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U.S. Farm Programs and African Cotton*

For decades, discussions of international trade negotiations and agreements have had a prominent role in the economics of agricultural policy. (See, for example, the early book by Johnson that was based on research conducted before the GATT was fully formed and, for a more recent survey, see Sumner and Tangermann.) Much of this literature has centered on the General Agreement on Tariffs and Trade, and now the World Trade Organization. For several years, cotton subsidies and cotton markets have been the focus of much WTO news. Two distinct World Trade Organization (WTO) activities have centered on the role of cotton subsidies in world cotton markets.

In late 2002, Brazil initiated a WTO dispute settlement case claiming that U.S. subsidy programs for upland cotton were inconsistent with WTO obligations that the United States had undertaken.[1] Brazil pursued its case through the panel decision and the appellate body phases and is generally acknowledged to have prevailed on its major claims. As a result the United States was instructed to bring the offending cotton subsidy measures into compliance with its obligations. The United States made some adjustments in response to the WTO decisions, but it has not satisfied Brazil that the subsidies have been sufficiently altered. Exercising its rights to urge full compliance, Brazil has requested that the panel investigate and rule on the U.S. claims of compliance. The WTO Dispute Settlement Body accepted to hear the compliance case and it is now proceeding with the compliance panel's interim decision expected at the end of March 2007.

Second, in the Doha Development Agenda (DDA) negotiations, cotton took a central role because of efforts of African cotton exporters to highlight the importance of cotton to their rural economies and especially to their international trade situation. The four African nations where cotton plays the most significant role in the economy joined to forward a cotton initiative in the DDA negotiations.[2] Despite the tiny share of cotton trade in global merchandise trade generally, the dissatisfaction with the response to the cotton initiative played a significant role in dislocations and delays in the DDA negotiations, including the failed Cancún ministerial in September 2003. Despite much attention and a high profile in the negotiations, the cotton issues were not resolved, even in concept, before the breakdown of the DDA in July 2006. They have not been central to the efforts to resolve the impasse that continues to block negotiations.

With both the WTO cotton dispute and the WTO cotton initiative still unresolved, the United States is engaged in replacing, revising, or renewing provisions of the Farm Security and Rural Investment Act of 2002 that are set to expire in 2007. Discussions concerning the 2007 Farm Bill are well underway and WTO cotton issues are already playing a major role in those discussions. The WTO cotton dispute is often cited as a reason that U.S. farm programs for cotton and other commodities must be adjusted in the new legislation. The DDA negotiations are sometimes cited as a reason to plan a significant overhaul of farm programs, and are sometimes cited as a rationale for delaying any changes in farm programs until changes are mandated in a final DDA agreement.

This paper provides some background and analysis on these three related topics. It reviews the background and current status of each and draws implications for what policy changes may be forthcoming. The paper also discusses the potential effects of changing U.S. cotton policy, especially on African cotton exporters and other less developed countries. Finally, I will reflect on how poor counties might affect significant policy change for cotton.

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I. Overview of the WTO Cotton Dispute

Brazil brought its complaint over U.S. upland cotton subsidies to the WTO dispute settlement process in the fall of 2002 and the two countries held consultations through early 2003. The United States and Brazil each filed thousands of pages of legal briefs, exhibits, written statements, economic analysis and answers to panel questions with the WTO. In addition, the parties met three times before the WTO panel in the summer and fall of 2003 and once in December 2004, before the appellate body.

The WTO dispute settlement panel issued its 350-page decision, with 1570 detailed footnotes, in September 2004. The broad consensus was that the panel ruled largely in favor of Brazil. The United States appealed many of the panel's findings and Brazil appealed on a few points. In early March 2005, the final ruling on the cotton dispute was released through a 300 page report, (including 1192 footnotes) of the WTO Appellate Body (AB). The AB reaffirmed the findings of the panel on each important issue. Upon approving the AB report, the Dispute Settlement Body of the WTO instructed the United States to respond to the findings by modifying policies to bring its cotton subsidies into compliance with its WTO obligations.

The cotton case is important for several reasons. First, the ruling is important for the world cotton industry, especially least developed and developing country exporters. If the United States complies with the ruling by reducing cotton subsidies, the result will be higher prices and greater production and export opportunities for developing country producers. Second, the ruling suggests that subsidy policies of the United States and other WTO members with respect to other commodities may also be out of compliance and additional cases may be brought. Third, as the first WTO dispute over domestic farm subsidy programs, the cotton case has clarified the agreement provisions for current and future negotiations. Fourth, the case has direct implications for changes in farm subsidy programs in the United States and elsewhere, as WTO members strive to bring their programs into compliance with WTO provisions to which they have agreed. Finally, because it was a very high-profile "win" by a developing country over one of the large rich farm subsidizers, the cotton case is likely to re-energize developing countries in the WTO and sustain their participation in the system.

I. A. Summary of the Claims and Policies at Issue

The cotton case was inordinately complex due to the number of individual subsidy programs involved, and the number of GATT Articles and provisions that were at issue. Here I will only attempt a non-technical summary with the caveat that for a precise review, one must consult the appropriate legal experts.
The case involved several major challenges to U.S. upland cotton programs. On the substantive issues, Brazil made several separate claims about U.S. programs that support upland cotton. The most important claims of Brazil were that:

(1) The Step 2 payments to domestic users were prohibited domestic content subsidies;
(2) The Step 2 payments to exporters were prohibited export subsidies;
(3) The export credit guarantees were prohibited export subsidies;
(4) The flexibility contract payments and direct payments, market loss assistance payments and countercyclical payments, marketing loan gains, crop insurance subsidies, Step 2 payments and export credit guarantees all supported cotton and contributed to serious prejudice of Brazil's interests by causing world cotton prices to be lower than they would otherwise be and by causing the U.S. world market share to be higher than otherwise.

The programs at issue need to be described briefly to understand the claims and responses.

Step 2 User Payment Programs

The domestic Step 2 program provides a direct government payment to domestic users of U.S. cotton when the U.S. market price of cotton is below a very low calculated world price index. The payments assure that the net cost to domestic buyers is lower for U.S. cotton than for import alternatives. The export Step 2 program operates like the domestic Step 2 program, except that the payments are distributed to export shippers of U.S. cotton.

Export Credit Guarantees

Under the export credit guarantee programs (GSM102 and GSM 103 and other programs), the U.S. government provides low-cost loan guarantees for eligible international buyers so that the interest rates they face when buying cotton, or other commodities, are lower than they would otherwise be. This program has an effect similar to a subsidy on the price of U.S. cotton for buyers who would require credit to be able to make the purchase.

Direct Payment Program (and Flexibility Contract Payments)

Production flexibility contract payments were established for cotton by the Federal Agricultural Improvement and Reform Act of 1996. The direct payments (DP), established by the Farm Security and Rural Investment Act of 2002, continued the PFC payments under a new name and with one significant change in operation. The direct payments continued to be made on the basis of a farm's historical base area and established historical program yield, but the 2002 Act allowed farms to update their base area used in the calculation of payments (Westcott, Young and Price; and Claassen).

Counter-cyclical Payment Program (and Market Loss Assistance Program)

These programs are similar to the direct payments, but with larger implied production incentives. The market loss assistance payments were authorized by Congress each year from 1998 through 2001 explicitly to offset low prices. Such payments were made to the same producers on the same bases as the production flexibility contract payments during this period. The counter-cyclical payments were authorized in the 2002 Act and provide payments (based on historical production bases) when the U.S. season average market price falls below a target price set by law. These payments are tied directly to the price of cotton, but not to current area of cotton on each farm. The base area is the same as for direct payments. However, if farms updated their cotton base area in 2002, they were allowed to update their base yield for the counter-cyclical payment (Westcott, Young and Price; and Claassen).

Marketing Loan Program

For upland cotton, the marketing loan provides a benefit to cotton farms equal to the (non-negative) difference between the loan rate established by the U.S cotton program and the cotton loan repayment rate, which is equal to the adjusted world price (AWP) of cotton. The AWP is calculated from an index of world prices of cotton. The marketing loan benefit takes the form of either a marketing loan gain that is realized over the course of the season as cotton is sold or a loan deficiency payment that is typically taken at the time of harvest (Westcott, Young and Price; and Claassen).

Crop Insurance Subsidy for Cotton

Crop insurance is not authorized in the periodic farm bill legislation, but in separate legislation the most recent of which was set in 2000. The Agricultural Risk Protection Act (ARPA) passed by the U.S. Congress in 2000 increased crop insurance subsidies substantially. The upland cotton crop insurance subsidy comes in two forms. First, the cotton crop insurance program provides a direct subsidy on the premium required to purchase the insurance. The second source of subsidy is that the upland cotton crop insurance program provides subsidies to insurance companies to cover the losses in excess of the total premium receipts (Young et al.).

Brazil claimed that the U.S. programs had the offending effects over the 1999 to 2002 period and threatened to have these effects into the future.[3] These claims will be outlined below, but first we must deal with a preliminary issue.

I. B. The Peace Clause

Before considering whether the U.S. programs caused serious prejudice, a preliminary legal issue had to be faced. Under Article 13 of the Agreement on Agriculture, the so-called "peace clause," Brazil could not successfully pursue its serious prejudice claims unless, loosely speaking, it first showed that U.S. subsidies were higher during the period at issue than they had been in 1992. Among other provisions, the peace clause states that agricultural subsidy policies that complied with the Agreement on Agriculture would be exempt from serious prejudice claims, "provided that such measures do not grant support to a specific commodity in excess of that decided during the 1992 marketing year" (WTO, legal texts). The peace clause was set to expire in 2004, but since Brazil had filed its case while the peace clause was still operative, the case would have been stillborn without a finding in favor of Brazil on this point. Even though the peace clause has now expired, it is useful to outline the main arguments because a new peace clause is an important element in some proposals for the Doha round and because the panel ruling on the peace clause has implications for current farm policy compliance with the WTO agreement.

Brazil claimed that U.S. support for cotton granted in each year 1999 to 2002 exceeded the support decided in 1992. Brazil pointed out that outlays for U.S. cotton programs in the later years far exceeded outlays in 1992. The United States countered that even though cotton program outlays were higher; this was due to market forces beyond the "decisions" of the United States and thus did not constitute a violation of the peace clause. In particular, the United States argued that the support for cotton "decided" in 1992 was the target price of 72.9 cents per pound. In later years, the "support" granted for cotton was the loan rate of 52 cents per pound and since 52 is less than 72.9, support was lower, not higher than in 1992. The United States argued that since several of the U.S. payment programs were "decoupled" from current cotton production, they could not be counted in peace clause calculations. In addition, the United States argued that crop insurance, being broadly available to many crops, did not constitute support for cotton as a specific commodity. Similar arguments carried over to the serious prejudice claims.

Brazil presented economic evidence that the program in 1992 applied an acreage reduction program that required land to be idled, including "flex" acres that received no payments and had other provisions that reduced the per unit support to well below 72.9 cents per pound. Brazil then presented several economic arguments that the contract payments (during 1999 to 2001) and the direct payment program in 2002 failed to qualify as "green box" programs that are minimally-trade-distorting. Brazil also argued that all the programs granted support to the specific commodity, upland cotton.

The peace clause arguments and the decision of the panel and appellate body were important not only for the cotton case. The arguments over what constituted support for a specific commodity and how such

support might be measured are relevant to how the green box of “minimally-trade-distorting measures” is defined and to how non-product-specific support is measured and defined. These issues apply to other commodities as well as to measuring the Aggregate Measure of Support (AMS) commitments in the WTO agriculture agreement (Sumner 2005a).

I. C. Definitional and Legal Issues for Step 2 and Export Credit Guarantees

Many detailed legal arguments were undertaken that related to the meaning and applicability of the operative texts in the various WTO agreements. In addition, considerable evidence and argument was presented on the operation and economic effects of the various U.S. programs.

Brazil claimed that the Step 2 payments to domestic users required that recipients open the cotton bales and use the cotton. The export program had no such requirements. The United States simply argued that for practical purposes the two parts of the Step 2 program were operationally the same. The text of the GATT subsidies agreement explicitly prohibits government payments to buyers contingent on the product containing domestic content. Thus, the domestic Step 2 program was vulnerable on this score, if it were a separate program. Furthermore, the export part of the program made payments to buyers contingent on exporting U.S. cotton, and this, by definition, constituted an export subsidy, which is also prohibited, unless the program was listed in the original 1994 WTO notifications and the Step 2 program was not. Hence, if the two parts of the Step 2 programs were separate, each seemed to violate a separate WTO rule.
Export credit guarantees were the subject of explicit provisions in the 1994 Agreement in Agriculture. Specifically Article 10.2 states,

> “Members undertake to work toward the development of internationally agreed disciplines to govern the provision of export credits, export credit guarantees or insurance programmes and, after agree ment on such disciplines, to provide export credits, export credit guarantees or insurance programmes only in conformity therewith” (WTO Legal Texts).

The United States argued that the undertaking to negotiate disciplines on export credit guarantees meant that no action could be taken against such agricultural programs, even though they are explicitly prohibited in the subsidies agreement. Brazil pointed out that such exemption language was not in the agreement text. Brazil claimed that since the United States had not listed most export credit guarantees as export subsidies to be reduced under the Agreement on Agriculture, they constituted prohibited subsidies. Furthermore, Brazil’s complaint applied to the export credit program for almost all commodities that operated under the credit guarantees, not just cotton.

I. D. Serious Prejudice

The arguments over serious prejudice essentially required the panel to assess what would be the non-subsidized levels of U.S. production, exports and world prices, but for the effects of the U.S. subsidies. Thus, the analysis was essentially economic in nature. These arguments are important to consider because they are still at issue in the implementation dispute and determine how much U.S. programs affect market conditions and therefore the prospects for African producers.

The GATT subsidies agreement provides for several ways in which a subsidy may cause serious prejudice. The two causes claimed by Brazil were: “the effect of the subsidy is …significant price suppression, price depression or lost sales in the same market;” and “the effect of the subsidy is an increase in the world market share of the subsidizing Member in a particular subsidized primary product or commodity as compared to the average share it had during the previous period of three years and this increase follows a consistent trend over a period when subsidies have been granted.”

The "price suppression" arguments hinged on a number of key facts and circumstances, as well as on considerable economic analysis. The key facts include those indicating that the United States accounts for about 20 percent of world cotton production and about 40 percent of world cotton exports (Table 1 and Table 2). In addition, cotton program payments often accounted for half or more of total revenue of U.S. cotton producers who would have suffered huge losses over the long term (six years) without receiving the marketing loan and counter-cyclical payments. Other facts showed that buyer subsidies and crop insurance subsidy programs have additional effects on production of U.S. cotton. In addition to market shares and the overall amount of subsidy, important issues in assessing the impact of the subsidy programs included (a) the degree of production impact of each subsidy program, (b) the supply response to reductions in the expected net effective revenue from cotton production in the United States, (c) the supply response to expected increase in the world price in the rest of the world and (d) the demand response of cotton buyers to a higher market price of cotton. All of these parameters are subject to debate and various degrees of interpretation.

I.E. WTO Findings and Implications

The WTO cotton panel ruled largely in favor of the Brazil position (WTO, 2004b; Baffes 2005; Schnepf). The results of the panel decision were released in September 2004 (WTO 2004b). Several aspects of the decision were appealed by Brazil while the United States appealed all of the many issues where the panel had ruled against it. The appeal was heard December 13 – 15, 2004 in Geneva. The Appellate Body released results of the appeal process on March 3, 2005.

The Appellate Body rejected all of the U.S. appeal points while agreeing with several of those appealed by Brazil. In ruling that the United States had breached the peace clause subsidy limits, the WTO dispute settlement body found that U.S. domestic support programs for cotton were more than minimally trade distorting and did grant support to cotton. In particular, the direct payment program, by prohibiting production of fruits and vegetables on base land eligible for payments, more than minimally restricted the use of the land and were considered support for cotton. These findings suggest that the panel and AB interpreted the green box more narrowly than the United States had done in its notifications under the Uruguay Round. These rulings have implications for compliance with AMS constraints, even without tightening of definitions that have been proposed for the DDA. If crop insurance, direct payments and counter-cyclical payments were placed in the product specific amber categories, they would properly be included in the U.S. AMS. In that case, the United States would have difficulty meeting its AMS reduction commitments (Sumner 2005a). On the substantive issues, the WTO ruled that the Step 2 export program and the export credit guarantees for cotton (and other commodities) were prohibited export subsidies, and that the Step 2 domestic program was a prohibited domestic content subsidy. These cotton programs were then listed by the panel for elimination by July 2005.

Next, the WTO panel found that the Step 2 programs, the marketing loan program, and the counter-cyclical program (those programs whose benefits varied with the market price of cotton), all caused serious prejudice to Brazil's interests by significantly suppressing the world price of cotton. The panel did not specify a quantitative threshold that the effects of these programs caused significant price suppression sufficient to constitute "serious" prejudice. Rather, they found that each of these "price-contingent" programs contributed to the serious prejudice that Brazil had suffered. While the panel did not make any specific recommendations, it did emphasize that it considered that the United States would have to make changes to its FSRI Act of 2002 to remove the adverse effects or remove the effects of the subsidies as required by the Dispute Settlement Understanding. The Dispute Settlement Body applied the panel and Appellate Body rulings by requiring the United States to withdraw the programs or remove the significant price suppression that they cause.

I.F. Implementation of the WTO Cotton Ruling

Shortly after the ruling of the Dispute Settlement Body, the United States Administration prepared legislation to eliminate the Step 2 program and cut or substantially reform the credit guarantee programs. The USDA made some modifications to the operation of parts of the credit guarantee programs, but Congress did not make the changes that required legislation. Congress did repeal the Step 2 program for cotton effective not July 2005, but July 2006. In August 2006, U.S. Trade Representative Susan Schwab stated, "This action demonstrates the strong U.S. commitment to abiding by its WTO obligations…" (USTR). Brazil expressed dissatisfaction with the U.S. progress towards implementation for many months but also indicated willingness to allow the United States considerable time to make the needed changes to its cotton subsidy programs. Finally, however, after United States showed no evident plans to remove or reform the counter-cyclical payment program or the marketing loan program, and after the Doha negotiations were suspended, in part because of the a U.S. reluctance to reduce farm subsidies sufficiently, Brazil requested that the cotton panel be reconvened to examine U.S. compliance with its obligations under the rulings of the original panel and the AB. According to WTO records Brazil requested the establishment of an Article 21.5 panel (a panel to consider compliance) on August 18, 2006 and at its meeting on September 28, 2006, the DSB agreed, if possible, to refer the matter raised by Brazil to the original panel. Under Article 21.5 of the "Understanding on the rules and procedures governing settlement of Disputes," the panel has 90 days to circulate its report on compliance. Parties to the compliance dispute are now preparing to argue their positions in written submissions and oral presentations. Unless they reach a settlement in the meantime, if the compliance panel rules that the United States should do more to comply with their obligations, it must do so, or provide compensation to Brazil. Typically Brazil would be allowed to withdraw "concessions" made in favor of the United States, such as low tariffs on U.S. export to Brazil or other trade provisions that benefit the U.S. There could then be further dispute over the amount of compensation or the form of the compensation. Hence the compensation phase of the WTO cotton dispute may last several months before it is settled.

II. The WTO African Cotton Initiative[4]

Benin, Burkina Faso, Chad and Mali (often referred to as the Cotton 4 or C-4) proposed, as a part of the DDA, accelerated elimination of trade-distorting cotton subsidies and financial compensation for losses while subsidies are being eliminated has been included as a central issue in the WTO negotiations (WTO 2005a). Proposing such an initiative is rare and it is unprecedented that such a sector specific initiative that encompasses a tiny share of world trade would take center stage in multilateral negotiations in the way that the cotton initiative did during 2002 and 2003. In the DDA negotiations in Cancun, the proposed initiative was the subject of extensive media coverage and the Director-General led the discussions (WTO 2003b).

President Blaise Compaore of Burkina Faso stated the objectives and motivation of the cotton initiative, which had been submitted to the WTO in April, in a speech before the Trade Negotiating Committee of the WTO on June 10, 2003 (WTO 2003a). Speaking "on behalf of those proposing the initiative" he urged that: "… a mechanism be set up to progressively reduce support to cotton production and export, with a view to fully suppressing all cotton subsidies at a defined deadline."

Moreover,

> "...as an immediate and transitory measure in favour of least developed countries (LDCs), a mecha nism be adopted to compensate their farmers for the revenue losses incurred because of cotton subsidies." And to emphasize the importance of the initiative, he further stated,
> "African countries share the opinion that a satisfactory settlement for the cotton subsidy issue is both a must for the current negotiation round and a test that will allow member States to prove their sincerity behind the commitments taken at Doha."

WTO negotiations are built around the notion of gradual reductions in trade impediments, so that part of the cotton initiative is well within the framework of the WTO, although the separate time track for a single sector is not common. The WTO text does not rule out direct monetary compensation for past measures that were WTO-legal at the time, but this approach would be new in the WTO (ILEAP 2004, WTO 1994).

The August 2004 WTO decision of the General Council included the cotton initiative in the main text in paragraph 1(b) (WTO 2004a). Cotton subsidy cuts were expected to be a part of the agricultural negotiations, but with a distinct identity. In Annex 1 of WTO (2004a), paragraph 4 on cotton states:
"It will be addressed ambitiously, expeditiously, and specifically, within the agriculture negotiations…. A subcommittee on cotton will meet periodically… Work shall encompass all trade-distorting policies affecting the sector in all three pillars of market access, domestic support, and export competition, …"
Notice that the "fast track" for removing cotton subsidies is not mentioned, but that the door remains open for treating cotton differently from other products in the agricultural negotiations.

The compensation or development aspects of the initiative proceeded with various international agencies holding sessions on how best to support the cotton producing regions of poor countries and especially those in the C-4. The special WTO committee on cotton was charged with taking into account the need for "coherence between trade and development aspects of the cotton issue."

The cotton initiative got the attention that it did, in part, because of the economy wide implications of cotton in the region. This is especially true for the aggregate trade prospects of the affected countries. Cotton comprises approximately 30 percent of total exports of the four West African nations that proposed the initiative, and accounts for a significant share of rural incomes of million of poor farmers in that region (Minot and Daniels).

III. The Current Situation of Cotton Production, Trade and Policy

Given the background of the WTO upland cotton dispute and the WTO cotton initiative, this section considers the current economic and policy situation and the implications of reducing U.S. subsidies, especially for the poor countries of Africa. This section provides an overview of global cotton production and trade and briefly reviews policy measures including those in the United States, which were introduced above.

III.A. Production and Trade

Baffes (2005) summarizes the global cotton situation and outlook and provides additional insights. He also provides insights into the African situation. China continues to be the world's largest producer and user of raw cotton. Table 1 shows that China accounted for about 24 percent of global cotton production on average for the 2003 to 2005 period (See Appendix A). The United States accounts for another 20 percent and India and Pakistan together are approximately the same size as China. China, India, and Pakistan are major textile processing centers and all are net importers of cotton. The United States accounts for 40 percent of exports and the countries of West and Central Africa (taken together) are also major exporters along with Uzbekistan and to a lesser degree Australia (Table 2, See Appendix B). Europe is a minor cotton producer and a large net importer.

Use of cotton for textile manufacturing is now mainly in the developing countries. An increasing share of cotton production in the United States is exported. The baselines by the Food and Agricultural Policy Research Institute (FAPRI) and USDA's Economic Research Service (USDA, ERS) provide much more detail on the outlook for global cotton production and trade, assuming no change in the current policy path.

III.B. Cotton Polices

Many countries have minor cotton trade barriers or domestic support programs, but most are unimportant for world market conditions. For example, import barriers tend to be generally unimportant because quotas are not binding or tariffs are not applied (Baffes 2003). There are no WTO-notified export subsidies for cotton such as those the European Union continues to use for many other commodities. Recent research suggests that there are few if any remaining subsidies in China, although there do seem to be remaining barriers that limit the transmission of international price signals to growers (Shui). Farmers in China face transportation and transactions costs associated with their small size and remoteness from the border for much of the production. Many growers also had a lack of information upon which to base price expectations and, given transaction costs in food crop markets, little flexibility in adjusting cotton area given the practice of planting some land to food crops and some to the cotton cash crop (Shui). In Uzbekistan, the world's fourth largest producer of cotton, the sector is largely controlled by the government with a net tax applied rather than a subsidy. Furthermore, it seems that price transmission to that market from world market conditions is quite limited (Baffes 2004).

The African cotton initiative targeted domestic support programs in the United States and the European Union. European Union cotton production is concentrated in Spain and especially Greece (Karagiannis; Baffes 2004). Substantial subsidies appear in EU notifications to the WTO (Poonyth et al.) The form of subsidy to cotton in the EU is complex and includes various output-related programs and some input subsidies. The EU also applies limits on production eligible for subsidy, but these do not apply to individual farms, and thus it is not clear that they are binding on farmer production behavior (Baffes 2004). In 2005, the EU changed the program to a partially decoupled area payment together with a direct payment tied to cotton production (Karagiannis 2004). Spain successfully challenged the program in European court, but the current partially decoupled program remains in place while the EU revises the distributional effects across member states (European Court of Justice).

III.C. Operation of Current Domestic Support Programs for Cotton in the United States

As summarized above, the United States now has four major domestic support programs for cotton: direct payments, counter-cyclical payments, marketing loan benefits and crop insurance subsidies.[5] Useful sources for program description and analysis are (Claassen; Westcott, Young and Price; and Sumner 2003a and Sumner 2003b).

Direct Payments

Direct payments provide more than $600 million per year to participants with a cotton program base (Table 3, Appendix C). These payments do not require cotton production, but there are restrictions and incentives that mean they do encourage cotton production to some degree. First, farms lose eligibility for the cotton payments if they plant fruits, vegetables, melons, tree nuts or wild rice. Second, these direct payments provide ready operating capital to farms and provide a documented source of liquidity that is available to U.S. cotton growers regardless of whether they encounter poor harvests or low prices. Banks and other credit suppliers more readily extend credit to farms receiving these payments than to farmers where no such access to financial support exists. Third, the degree of risk aversion by farm decision makers may be lower if farmers have more income or wealth and direct payments add to grower and landlord incomes. Less risk aversion is generally thought to increase supply of crops because less risk-averse farmers are willing to undertake more of the risky business of farm production. Fourth, growers recognize that failure to plant cotton on cotton base may be costly if this base becomes eligible for update in future program adjustments, as occurred in 2002 (Sumner 2003b; Sumner 2005c; Goodwin and Mishra 2005; Goodwin and Mishra 2006; Hennessey; Key Lubowski and Roberts; and Young and Westcott).

Counter-cyclical Payments

As with the direct payments, counter-cyclical payments are based on the farm's production history, not current production. These payments affect cotton production for all the reasons just outlined and have two additional effects. For counter-cyclical payments, farms were allowed to update their yield base in 2002, if they updated the area base. This means that the update process for the counter-cyclical payment program links cotton payments closely to recent cotton production. Furthermore, the payment rate for counter-cyclical payments for cotton varies from year to year inversely with the national average market price of cotton. These payments are thus closely tied to cotton industry prospects and offset low returns when the market price of cotton is low. The counter-cyclical payment effectively provides cotton farmers with cotton price insurance and this provides an additional incentive to plant cotton on cotton base land. In making production decisions for the coming crop year, farmers naturally take into account the counter-cyclical payments they expect to receive (Sumner 2003b; Sumner 2005c; Goodwin and Mishra 2005; Goodwin and Mishra 2006; Key Lubowski and Roberts; and Young and Westcott). Counter-cyclical payments for cotton fell from $1,312 million in 2002 to $392 million in 2003, but then rose to the maximum payment possible under the program $1,375 million in 2004 and $1,376 million in 2005.

Marketing Loans

Marketing loans also vary inversely with market price, but in this case, payments depend on the adjusted world price during the week in which the loan deficiency payment is set or the week in which growers replay the marketing loan. The production incentives of the marketing loan benefits are roughly equivalent to that of expected revenue from market price, except that marketing loan benefits may be more valuable than market revenue for risk adverse farmers (or for their bankers) because they inherently smooth revenue flows and may therefore have a greater production effects than market revenue. Marketing loan benefits have varied considerably in the past several years. Loan benefits fell from $871 million in 2002, to $168 million in 2003. Payments rose to approximately $1.8 billion in marketing year 2004 and were almost $1.3 billion in marketing year 2005.

Crop Insurance Subsidies

Crop insurance subsidy varies mainly by the indemnities received, which depend most on the weather and market price (for revenue insurance). The premium subsidy is relatively stable given that most cotton acreage participates in crop insurance every year. Indemnity losses are more variable. Crop insurance subsidy for cotton was $277 million in 2002, about $279 million in marketing year 2003, but then fell to $79 million in 2004. In marketing year 2005, because claims were very low, the net transfer cotton farmers was -$11 million. Net subsidy in 2006 is already (before completion of the harvest) well above the subsidy in 2004 and approaching the subsidy in 2002 and 2003.

Table 3 illustrates the importance of subsidy programs to the U.S. cotton industry. Even in 2003, a year of unusually high prices, subsidies were about $1.8 billion and were more than a third of market revenue. In 2002 and 2004, subsidies were roughly equal to market revenue for the cotton industry.

IV. Market Implications of Reductions in U.S. Subsidies[6]

Much recent analysis has considered the impact of cotton subsidy programs on cotton markets. Researchers have taken a variety of approaches to modeling the impacts of polices on prices, production, and trade. All studies find that subsidy programs in the United States have encouraged U.S. cotton production and exports and have thereby suppressed or depressed prices in the United States and elsewhere.

Studies differ in their policy coverage, time horizons and base periods. They ask different questions about the effects of cotton subsidies and naturally get different answers. Studies also differ in parameter choices; hence they would arrive at different results even if they focused on the same questions. Many of the relevant studies have been helpfully summarized by the FAO and by other recent reports, including Goreux, 2004; Poonyth et al.; Gillson et al.; and Baffes, 2005. Earlier studies include Goreux (2003); Sumner (2003b); ICAC (2002); Oxfam (2002); Tokarick; and Reeves et al. Additional studies include Pan et al.; Fadiga, Mohanty, and Pan ; Anderson and Valenzuela; and Karagiannis (2004). The last of those was the only studies to concentrate on the effects of removing European Union programs.

Simulations pose counter-factual questions of the form: what would the market prices or qualities be (or have been) in the absence of the subsidy programs considered? Several studies examined how subsidies would have affected the past market conditions if subsidies would not have been in place during the periods considered. That was a main relevant question posed in the WTO dispute concerning U.S. cotton subsidies, for which the Sumner (2003b) analysis was developed. The recent FAO review lists estimated price increases from simulating removal of subsidies that range up to about 30 percent. The studies at the high end of this range tend to treat all subsidy outlays as fully tied to production. They also begin with low-priced base years, use relatively inelastic demand elasticities and use relatively low supply elasticities for the non-subsidized regions. The studies at the low end leave out some subsidy programs (such as partially decoupled payments, crop insurance, step 2 programs and export credit programs). They also either use high demand and supply elasticities or begin with high-priced baselines.

The historical period or the future baseline matters, in part, because the marketing loans and counter-cyclical payments depend on the baseline prices for cotton and competing crops. Cotton prices have moved up and down dramatically in recent years. Baseline projections have also moved up and down, especially for the nearby years (FAPRI, ERS).

The responsiveness of quantity demanded to price incentive also matters to policy impacts. Most estimates indicate that the quantity of cotton demanded responds relatively little to the market price because cotton comprises a relatively small share of the total retail cost of textile products, these products comprise a relatively small share of consumer expenditures and for many products other fibers are not considered close substitutes by consumers.

Three supply response parameters are important for considering the impacts of removing or reducing U.S. subsidies on prices and welfare of LDC cotton producers. First, the supply response to subsidy reduction in the United States determines the reductions in cotton production from removal of program benefits. Second, the supply response to higher market prices in the rest of the world determines (along with the demand elasticity) how much the price rise before market-clearing equilibrium is restored. Finally, the supply response in the LDCs indicates how much they will increase output in response to higher global prices. Given that these countries comprise only a small share of the world cotton supply, their gain in total revenue and producer surplus (or net revenue) are greater the more elastic their supply.

Supply response in the United States to a large decline in subsidies is expected to be substantial. Alternative crops are available in most cotton growing regions, and in some regions the market price is below the USDA estimates of variable costs of production, suggesting that some cotton land may be removed from crop production altogether if an alternative crop is not feasible. Furthermore, McDonald and Sumner (2003) also show how the estimated supply response elasticities, which usually apply to the policy constrained responses, are smaller than those applicable to the question of policy reform. (See also Lin et al.). The supply response to removing cotton subsidy also depends on changes anticipated in subsidies for competing crops. If subsidies for competing crops are also reduced, as would be expected in a farm bill scenario or WTO negotiation scenario, the supply response from cotton will be moderated. In other countries, the

relevant supply responds to higher prices caused by subsidy reductions in the United States. The expansion in quantity supplied to the somewhat higher price may be muted especially in the short to intermediate period for two reasons. First, land, water, and other resource restraints often limit cotton expansion in well-established growing areas. Second, some major growing areas are partially insulated from world price movements by domestic policy (for example, China, Uzbekistan and some countries in Africa), or infrastructure problems (for example, China, India and countries in Africa). Gains to farmers will be highest in those countries in which world prices more completely translate into farmer revenue, rather than being diverted by others in the marketing chain.

Sumner (2003b) estimated that eliminating all U.S. cotton programs, while other farm programs remained in place, would reduce U.S. production by 25 to 30 percent, reduce U.S. exports by about 40 percent and raise world prices by about 10 percent. These are averages of estimates that apply over a range of base periods and initial price assumptions. Anderson and Valensuela found quite similar estimates for similar policy scenarios using a general equilibrium model approach. Considering the period of the 2002 farm bill to be a relevant baseline for looking to the future, the estimates would be somewhat larger because subsidies for cotton have been relatively large (Table 3).

Gains to cotton suppliers outside the United States are mainly from higher prices and, to a lesser extent, from larger production. The larger the initial production the larger the total gains, thus the cotton production industry in China and South Asia would be significant beneficiaries of higher cotton price increases. Cotton producing industries gain roughly in proportion to their output quantities, to the extent that governments and other institutional factors allow world market price increases to be transmitted to the local industry. However, in terms of national gains the cotton exporters are the largest beneficiaries because cotton buyers lose from higher prices. Thus while cotton suppliers gain in China and South Asia, because these regions are net importers, they may lose as a region because they buy more cotton than they produce. The C-4 nations of Africa are the largest net exporters in the world outside the United States and thus gain from higher projected cotton prices.

Sumner 2005b showed that the impact of such increases in the C-4 countries depends on the degree to which the higher prices are passed through to growers and the supply response. If subsidy removal causes world prices to increase by $0.05 per pound, that alone would add about $75 million in revenue of the C-4 countries, assuming an average production of 1.5 billion pounds (roughly the average production in 2003 to 2005 as shown in Table 1). If production increases modestly due to the subsidy cuts, say to about 1.8 billion pounds, then net gains to the cotton industry would be about $90 million. Of course, total revenue would increase by substantially more and the economy-wide impacts would be larger yet.

Sumner (2003b) also provides estimates of the effects of individual programs. In round figures, the Step 2 program alone accounted for about 15 percent of the total subsidy impact, which was for an increase in price of about 10 percent. According to those estimate we would expect that prices would have been about 1.5 percent higher but for the Step 2 program. Elimination of this program, which was driven by the WTO cotton dispute settlement has therefore already boosted price slightly from where it would have been. The major farm bill programs, marketing loans and counter-cyclical payments, account for most of the remaining subsidy effect. Thus, if the United States were to fully implement the ruling of the WTO panel by removing these programs, substantial price and production increases would be available to less developed countries. Direct payments also have significant impact, because they are relatively large, and the crop insurance subsidies, while smaller in dollar terms, have a direct production subsidy impact, because the subsidy is applied to all acreage not on a historical base.

If we considered a longer-run scenario to be applicable, and expected that other program subsidies would be reduced along with cotton subsidies, then the U.S. supply response would be smaller and the world price impacts would likely be smaller. The same policy change for U.S. cotton that was accompanied by

reductions in other U.S. subsidies, say as a part of renewed DDA negotiations, would cause smaller, but still significant, world cotton impacts. In the case of a successful DDA, however, EU cotton subsidies would also decline (given that recent EU reforms did not eliminate the program and may not be fully implemented) and lower EU production would contribute to larger price impacts on world prices. The cotton initiative, by urging larger cuts for cotton would also enhance impacts by reducing cotton subsidies more relative to those of other crops and thereby shifting some cotton area to crops facing smaller cuts.

V. Current Policy Forces and Opportunities

The WTO cotton dispute is beginning its implementation phase. So far, the United States has made no changes in the key marketing loan or counter-cyclical programs, which were named by the panel as two of the three subsidies causing significant price suppression. If Brazil prevails, substantial reductions in the impacts of those two programs are expected, and cotton prices would be less suppressed. At the same time, the DDA negotiations, along with the trade policy aspects of the cotton initiative, are at a standstill, which may or may not be overcome. The DDA negotiations might still offer gains for cotton that were somewhat smaller than resolution of the WTO cotton dispute, but if the U.S. is able to continue to refuse making required changes to the marketing loan and counter-cyclical payment programs during the implementation phase of that dispute, a successful cotton initiative could add to the result of the dispute.

There are many factors that affect the future of U.S. farm subsidy programs (Alston and Sumner). Chief among these are the market conditions for crops and the near term market prospects at the time the bill is being written. A myriad of issues such as budget reduction commitments, the role of non-traditional interests, such as environmental groups and non-subsidized commodities, the status of DDA negotiations, and the partisan composition of Congress also may affect the final commodity provisions.

The WTO cotton dispute has had a major influence on the debate leading to the 2007 farm bill. The reasoning and analysis of the WTO cotton panel decision as affirmed by the Appellate Body suggests that other U.S. farm “program” crop subsidies also may be vulnerable to WTO challenges (Sumner 2005a). This point has been made repeatedly by congressional leadership and the Secretary of Agriculture, including in the USDA Risk Management Theme paper (United States Department of Agriculture). (See also Thompson, who considers the cotton dispute as a prominent driver in the context of forces for change in the 2007 farm bill.)

Two features of the cotton ruling have particular importance for commodity programs. First, subsidy programs are vulnerable to challenges if they depress or suppress market prices or if they unfairly reduce production in other countries, and thereby harm the interests of commodity producers in other WTO member states. Other commodity program challenges will not follow the cotton case precisely, and we can envision, for example, cases that focus on specific foreign markets rather than the whole world market. Furthermore, in another case, with a different set of facts, challenges based on the price-depressing effects of crop insurance or direct payments could be successful even though that argument was not relied upon by the panel in the cotton case. Second, the ruling that crop insurance, counter-cyclical payments, and direct payments all counted towards support for upland cotton, suggests that the WTO Appellate Body has a broad view of what constitutes support. In the cotton case, the Panel and Appellate Body referenced the list of crops disallowed under the “direct payment” program, and this provision at a minimum is now likely to change. But, U.S. programs are vulnerable for inclusion in the “amber box” and even in the commodity specific AMS for other reasons as well. This means that one significant effect of the WTO cotton case may be broad changes in the level and form of U.S. farm programs, including those for cotton, to make them less trade-distorting and less likely to cause prices suppression in global markets.

Concluding Remarks

I have been asked to reflect on what role least developed countries can now play to encourage the kinds of cotton policy changes that they favor. Cotton policy in the United States is facing forces for change from three related policy vehicles: the 2007 farm bill, the WTO cotton dispute, and the DDA cotton initiative. These three are each on their separate time tracks, each has its own internal dynamic, and each provides some role for the least developed countries.

Just now, the DDA cotton initiative seems to have little scope for progress, given that the DDA itself has stalled. Therefore, a significant role for the least developed cotton producing countries is to strongly encourage all parties to make the needed negotiating concessions to get the DDA negotiations back on track. This may include discussions with all major parties, including the United States, the EU, and G-20 members such as India, China and Brazil. The least developed countries may have influence especially with India as a country with many poor farmers. The least developed countries may also have a significant role in discussion with the EU, which was a supporter of the cotton initiative, to stimulate movement as a gesture towards helping keep the cotton initiative alive. The least developed countries could play a very constructive role with the developing countries to point out the vital importance of keeping the DDA alive to help poor farmers in exporting regions.

A second role for the least developed countries in keeping the DDA alive is here in the United States. It is unclear what influence is available on modifications to U.S. offers or proposals. But, there may be a useful role for least developed countries in helping members of Congress understand the importance of the DDA to poor countries. This factor is likely to be more important because both houses of Congress changed to Democratic control in the 2006 elections. Without extension of negotiating authority for the administration it is hard to picture how a DDA could be completed within the next several years. Any vote on negotiating authority will be close, and some members who traditionally resist trade agreements may be influenced by articulate arguments from least developed countries about the importance of the DDA to them and their economies.

Especially if reductions in subsidies are not forthcoming in the WTO cotton dispute, pressure from the trade part of the cotton initiative has renewed importance. The WTO cotton dispute is following its own path of legal and economic analysis to be presented to an implementation panel, and then a ruling on implementation and perhaps decisions in the United States about further steps will occur. On this, there is a limited role for least developed cotton exporters to provide background support for Brazil. (The C-4 could decide to launch their own case against the United States, but this seems an unlikely option considering the costs this course of action would imply, the lack of retaliation threats these countries could make and that a new case on cotton would be unlikely to cause additional policy changes beyond what is achieved in the Brazil case.)

The role for least developed countries directly in the U.S. farm bill debate is limited. Where least developed countries could play a role is to continue to keep their issues in the public eye. Those members of Congress who usually pay little attention to farm policy may be encouraged to support subsidy reductions on humanitarian and economic development grounds, especially if they come from parts of the country with little direct interest in farm programs. This would be truer still if their local constituency is energized to communicate with their representatives.

The prospects for major changes in cotton policy are mixed. The cotton initiative had a very promising start, but with the DDA stalled, the initiative has been side tracked. Brazil won its major issues in the WTO cotton dispute, but implementation has been delayed, and is not assured. In the 2007 farm bill process, there are many forces for change, but the strong pull of the status quo has often prevailed in the past, so there are certainly no guarantees of major subsidy reduction in the coming bill. So, reduced subsidies are not assured by any means. But with several efforts ongoing, the likelihood of significant changes in U.S. cotton policy is probably higher now than anytime in the recent past.

Appendix A

Table 1. Cotton Production, Selected countries 1998-2005, 1000 480lb bales

	1998	1999	2000	2001	2002	2003	2004	2005	03-05
				('000 480 pound bales)					Share (%)
Benin	650	690	640	790	640	635	750	375	
Burkina Faso	550	505	525	725	750	965	1,180	1,350	
Chad	300	350	300	325	325	225	375	325	
Mali	1,000	900	480	1,100	825	1,200	1,100	1,025	
Total 4 country	2,500	2,445	1,945	2,940	2,540	3,025	3,405	3,075	2.9
China	20,700	17,600	20,300	24,400	22,600	22,300	29,000	26,200	23.5
United States	13,918	16,968	17,188	20,303	17,209	18,255	23,251	23,890	19.8
India	12,883	12,180	10,931	12,300	10,600	14,000	19,000	19,200	15.8
Pakistan	6,300	8,600	8,200	8,300	7,800	7,750	11,143	9,850	8.7
Uzbekistan	4,600	5,180	4,400	4,900	4,600	4,100	5,200	5,550	4.5
Brazil	2,391	3,216	4,312	3,519	3,890	6,015	5,900	4,700	5.0
Turkey	3,860	3,634	3,600	3,975	4,179	4,100	4,150	3,550	3.6
Other	18,349	17,896	17,974	18,114	14,833	15,717	19,285	18,132	16.1
World Total	85,501	87,719	88,850	98,751	88,251	95,262	120,334	114,147	100

Source: USDA FAS Production, Supply and Distribution Database, available at http://www.fas.usda.gov/psdonline/psdDownload.aspx

Appendix B

Table 2. Cotton Exports, Benin, Burkina Faso, Chad, Mali, and others, 1998-2005, in 1000 480lb bales

	1998	1999	2000	2001	2002	2003	2004	2005	03-05
				('000 480 pound bales)					Share (%)
Benin	600	650	625	650	725	675	625	500	
Burkina Faso	525	520	520	650	725	950	975	1,350	
Chad	290	330	300	275	300	250	300	325	
Mali	950	900	575	925	850	1,175	950	1,075	
Total 4 country	2,365	2,400	2,020	2,500	2,600	3,050	2,850	3,250	8.1
China	676	1,692	442	342	751	173	30	36	0.2
United States	4,298	6,750	6,740	11,000	11,900	13,758	14,436	17,550	40.7
India	195	70	94	60	56	700	660	3,250	4.1
Pakistan	10	415	582	180	231	170	558	322	0.9
Uzbekistan	3,812	4,200	3,450	3,500	3,400	3,100	3,950	4,700	10.5
Brazil	23	12	315	674	489	964	1,557	1,972	4.0
Turkey	394	207	127	133	313	357	152	200	0.6
Australia	3,040	3,211	3,903	3,130	2,655	2,157	1,998	3,000	6.4
Greece	964	1,080	1,424	1,000	1,150	1,225	1,170	1,350	3.3
Other	7,747	7,158	7,305	6,511	6,780	7,567	7,636	8,551	21.1
World Total	23,524	27,195	26,402	29,030	30,325	33,221	34,997	44,181	100

Source: USDA FAS Production, Supply and Distribution Database, available at http://www.fas.usda.gov/psdonline/psdDownload.aspx

Appendix C

Table 3: U.S. Cotton Subsidy, Market Value and Production, Recent Marketing Years ($ million)

	2002	2003	2004	2005
Direct payments	618[a]	616	615	611
Counter Cyclical payments	1,312	392	1,375	1,376
Step 2 User Marketing payments	429	350	544	350
Marketing Loan Program benefits	871	168	1,842	1,257
Crop Insurance subsidy	277	279	79	-11
Total support (Sum)	3,508	1,805	4,455	3,582
Value of production	3,497	5,266	4,540	5,204
Quantity produced, (million lbs)	7,935	8,555	10,802	11,165

[a] Includes production flexibility payments from previous farm bill.

Source: USDA, President's budget update July 2006, and updated figures and USDA Risk Management Agency website www.rma.usda.gov.

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Endnotes

[1] Upland cotton is the dominant type of cotton produced in the world and accounts for about 95 percent of the cotton grown in the United States. The other type, Extra Long Staple cotton, does not benefit from the subsidies provided to upland cotton, and the Brazil claims applied only to upland cotton. Henceforth, I will use the term cotton to mean upland cotton.

[2] These countries, Benin, Burkina Faso, Chad, and Mali, are sometimes called the cotton four, or C-4, in the context of the WTO cotton initiative.

[3] Remember the case began during the 2002 marketing year, and the first oral session was held before the 2002 marketing year for cotton had ended on July 31, 2003.

[4] This section draws, in part, on Sumner 2005b.

[5] Other government support, such as for research and development or irrigation projects and other infrastructure are available broadly for many commodities and are difficult to assess for cotton specifically. Irrigation subsidies are especially complex because they often relate to infrastructure that was built many decades ago.

[6] This section has been updated, revised and condensed from Sumner and 2005b.

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