ANNEX B

Cotton Support Policies

Cotton is one of the "programme commodities" in the US covered by those policies discussed in Chapter 3 on the crop sector policies. Until recently cotton has not been one of the commodities for which OECD calculated Market Price Support (MPS) and identified single commodity transfers in the Producer Support Estimates (PSE), although all budgetary expenditures to cotton producers and consumers have always been included in the calculations of the US PSE and Consumer Support Estimates (CSE).

However, as of 2009, cotton has been included in the list of US commodities for which MPS is calculated, and the MPS calculations have been made back to 1986. In the new PSE classification and presentation of data, the Single Commodity Transfers (SCT) for cotton are now also calculated. Given these developments and the importance of the United States in the global cotton market, this Annex discusses in some detail policies that apply to US cotton and the evolution of cotton support from 1986-2009.

B.1. Policy background

The United States is a major player in the global cotton market: it is the world's third-largest cotton producer (after China and India); the sixth-largest consumer; and the world's leading exporter of raw cotton. In 2009/10, 12% of global cotton production was located in the US, and it accounted for 33% of world cotton trade.

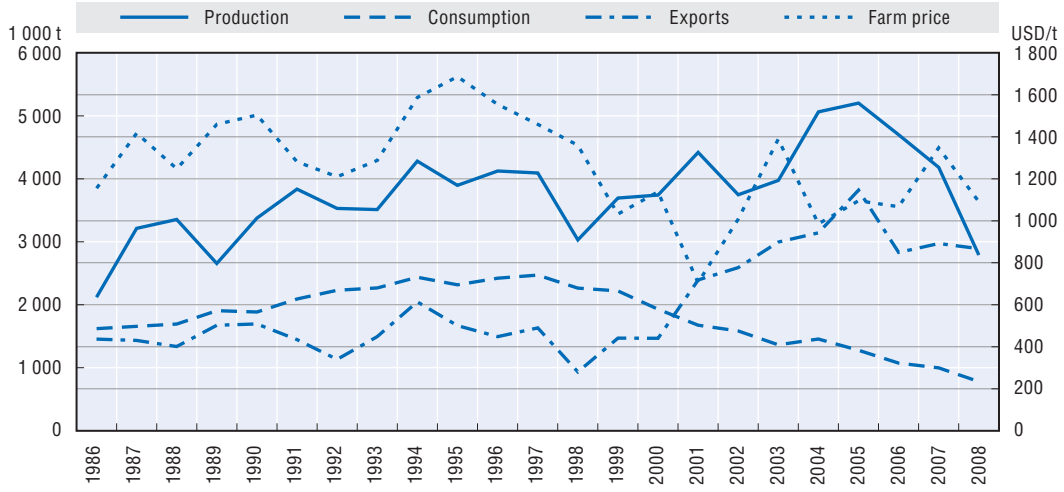
The cotton sector generates more than 200 000 jobs among the various sub-sectors from farm to textile mill, and accounts for more than USD 25 billion in products and services annually.[1] However, in recent years cotton has been losing market precedence and acreage to other competing commodities such as wheat, soybeans and maize.

Dramatic changes in supply and demand have been experienced in the sector over the past decade (Meyer, MacDonald and Kiawu, 2009). While technology has boosted cotton productivity, demand has shifted away from a domestic market sourced mainly with US cotton, to an export-oriented market, where US raw cotton helps supply a growing worldwide consumer demand for cotton products.

Paralleling advances in technology (seed varieties, fertilisers, pesticides and machinery) and production practices (reduced tillage, irrigation, crop rotations and pest management systems) cotton production has trended upwards over time – from 2.1 million tonnes in 1986 to 5.2 million tonnes 2005 (Figure B.1). However, production declined in following seasons, mainly due to a drop in cotton area.

The predominant type of cotton grown in the United States is "American Upland" – accounting for about 98% of the annual US cotton crop – with the remaining 2% commonly named as "American Pima" or extra-long staple ("ELS"). Cotton production in the United States extends across 17 southern States, but is increasingly becoming concentrated (*e.g.* in the Texas Plains; Mississippi, Arkansas, and Louisiana Deltas; central Arizona; and southern Georgia). ELS cotton is produced mainly in California, with small amounts grown in southwest Texas, New Mexico and Arizona.

Figure B.1. **US cotton production, consumption, exports and market prices, 1997-2008**



Source: OECD calculations based on ERS, USDA.

US consumption of domestically-produced cotton fabric and yarn has been declining rapidly since the mid-1990s – from a peak of 2.5 million tonnes in 1997 to 958 000 tonnes in 2008 – as a result of a dramatic rise in competition from imported textile and apparel products, and the re-location of the global textile and clothing industries.[2]

In contrast, exports have risen over time and have become more important – accounting for about 75% of US cotton demand in 2008 – as restructuring in the US textile industry continues to unfold. As with cotton production, US cotton exports experienced a general upward trend, until 2005 – when they peaked at 3.8 million tonnes – before starting to decline. In 2008, exports remained at similar to the previous two years – estimated at 2.8 million tonnes – and exceeded production as production and stocks fell considerably. The top export destination is China. The US exported approximately 32% of its cotton to China in 2007/08. Other major markets are Turkey, Mexico, Indonesia, Thailand and Vietnam.

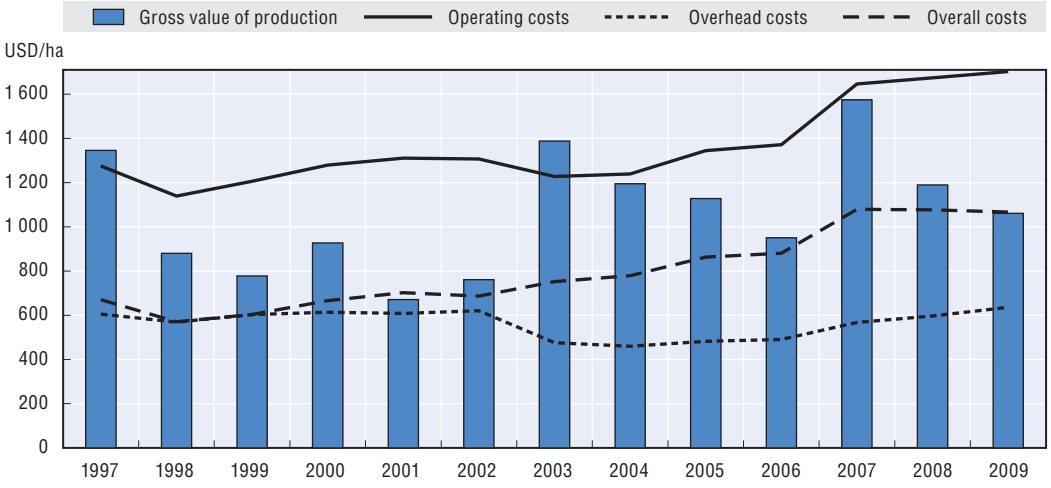
The area planted to upland cotton has averaged about 4.8 million hectares over the past 30 years. However – like production – acreage and yield have fluctuated over time as a result of weather conditions, varying market conditions and changes in government policy. In 2008, area harvested sharply decreased, reaching 3.1 million hectares, which is the lowest since the mid-1980s. The decline in cotton area can be attributed to farmers switching to more competitive commercial crops, such as grains and soybeans. In addition, less than favourable weather conditions in 2008 led to the highest percentage abandonment in a decade and reduced the national average yield below the previous 3-year average. As a

result, production fell significantly to its lowest in nearly 20 years (Meyer, MacDonald and Kiawu, 2009).

Production of cotton is highly input intensive. Although water shortages is not a widespread issue as only 31% of area is irrigated, some areas suffer from water shortages. Yields increased at an annual average rate of 2% over the 1986-2008 period, reaching 985 kilograms per hectare in 2008.

A key issue affecting the US cotton industry is the high cost of production, particularly operating costs. Figure B.2 displays the evolution of cost of cotton production and of farm receipts from 1997-2009. Over this period, operating costs (such as seed, fertiliser, chemicals fuel and repairs) averaged about USD 800 per hectare, while overhead costs (which include depreciation of equipment and building, land ownership and rental costs, tax insurances, general farm overhead, unpaid and hired labour) averaged USD 564 per hectare. While, on average, operating costs were more than covered by the gross value of production, total costs exceeded the gross value of production (excluding government supports). In addition, in 2001 and 2009 the gross value of production was insufficient to cover the operating costs.

Figure B.2. **US costs of cotton production and farm revenues, 1997-2009**



Source: OECD calculations based on ERS, USDA.

According to the 2007 Census of Agriculture, the number of farms harvesting cotton had declined by 80% between 1997 and 2007, while the area per farm had expanded by 27%. Farms growing cotton tend to be larger than those producing other crops, with above-average gross farm incomes and government payments. Cotton farm operators are also more likely to list farming as their occupation and to have completed high school and college, compared with other farm operators.

In 2007, there were 18 591 farms producing cotton. Out of this total, 71% (13 232 farms) were classified as specialised cotton farms (*i.e.* a minimum of half of the value of their commodity sales were of cotton) and this group produced nearly 98% of that year's total cotton crop. A quarter of these specialised cotton farms are categorised as "small family" farms, and they produced almost 8% of total receipts. Very large farms accounted for 43% of all farms and 65% of receipts. Cotton farms averaged 228 ha per farm, compared with 169 ha for other farms.

Cotton accounts for around 4% of receipts from all crops and 1.5% of receipts from the whole agricultural sector (Table E.1). In 2007, cotton farms generated an average net cash income of USD 159 397 per farm, far more than the average of USD 33 822 for non-cotton farms in the cotton production regions. Around 82% of cotton farms experienced net gains, compared with 47% for non-cotton farms.

Total government payments averaged USD 77 899 per cotton farm in 2007, compared with USD 3 948 per non-cotton farm in cotton-producing States. Direct, countercyclical, and loan deficiency payments comprise most of the payments. In 2007, government payments contributed over 11% of gross cash income on cotton farms, compared with 4% for non-cotton farms (Table E.9).

B.2. Main policies

As pointed out earlier, cotton is one of the "programme commodities" in the US and, as such, most of the policies described in this section apply to all programme commodities in the US, as discussed in Chapter 3, *Crop Sector Policies*. Historically, the cotton sector is one of the most heavily supported sectors in the United States. Successive Farm Acts contained several provisions concerning the cotton sector and numerous programmes exist which transfer resources from consumers and taxpayers to cotton producers. During the period 2002 through 2009, cotton accounted for over 5% of the value of agricultural production in the United States and 19% of the government payments for agriculture.

As cotton is one of the "covered commodities", the 2008 Farm Act provides cotton producers access to marketing loans and loan deficiency payments, direct payments (DPs), counter-cyclical payments (CCPs), Average Crop Revenue Election (ACRE) payments and import protection programmes discussed in the main body of the report. Moreover, cotton users (millers) benefit from the new Upland Cotton Economic Adjustment Assistance Program and the export assistance and import protection programmes discussed in the main body of the report.

In addition, cotton producers may benefit from crop and revenue insurance available under previous legislation, as well as from new disaster assistance programme. Moreover, cotton producers are affected by conservation (through conservation compliance) and trade measures (such as import quotas, export credit guarantees). Some of these programmes are specific to cotton producers, while other are broader and cover a specified list of commodities in which cotton is also included ("covered commodities").

Production flexibility contract payments

Cotton was one of the seven commodities which were eligible for historically based Production Flexibility Contract (PFC) payments made under the FAIR Act of 1996. Over the period of the 1996 Farm Act (1996-2002), PFC payments for historical cotton base averaged USD 578.2 million (or 11% of the total PFC payments) (Table B.1).

Market loss payments

Cotton was one of the historical base commodities which were eligible the Market Loss Assistance (MLA) payments which were granted on an *ad hoc* basis to compensate for losses sustained as a result of low commodity prices over FY1999-2001. MLA payments for holders of cotton base acres averaged USD 688.7 million (or 11% of the total MLA payments).

Direct payment, counter-cyclical payments and average crop revenue election (ACRE) programme

Historical production of upland cotton qualifies for DP and CCP programmes, both of which were established under the 2002 Farm Act. Counter-cyclical payments are made to holders of cotton base whenever the target price is greater than the effective price for cotton. The latter is equal to the direct payment plus the higher of the loan rate and the national average farm price.

Since the 2002 Farm Act (FY2003-08), the United States has provided about USD 4 735.9 million per year in DP tied to the historical yield and acreage base of programme commodities (Table B.1). Cotton DP account for about USD 552 million per year, or 12% of the total. Although these payments are distributed to producers who have historically grown cotton, the payments continue even if the land is subsequently used for producing other crops, for livestock grazing, or left idle.

Although paid on the same historical basis, unlike the DP, the CCP for cotton vary inversely with the US national average market price of cotton and thus rise and fall from year to year. The CCP payments for cotton averaged USD 976.7 million per year from 2003-08 (or 44% of the total counter-cyclical payments).

In the 2008 Farm Act, the payment rate for upland cotton DP remained unchanged at USD 147 per tonne, while CCP target prices were reduced from USD 1 596.1 per tonne, under the 2002 Farm Act, to USD 1 570.9 per tonne for crop years 2008-12. Beginning with the 2009 crop year, producers holding DP and CCP base acres for cotton could choose to enrol their crop production in the new ACRE programme (see Chapter 3) and give up rights to CCP payments and accept reductions in DPs and marketing loan rates.

Table B.1. **Commodity payments not requiring production, FY1996-2008**

USD million

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Direct payments (DP)													
Upland cotton								477	622	608	575	454	574
Total commodities								4 151	5 289	5 235	4 962	3 957	4 821
Countercyclical payments (CCP)													
Upland cotton								1 264	217	1 421	1 410	1 281	267
Total commodities								1 743	809	2 772	4 356	3 159	359
Production flexibility payments (PFP)													
Upland cotton	687	605	641	616	572	475	452						
Total commodities	5 141	6 320	5 672	5 476	5 057	4 105	3 968						

Source: OECD calculations based on FSA Budget Division.

Marketing assistance loans and loan deficiency payments

As for other programme crops, the marketing loan program provides US cotton growers short-term financing as well as income support when cotton prices are low. Like producers of other programme crops, cotton growers can receive marketing loan benefits in either of two ways: i) growers can put their cotton production under loan at the loan rate, which can be forfeited to the CCC, rather than the loan being repaid. The loan can also be repaid at the adjusted world price (AWP) (*e.g.* Far East price), which is related to world prices by a formula specified in the legislation, when the AWP is less than the loan rate. The difference between the loan rate and the AWP is called the marketing loan gain;

ii) growers can receive loan deficiency payments (LDP). That is, instead of putting their cotton under loan, growers can receive a one-time payment on eligible production when the AWP is below the loan rate. The LDP payment rate is calculated as the difference between the loan rate and the AWP.

As for other covered commodities, under the FAIR Act of 1996, marketing assistance loans for upland cotton were provided only for upland cotton harvested on a farm covered by a Production Flexibility Contract (PFC) for any eligible historically produced commodity. The programme was re-authorised under the 2002 FSRI Act, but with changes to certain elements.[3] The marketing loan benefits for cotton averaged around USD 1.0 billion per year from 2002-07. Under the 2008 Farm Act, the base quality loan rate for upland cotton is USD 1 146.4 per tonne for the 2008-12 period, a level unchanged from the rate established under the 2002 Farm Act.

User marketing (Step 2) payments

The upland cotton-user marketing certificate or "Step 2" programme was authorised from 1990 until 2006 under successive legislation, including the FAIR Act of 1996 and the FSRI Act of 2002. Its objective was to bridge the gap between higher domestic US and world prices so that US exporters and mills maintain their competitiveness.

Payments were made to eligible domestic end-users of cotton and export shippers of US cotton when *i)* domestic US prices exceeded North Europe c.i.f. prices by a certain level and *ii)* the world price was within a certain level of the base loan rate. The domestic Step 2 payments assured that the net cost to domestic cotton users is lower for US cotton than for import alternatives.

Over the 2002-05 period, "Step 2" payments averaged USD 363 million per year, of which USD 253 million went to assist exports. The "Step 2" programme ended in 2006 marketing year as a part of the US response to the WTO upland cotton case which was brought against US programmes by Brazil.[4]

Crop and revenue insurance payments

As discussed in Chapter 3, producers of upland cotton are offered annual crop yield or revenue insurance coverage for losses due to natural disasters and market fluctuations. Over 90% of cotton area covered by federal crop insurance is insured at coverage levels of 70% or less of expected yield or revenue. Crop insurance benefits to cotton producers, which include the difference between payments and premiums paid by farmers, amounted to approximately USD 161 million per year from 2002-08.

B.3. Cotton support estimates, 1986-2009

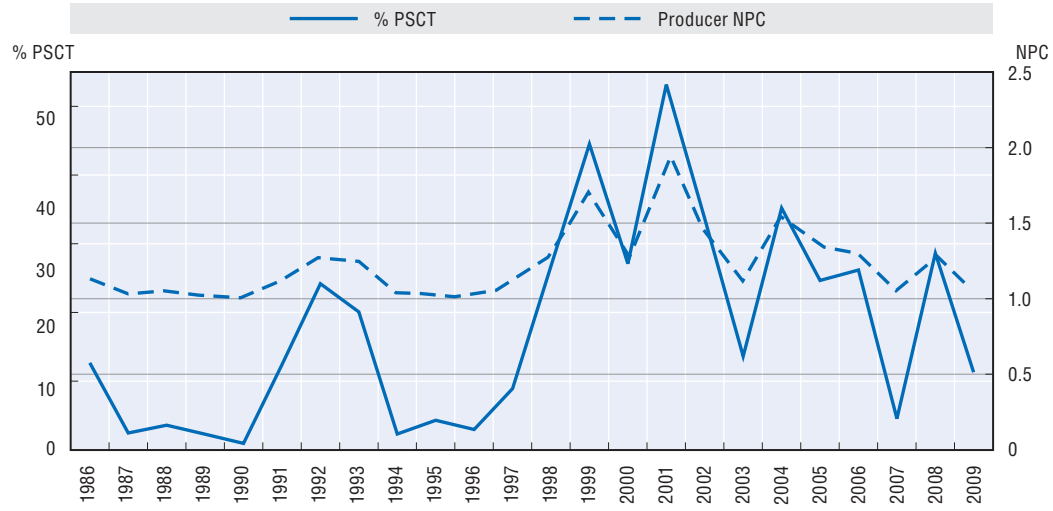
The budgetary support accorded to the cotton producers has always been included in the calculations of the US PSE and CSE, and as of 2009, cotton has also been included in the list of MPS commodities for the US. The MPS element of producer support has also been calculated back to 1986.[5]

Levels of specific support to cotton producers, as measured by the Producer Single Commodity Transfers (PSCT) indicator, have varied widely over time (Figure B.3). Since 1986, the PSCT for cotton peaked twice, once in 1999 and 2001. Both peaks occurred at times when cotton market prices were very low. Support levels subsequently declined sharply in 2003 and from 2004 to 2007.

In 2007-99, on average, USD 686 million, or about 7% of the USD 9 432 million single commodity transfers to agricultural producers, was allocated to producers of cotton. The size of the PSCT for cotton relative to gross farm receipts (% SCT) for cotton (15%) was above the average % PSE of the whole agricultural sector (9%), while producer prices were aligned with world prices (producer NPC of 1.00). As shown in Figure B.4 and Table B.2, PSCT transfers to cotton producers are accorded primarily through payments based on output and on area (crop insurance).

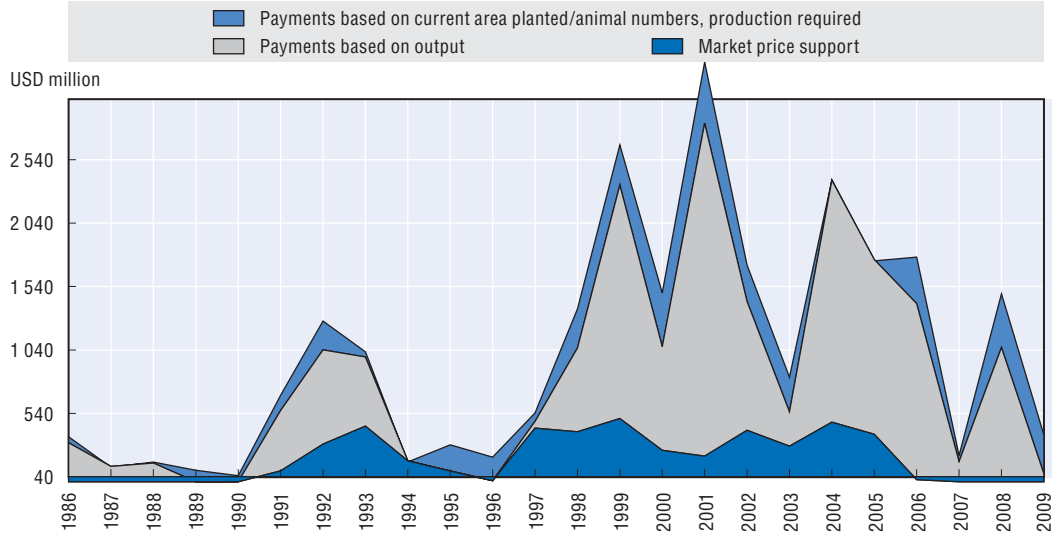
The cost imposed on consumers of programme payments to producers of cotton, as measured by the Consumer SCT, has also varied widely over time (Table B.2). In some years, the Consumer SCT was positive, indicating that spending on programmes such as the ELS programme and the Upland Cotton User Marketing Program (domestic share), more than offset the cost to consumers of market price support.

Figure B.3. **Evolution of support indicators for US cotton, 1986-2009**



Source: OECD, *PSE/CSE Database*, 2010.

Figure B.4. **Decomposition of US cotton Single Commodity Transfers, 1986-2009**



Source: OECD, *PSE/CSE Database*, 2010.

Table B.2. **Producer and Consumer Single Commodity Transfers to US cotton producers, 1986-2009**

Million USD

	1986-88	1996-2001	2006-09	2008	2009
Producer Single Commodity Transfers (PSCT)	**208**	**1 593**	**1 277**	**1 483**	**370**
Support based on commodity output	***192***	***1 296***	***1 277***	***1 483***	***370***
Market price support	0	296	5	0	0
Payments based on output	192	1 000	890	*1 059*	*63*
Loan deficiency payments	57	315	84	*130*	*13*
Marketing loan gains	136	195	9	*0*	*3*
Certificate exchange gains	0	358	626	*823*	*26*
Commodity loan interest subsidy	0	29	65	*24*	*22*
Storage payments	0	58	107	*82*	*0*
Market loss payments	0	45	0	*0*	*0*
Payments based on current area planted/animal numbers, production required	***16***	***297***	***381***	***423***	***307***
Crop insurance Cotton	16	297	381	*423*	*307*
ACRE	0	0	0	*0*	*0*
% PSCT	**6**	**27**	**24**	**29**	**11**
Producer NPC	**1.06**	**1.39**	**1.16**	**1.29**	**1.02**
Consumer Single Commodity Transfers (CSCT)	**0**	**–25**	**28**	**30**	**84**
Transfers to producers from consumers	0	176	1	0	0
Transfers to producers from taxpayers	0	119	3	0	0
Transfers to consumers from taxpayers	0	152	29	30	84
Uppland cotton user marketing payments: domestic share	0	151	0	0	0
ELS program	0	1	10	30	10
Upland Cotton Economic Adjustment Assistance program	0	0	19	0	75

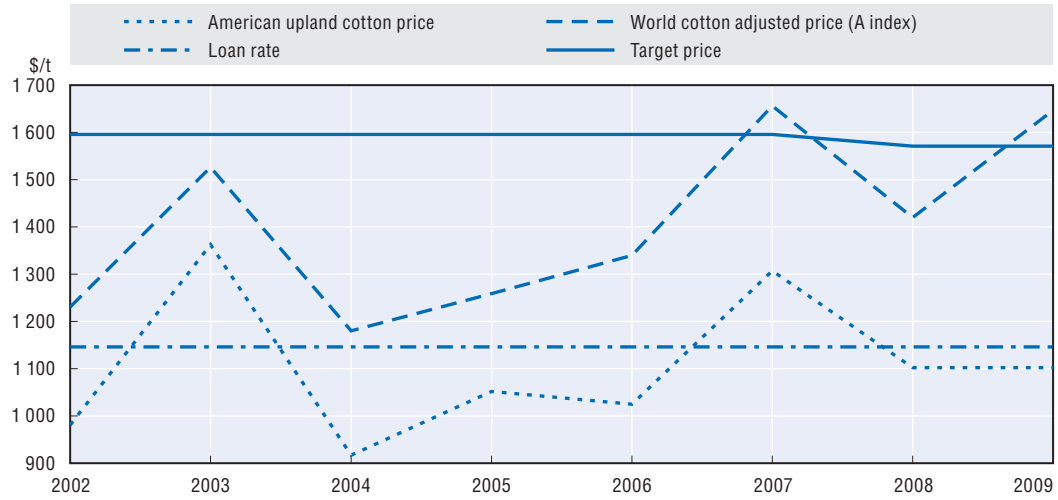
Note: Transfers to producers from taxpayers is the share of marker price support financed by taxpayers (*e.g.* the export share of Export User Marketing payments).
Source: OECD, *PSE/CSE Database*, 2010.

B.4. Policy issues

Overall, the reduction in target prices, combined with the elimination of Step 2 programme payments, has enhanced the market orientation of the sector. If the Adjusted World Price (AWP) declines below the loan rate then marketing loan payments will increase; but if the AWP remains above the loan rate, but below the CCP trigger price (target price – DP rate), CCP payments based on historical production could be perceived by producers as offsetting losses from lower prices if recipients have continued to produce cotton.

Overall, the small reductions in the target prices authorised under the 2008 Farm Act would suggest that, unless world cotton prices are sustained at levels that are very high historically, payments to holders of cotton base will remain high, making adoption of the new ACRE programme less attractive than retaining the CCP and DP programmes (Figure B.5).

Figure B.5. **US cotton prices, 2002-09**



Source: OECD calculations based on ERS, USDA.

Notes

1. See ERS/USDA, Cotton briefing: *www.ers.usda.gov/Briefing/Cotton*.
2. Textile trade reforms, like the termination of the Multifibre Arrangement (MFA) quotas in December 2004, partly account for the shift in cotton mill demand.
3. In particular, loans are provided for upland cotton produced on any farm, the term of a marketing assistance loan for upland cotton is reduced from ten months to nine months, the same length offered for other commodities, and the loan rate for upland cotton is fixed by the Act itself for the 2002 through 2007 crop years.
4. In 2002 Brazil brought a case against the US cotton programmes and a panel was established in March 2003. The most important claims of Brazil were that: Step 2 payments to domestic users constituted a prohibited domestic content subsidy; Step 2 payments to exporters constituted a prohibited export subsidy; export credit guarantees were prohibited export subsidies; and production flexibility contract payments and direct payments, market loss assistance payments and countercyclical payments, marketing loan benefits, the crop insurance subsidies for cotton, Step 2 payments, and export credit guarantees all supported cotton and contributed to serious prejudice of Brazil's interests, mainly by causing world cotton prices to be lower than they would otherwise have been and by causing the US world market share to rise and to be higher than otherwise.
5. The price gap for cotton is calculated based on the same method as used for wheat, barley, rice, pig meat, poultry meat and eggs. The price gap is assumed to be equal to the average unit value of export subsidy for cotton (*i.e.* total value of export subsidies for the crop year divided by total exports of cotton).