1	1	0
Price-linked subsidies	1	0	9	39	57	53	57	31	15	45	51	17	0
Other support	0	0	1	3	3	3	3	5	7	7	3	4	4
Major price-linked subsidies	(US\$ million)												
Certificate exchange gains	0	0	0	6	175	619	1,975	317	307	1,453	1,173	967	0
Commodity loan forfeit	0	0	-2	6	642	20	20	658	1	11	5	0	0
Loan deficiency payments	38	0	3	2,723	6,062	6,192	5,588	538	468	3,688	4,794	217	1
Marketing loan gains/payments	0	0	161	1,092	1,830	813	615	193	135	348	272	16	7
Cotton user marketing payments	35	6	416	280	446	237	182	0	0	0	0	0	0
Mik income loss contracts	0	0	0	0	0	0	0	1,795	221	9	352	157	0
Oilseed payments	0	0	0	0	460	921	0	0	0	0	0	0	0
Other ^b	15	0	0	0	100	274	49	23	9	40	21	0	0

Source: Computed from WTO notifications.

^aIncludes commodity loan interest subsidies and storage payments, cotton user marketing (Step 2) payments, bioenergy program payments and assorted others.

^bIncludes adjustment assistance payments, support payments for mohair and wool, and miscellaneous payments for cotton, dry peas, sugar and wheat.

of the AMS is based on administered (loan rate) support prices that exceed fixed reference price levels set in the U.S. Uruguay Round schedule. Support prices and production for the two main commodities with MPS (dairy and sugar) have remained relatively stable, thus the notified MPS shows little year-to-year variation. Since the WTO notified MPS is not responsive to changes in domestic or world prices that enter into standard calculations of nominal assistance or protection, the notified MPS figures do not provide the best estimates of the support given annually for these commodities.⁸ The 2008 FCE Act made an important technical change in how dairy support is defined so that it applies only to certain processed dairy products instead of all fluid milk. This redefinition may allow the United States to reduce its notified dairy MPS by as much as two-thirds.

Those components of the product-specific AMS based on support payments (emergency payments, price-linked subsidies, and other support in Table 3.4) can be highly variable from year to year. Expenditures tend to vary inversely with domestic market prices. One reason is that existing price-linked subsidy programs (the loan-rate-related payments) are triggered when prices fall. Between 1997 and 1999, for example, loan deficiency payments for crops rose from less than \$3 million to more than \$6 billion. Another reason is because Congress has responded to price declines by providing emergency payments to farmers that have been notified as product-specific AMS (as with the oilseed payments in 1999-2000, emergency payments made to livestock producers in 2002, and milk income loss contracts introduced in 2002). Thus, in comparison to many other countries the United States is particularly vulnerable to sharp swings in its notified support under the product-specific AMS because of the nature of its programs and the willingness of Congress to provide emergency assistance to farmers. Cotton, which has been particularly contentious in the Doha Round WTO negotiations, accounts for as much as 19 percent of the U.S. Total AMS in several years.

Non-product-specific support

Several important forms of support are included under the non-product-specific AMS category (Table 3.5), which the United States has excluded from its notified Total AMS as being *de minimis* in all years. The crop MLA payments from 1998 to 2001 and countercyclical payments initiated in 2002 exceeded \$4 billion in five years. Crop and revenue insurance subsidies fluctuate but are somewhat higher after 2000. Variability in the total annual NPS support is apparent in Table 3.5 and again is related to price movements. Since 1998, when crop MLA payments were first introduced, price-linked emergency and countercyclical support has varied

⁸ The OECD measure of market price support reflects domestic and world price variability. For sugar, the WTO and OECD measures for the U.S. are fairly similar for 1998-2004 but OECD reports less market price support during 1995-1997 and 2005-2007. For dairy, the OECD measure varies substantially across years, ranging from a low of \$4.8 billion in 1995 to a peak of \$12.9 billion in 1998. The OECD measure exceeds the WTO notified level in all years except 2006, with the values similar in 1995, 2003 and 2005.