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Disciplining Trade-Distorting Support to Cotton in the US: An Unfinished Agenda in WTO Negotiations

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TABLE OF CONTENTS

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ABSTRACT[1]

Abstract Despite the higher cost of production, the developed country-members of the WTO like the United States (US) enjoy an artificial comparative advantage in the international cotton markets due to its huge subsidies and entitlements at the expense of the poor farmers of the developing countries. This paper has critically examined the effects of various proposals in the WTO negotiations on the flexibilities to the US to support its cotton farmers. Further, it has traced the history of cotton subsidies in the US and highlights some contentious issues related to the imbalances and asymmetries in the Agreement on Agriculture (AoA). Our findings show that if the various proposals by the member-countries are agreed upon and implemented in true spirit, there will be a considerable reduction in the policy space for the US, benefitting millions of cotton farmers in the developing world.

Keywords WTO, Agreement on Agriculture, Amber box, Sustainable Development Goals, cotton subsidies

JEL codes F13, F14, F17, F51, Q17, Q18

[1]All views expressed are personal.

DISCIPLINING TRADE-DISTORTING SUPPORT TO COTTON IN THE US: AN UNFINISHED AGENDA IN WTO NEGOTIATIONS

SECTION 1: INTRODUCTION

The high levels of entitlements to the developed country-members of the WTO to provide trade-distorting support to their agricultural sectors, in general, and cotton sector in particular, has been an issue of concern for millions of low-income and resource-poor farmers in the developing and the least developed countries (LDCs) (Sharma et al. 2020a). Given the strategic role of cotton in agricultural development and poverty reduction, the four poor African countries, viz., Benin, Burkina Faso, Chad and Mali, also known as Cotton-4 (C-4) countries, have been consistently demanding a reduction in the trade-distorting support by the developed countries (WTO 2003; WTO 2017a; WTO 2019, Sharma and Bugalya 2014). It is argued that the massive support provided by some developed countries has rendered cotton production uncompetitive for developing members, displacing them from the international market, leading to a disastrous impact on their agricultural growth, export earnings and farm incomes. Even after two decades since the initiation of the Doha round in 2001, the reduction in trade-distorting support to cotton has remained an unfinished agenda in the WTO. By stressing on the crucial role of cotton towards achieving the Sustainable Development Goals (SDGs) related to poverty reduction and food security, the C-4 and other developing countries have been urging the WTO members to work towards disciplining the domestic support to cotton (WTO 2017a).

The US has been providing massive support to its cotton farmers through several programs, such as price loss coverage (PLC), insurance premium subsidies and market loss assistance. Owing to the high level of support under various Farm Acts since 1933, the US has enjoyed an artificial comparative advantage in the international market. Even at the time of the Uruguay round (UR), the cotton-specific support in the US was 85% of the value of production (VoP) (WTO 1994a), while the developing countries provided either negative or negligible support (WTO 1994b). Not only that, the UR negotiations allowed some developed countries to inflate their policy space to support their farmers in future too. It is a known fact that the founding members of the WTO used 1986-88 as the base period to determine their commitments to provide trade-distorting support in the future (Sharma 2016). However, the UR modalities allowed members to claim 'credit' in the form of additional domestic support entitlements for any voluntary reforms undertaken since 1986 (WTO 1993). The argument was that as some members had undertaken voluntary domestic reforms during the UR negotiations (1986-94) and the credit must be given for that in determining their trade-distorting entitlements (Paarlberg 1997). Taking advantage of this provision, instead of using 1986-88 as base period, the US took trade-distorting support data of several products for 1986 to determine its commitments. Its favourable impact for the US can be seen from the fact that the base-level trade-distorting support would have been US$ 21.03 billion at 1986-88 average base, rather US$ 23.88 billion at 1986 base. As per the Agreement on Agriculture (AoA), the US needed to reduce the base-level trade-distorting support by 20%. It is due to the inflated base-support, that the US has currently been allowed to provide US$ 19.10 billion trade-distorting support, rather than US$ 16.81 billion in the absence of credit taken during the UR. These historical imbalances and special carve-outs have rewarded developed member-countries a substantial policy space. On the other hand, most developing members have been penalised for providing negligible trade-distorting support during 1986-88 by capping their flexibilities at 10% of the VoP.

As the US had taken credits for the voluntary domestic reforms, it was expected that the trade-distorting support would decline after 1995. Instead, the trade-distorting support to cotton as percent of its VoP increased from 0.44% in 1995 to 74.16% in 2001. The US policy was criticised, especially after the Oxfam study (2002) concluded that cotton-specific subsidies in the US have resulted in ‘cultivating poverty’ due to its devastating impact on gross domestic product (GDP), exports, prices and livelihoods of poor farmers in C-4 countries. The studies by the ICAC (2002), Sumner (2003), FAO (2004), Baffes (2004) and Traoré (2007) also echoed similar sentiments. Further, Brazil successfully challenged the cotton-specific support measures of the US in the WTO though dispute settlement body. Despite, the US continues to provide substantial trade-distorting support to cotton, although some changes were made in the support programs through the Farm Acts since 2002.

Currently, the US is a top exporter of cotton — more than 80% of its production is exported. It has consolidated its share in the international market, up from 28% in 1995 to 35% in 2020. The cost of production in the US is much higher than in the global south, but the US enjoys an artificial comparative advantage in the international cotton market due to the high levels of domestic support. In fact, during 1995-2020 it provided US$40 billion subsidy to cotton farmers through several programmes (EWG 2020).

The developing countries are already at a disadvantage due to small landholdings, lack of safety nets, and low level of support, among others. For instance, there are a total 8103 cotton farmers in the US with an average cotton farm-size of 624 hectares, as against 9.8 million cotton farmers with an average cotton farm-size of 1.2 hectares in India (ICAC 2019). Ignoring this fact, the US has been building a narrative that the cotton farmers in Africa suffer because of the domestic support that India provides to its cotton farmers. It should be noted that in 2019 India exported 16.7% of its cotton output, whereas the US exported 80%. Additionally, the average cost of cotton lint in India is significantly less than in the US. Furthermore, based on the latest domestic support notifications, the average per farmer cotton-specific trade-distorting support in the US is estimated US$ 117493, whereas it is just US$ 26 in India. Such a huge difference in the support has disastrous implications for the poor developing members.

To address the adverse impact of the cotton subsidies, the C-4 in 2003 called for sectoral initiatives for cotton by the establishment of a mechanism at the Cancun Ministerial Conference (MC) for phasing out of cotton production subsidies. These countries argued that the elimination of these subsidies would make cotton production profitable in West and Central African (WCA) countries and could act as an important catalyst for poverty reduction (WTO 2003). However, the Cancun Ministerial Conference, 2003 failed to establish any mechanism for the elimination of cotton subsidies as it was politically inconvenient for the US to commit to any reductions. After the Cancun debacle, the General Council Decision, also known as July 2004 package, called for addressing the cotton issue ambitiously, expeditiously and specifically within the agriculture negotiations. The same was reaffirmed by the Hong-Kong Ministerial Declaration (2005) which said that trade-distorting domestic support to cotton should be reduced more ambitiously and expeditiously than whatever general formula is agreed upon for reducing trade-distorting agricultural subsidies. Further, the declaration sought to eliminate the export subsidies to cotton by 2006 along with providing duty-free and quota-free market access to cotton exports from the least developed countries (LDCs). As a result, the Revised Draft Modalities Text (Rev.4) on agricultural negotiations contained specific provisions to discipline trade-distorting support to cotton (WTO 2008). The 9th MC at Bali in 2013, reaffirmed the previous ministerial decisions along with bi-annual dedicated sessions on cotton to discuss the latest developments on market access, domestic support and export subsidies for cotton. These dedicated sessions are covered under agriculture negotiations. Members agreed on some of the important issues related to cotton trade at the Nairobi MC in 2015. It was agreed that developed members, and developing members declaring themselves in a position to do so, shall grant duty-free and quota-free market access to cotton export from the LDCs by 1st January 2016. Further, it was decided to eliminate export subsidies to cotton along with strengthening development assistance for cotton in the LDCs. On the domestic support front, nothing substantial happened in the Nairobi (2015) and Buenos Aires (2017) MCs, and disciplining trade-distorting support to cotton remains an unfinished agenda even after 17 years since the sectoral initiatives of 2003. Currently, the cotton issue is being discussed parallelly at the Committee on Agriculture Special Session (CoASS) for trade reforms in cotton, and under the "Director-General's Consultative Framework Mechanism on Cotton" with a focus on development assistance.

Over the years, the WTO members engaged in intense negotiations to discipline the cotton subsidies through the submission of technical proposals. These negotiations aim at curtailing the policy space for trade-distorting cotton support. Some of the relevant documents and proposals are the Rev. 4 Modalities (WTO 2008) and the submissions by the C-4 countries (WTO 2017a; WTO 2019), EU-Brazil (WTO 2017b), China-India (WTO 2017c) and Argentina (WTO 2017d). As the US is a key player in cotton trade and has significant policy space to provide cotton-specific trade-distorting support, this paper makes a modest attempt to examine the impact of these proposals on the flexibilities to the US to support its cotton farmers in the future, and also traces the history of US cotton subsidies programmes and highlights some of the contentious issues related to the imbalances and asymmetries in the AoA.

This paper is organized as follows: Section 2 deals with methodological issues, whereas Section 3 traces the history of cotton subsidies in the US and other issues under the AoA and negotiations. Section 4 estimates the impact of various proposals on the policy space of the US to provide cotton-specific support. Concluding remarks are made in the final section.

SECTION 2: METHODOLOGY

The AoA categorises the domestic support measures under the Amber, Green, Blue and Development boxes. The Green box measures are treated as the minimal trade-distorting, and include general services, food subsidy and decoupled direct payments, among others. The Blue box covers direct payments to farmers under the production-limiting programs. All WTO members can provide unlimited support under Green and Blue boxes subject to specific conditions. Further, the AoA allows investment, and input subsidies to low-income or resource-developing countries under Article 6.2 without any financial limit.

All other domestic supports are covered under the Amber box and are subject to strict financial limits. Product and non-product specific supports are the two main components of this box. Market price support, price deficiency payments, and other budgetary support specific to a product are covered under product-specific Amber box. On the other hand, input subsidies (e.g., fertilizer, irrigation and power subsidies) are covered under non-product specific support. All members are allowed a minimum level of product and non-product specific support within a *de minimis* limit. For developing countries, the limit is 10% of the VoP of a product as the product-specific, and 10% of the VoP of the total agricultural sector as the non-product specific in a relevant year. For developed countries, the *de minimis* limit is 5%. It should be noted that only a few WTO members are entitled to provide Amber box support above the *de minimis* limit. The members who had given Amber box support above the *de minimis* limit in the base period 1986-88 can provide support beyond their applicable *de minimis* limit. Most of the developing countries did not provide Amber box support above their *de minimis* limit during the base period, and therefore, their policy space is capped at the applicable *de minimis* level in the future too.

During the base period, the US had given US$23 billion support to agriculture beyond the applicable *de minimis* limit of 5%. As per the AoA, the US had to reduce base bound Amber box, also called the base aggregate measurement of support (AMS), by 20% during 1995-2000. This resulted in the existing final bound AMS entitlement of US$ 19 billion. In other words, the US can provide Amber box support above the *de minimis* limit, but subject to the final bound AMS limit of US$ 19 billion (Table 1). Further, in the absence of a product-specific limit under the AoA, the US can use this additional entitlement to concentrate its trade-distorting support in few products (Sharma 2020). For instance, over the years, the product-specific Amber box is mainly concentrated in corn, cotton, sugar, rice, soybean and dairy products, among others. The AoA does not restrict the US to use its whole AMS entitlement to support its cotton farmers in any year.

Table 1 Overview of flexibilities to provide support to agriculture under different boxes

<table>
<tr><th>Members</th><th>Final bound AMS</th><th>De minimis limit (%)</th><th>Development box</th><th>Blue box</th><th>Green box</th></tr>
<tr><td>US</td><td>US$ 19.10 billion</td><td>5</td><td>NA</td><td rowspan="4">unlimited</td><td rowspan="4">unlimited</td></tr>
<tr><td>EU</td><td>US$ 81.32 billion*</td><td>5</td><td>NA</td></tr>
<tr><td>Most Developing members</td><td>0</td><td>10</td><td>Unlimited</td></tr>
<tr><td>China</td><td>0</td><td>8.5</td><td>NA</td></tr>
</table>

Notes NA: Not applicable for select member; * 2019 exchange rate is used for the EU Final Bound AMS
Source Authors' compilation based on the AoA and members' domestic notifications

In this background, the existing policy space under the AoA is compared with new limits suggested in various proposals such as (1) Rev. 4, (2) China-India, (3) EU-Brazil, (4) C-4 and (5) Argentina. Cotton-specific limits are projected under these proposals up to 2030. The VoP data is based on the domestic support notifications of the US during 1995-2017. The VoP data for the future is projected based on the compound annual growth rate during 1995-2017. Additionally, this study critically analyses cotton policy over various Farm Acts.

SECTION 3: EVOLUTION OF US COTTON POLICIES UNDER THE WTO

The US is a significant player in the international cotton market. Its share in the global cotton production is 14.5%, but it captures 35% percent of the global exports. It exports 85% of its cotton output (**table 2**). Brazil and C-4 countries also export a sizable proportion of their cotton output. India and China domestically consume a larger proportion of their cotton output. In 1995, the US exported 43% of its cotton output, which increased to 86% in 2020, raising its share in the global cotton exports from 28% to 35% (**figure 1**). Note that the cost of production of cotton lint in the US is one of the highest in the world — US$1.65 as against US$1.34 in Brazil and US$1.44 in India (**figure 2**). Despite this, the US has been able to increase its share in the global market. To explore this issue, the US domestic policy on cotton merits a discussion.

Table 2 Global scenario of the cotton trade in 2020

Region	Production	Domestic consumption	Exports	Imports	Share of export in production	Share of import in production	Global export share
	1000 tons				percent		
World	117204	112835	41722	41752	35.6	35.6	100.0
United States	17064	2517	14600	3	85.6	0.0	35.0
Brazil	12000	3000	9200	25	76.7	0.2	22.1
India	30000	22500	5000	1000	16.7	3.3	12.0
China	27250	36500	125	9000	0.5	33.0	0.3
Pakistan	6200	10025	75	3800	1.2	61.3	0.2
C-4 countries							
Benin	1425	15	1300	0	91.2	0.0	3.1
Burkina	900	25	800	0	88.9	0.0	1.9
Mali	950	25	1000	0	105.3*	0.0	2.4
Chad	330	10	225	0	68.2	0.0	0.5

Note *It is higher than 100% as the last year stocks also exported.
Source Authors' compilation based on the estimates by the USDA-PSD for the year 2020 (https://apps.fas.usda.gov/psdonline/app/index.html#/app/home)

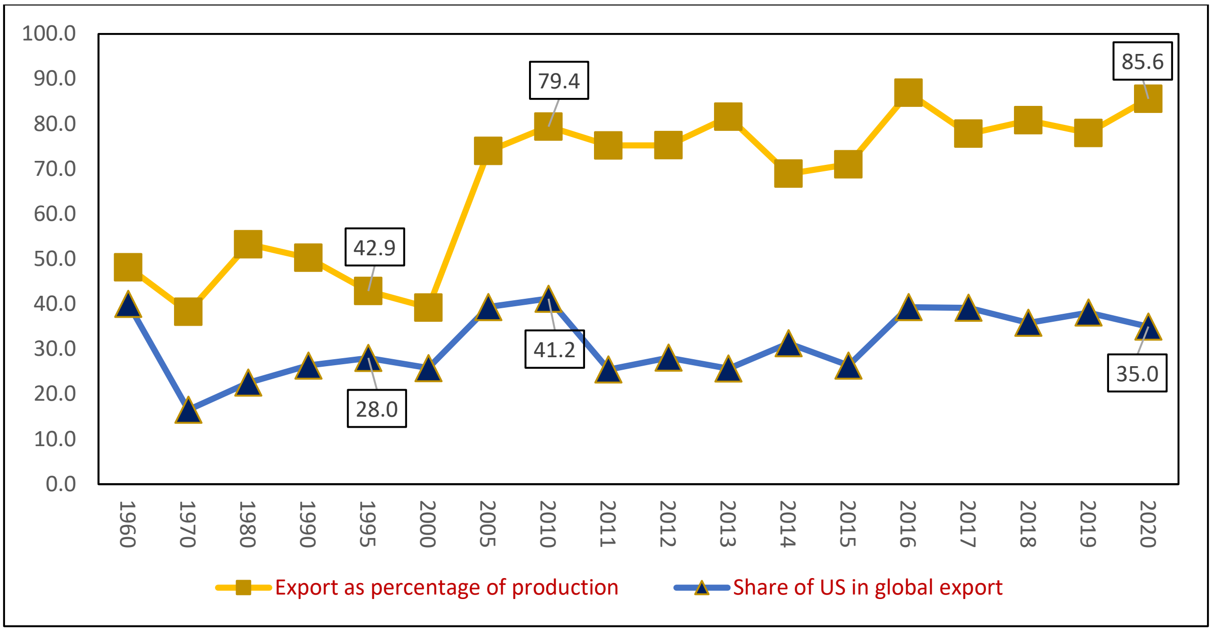

Figure 1 Trend in cotton exports by US during 1960-2020 (%)

Source Authors' compilation based on the USDA database (https://apps.fas.usda.gov/psdonline/app/index.html#/app/home)

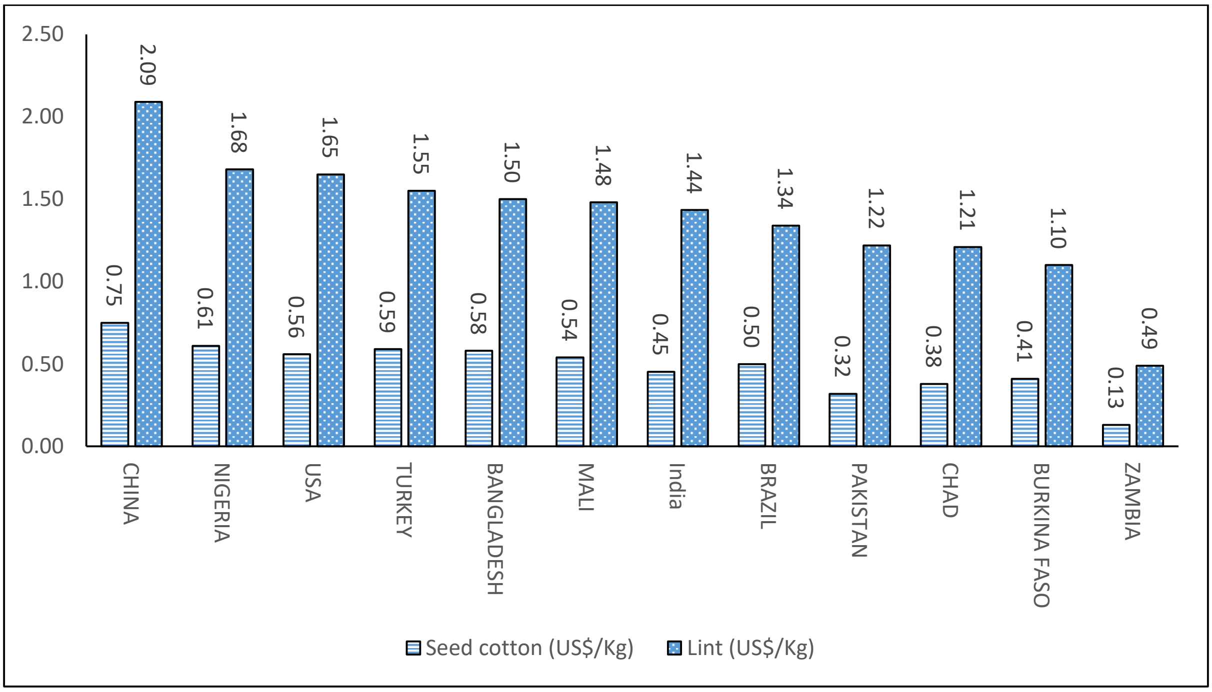

Figure 2 Cost of production of cotton in selected countries

Note National average for India is based on a simple average of various regions as reported in the International Cotton Advisory Committee (ICAC) Report 2020.
Source Authors' compilation from ICAC Report 2020

The US has been supporting its cotton farmer for long through several programs under the Farm Acts. The first Farm Act, namely the Agricultural Adjustment Act (AAA) 1933, was enacted in response to the low price and low farm income during the Great Depression of the 1930s. This Act, among other things, provided for price support to farmers in the form of crop loan at a predetermined loan rate where the crop itself was treated as collateral. The farmers had the choice to either repay the loan or forfeit the crop if the current prices ruled below the loan rate at the end of the loan contract (Cunningham 1996). Since then 18 Farm Acts have been implemented, the latest being the Agriculture Improvement Act of 2018. Gradually, the support to cotton farmers grew through market loans, deficiency payments, direct payments and insurance subsidies, among others.

The product-specific support to cotton was US$ 2348 million at the start of the Uruguay Round in 1986 (WTO 1994a). It was mainly provided through (1) direct payments under price deficiency programs, (2) non-exempt direct payments comprising marketing loans, loan deficiency payments, and inventory protection payments, and (3) other budgetary support including storage and interest subsidies. This support amounted to 85% of the VoP, while most developing countries had provided support below the *de minimis* level during the same period. For instance, the cotton-specific support was (-) US$ 1084 million in India (WTO 1994b) because the MSP of the cotton was below the cotton-specific external reference price (ERP) during 1986-88. In other words, cotton farmers in India were net taxed during the UR.

As mentioned, the base period for determining the commitments for Amber box was 1986-88 for the founding members of the WTO. During the Uruguay Round (1986-94), some of the developed countries had undertaken voluntary domestic reforms and sought credits or carve-outs for such reforms in the form of additional flexibilities in the negotiations. To take the credit of voluntary domestic reforms, the US used 1986 as the base period instead of 1986-88 (WTO 1994a). It resulted in inflated base for the Amber box support, permitting extra policy space to the US in the future also. The European Union and Japan also took advantage of this, which resulted in an ineffective reduction in trade-distorting support at the time of the establishment of the WTO (Paarlberg 1997)**.** The additional flexibility due to credit can be gauged from the fact that the average product-specific support to cotton during 1986-88 was US$1702 as compared to US$ 2348 in 1986. This approach was applied to other products as well. The advantage of inflating the base AMS can be understood from the fact that higher the base AMS, higher is the policy space to provide Amber box support in the future. On the other hand, the developing countries did not take advantage of domestic reforms undertaken during the UR. For instance, even though India adopted economic reforms in 1991, no credit was given to India in the form of additional flexibilities to provide Amber box beyond the *de minimis* limit.

Table 3 Trend in product-specific support to cotton producers in the US

Year	EWG cotton subsidy data	WTO Product-specific support (PSS)	Value of production (VoP)	EWG as a % of VoP	PSS as a % of VoP
	Million US$			Percent	
1995	212	32	7281	2.91	0.44
1996	807	3	7323	11.03	0.05
1997	745	466	6811	10.93	6.84
1998	1318	935	4807	27.42	19.44
1999	1945	2353	4369	44.52	53.86
2000	2068	1050	4928	41.95	21.30
2001	3333	2810	3789	87.95	74.16
2002	1950	1187	4393	44.39	27.01
2003	2551	435	6296	40.52	6.91
2004	2229	2238	5731	38.90	39.06
2005	3696	1621	5695	64.90	28.46
2006	2980	1365	5013	59.44	27.23
2007	2541	208	5197	48.91	4.00
2008	1582	1383	3986	39.70	34.71
2009	2264	368	4457	50.80	8.27
2010	1054	401	8335	12.64	4.81
2011	1366	894	8399	16.26	10.65
2012	1091	636	7748	14.07	8.21
2013	938	574	6246	15.02	9.18
2014	1086	956	6163	17.62	15.52
2015	935	853	4922	19.01	17.33
2016	1089	834	6870	15.85	12.14
2017	665	952	8134	8.18	11.70
2018	1090	NA	NA	NA	NA
2019	672	NA	NA	NA	NA
Average (1995-2017)	**1671**	**981**	**5952**	**28.08**	**16.48**

Note Product-specific support and the VoP data based on notifications is available till 2017; NA = Not Available
Source Authors' compilation based on domestic support notifications of the US (https://www.wto.org/), and EWG farm subsidy database (https://farm.ewg.org/index.php)

At the time of the establishment of the WTO in 1995, the cotton-specific Amber box support in the US was 0.44% of the VoP (Table 3). However, the US provided US$901 million to cotton farmers as deficiency payments under the Blue box. Thus, the combined support was 12.81% of the VoP. Surprisingly, the deficiency payments were treated as Amber box support in 1986 to inflate the AMS entitlement, whereas these were treated as Blue box support after the establishment of the WTO. This is one of the classic examples of box shifting without any substantial changes.

The information on cotton-specific support in Table 3 is based on subsidy data provided by the Environmental Working Group (EWG) and the domestic support notifications to the WTO. The cotton-specific support data based on domestic support notifications include only the product-specific support to cotton and does not include the support to cotton given under non-product specific, Blue box, and Green box. The EWG database does not distinguish these. The level of support increased from 2.91% in 1995 to its peak at 88% in 2001. It was contrary to the spirit of voluntary domestic support reforms under UR for which additional trade-distorting entitlement was given to the US.

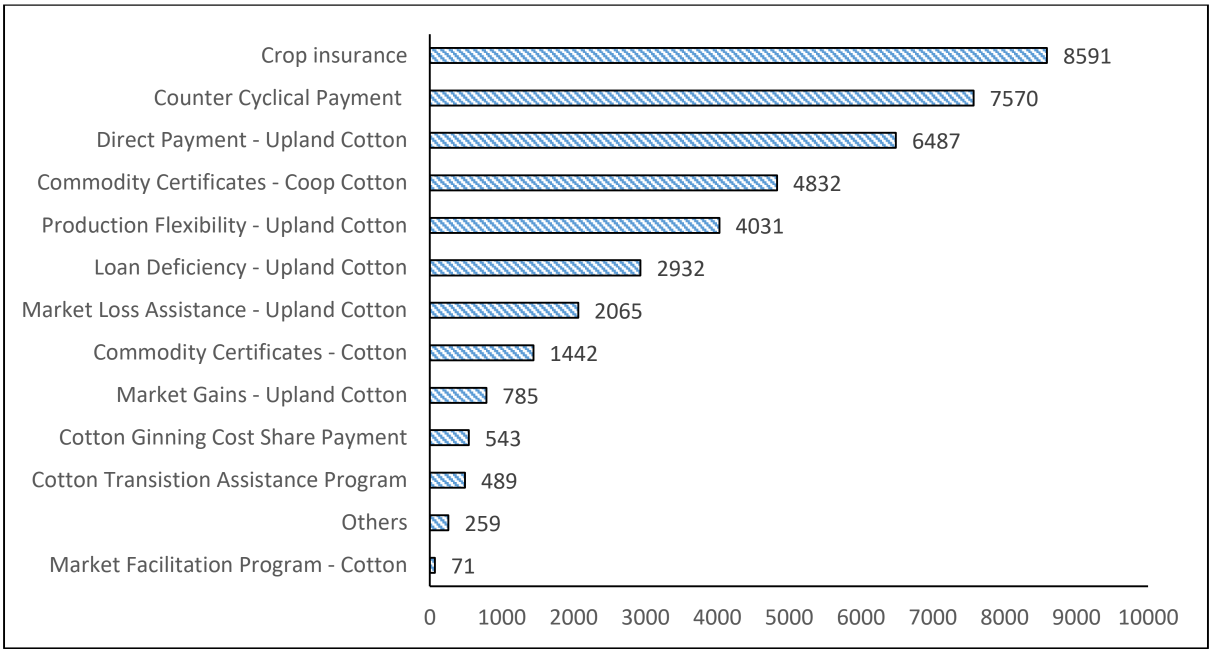

Figure 3 Cotton subsidies in the US under various programs during 1995-2020

Source Authors' compilation based on EWG's farm subsidy database

During 1995-2020, the US disbursed US$ 40.10 billion as subsidies to cotton farmers through several programs under different Farm Acts. Subsidies for crop insurance, counter-cyclical payments, direct payment and commodity certificates, among others, accounted for a major share of this (**figure 3**). Surprisingly, the top 10% of the subsidy recipients garnered 82% of the cotton subsidy, highlighting skewed distribution in favor of large farm corporations and farmers. For example, Tyler Farms, Kelley Enterprises and Balmoral Farming Partnership each received more than US$ 20 million as cotton subsidies during 1995-2020.

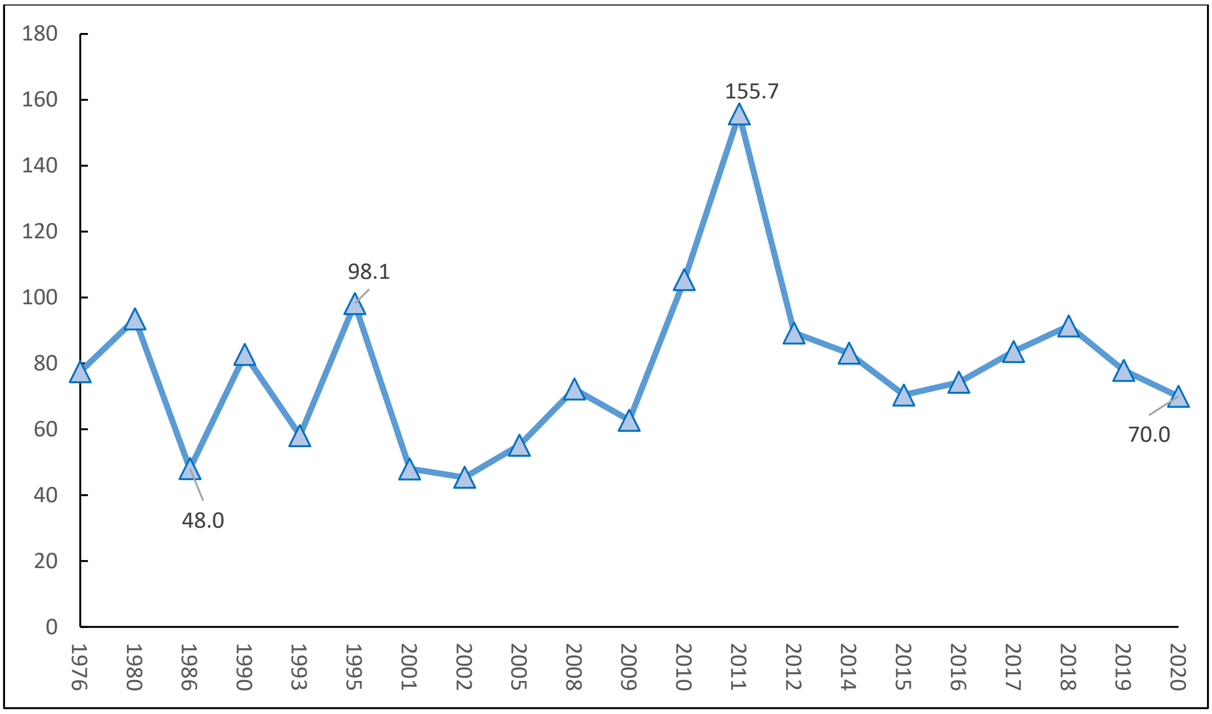

Figure 4 Trend in international prices of cotton (Cotlook 'A' index[2]) (cents/pound)

Source National Cotton Council of America.

Such a high level of support has been criticized for its adverse impact on the international price and farm income in the developing countries. The international prices of cotton witnessed a steep decline from 98.1 cents/pound in 1995 to 48.0 cents/pound in 2001 (figure 4), and the share of the US in world cotton export increased from 28% to 41%. The exports were backed by the huge domestic support to the extent of 88% of the VoP in 2001. This triggered a debate about the harmful impact of the US cotton subsidy on the welfare of cotton farmers in the developing world.

Oxfam (2002) highlighted that cotton subsidy in the US is 'cultivating poverty' in the developing countries. By encouraging over-production and export dumping, the US cotton subsidies destroyed livelihoods of cotton farmers in C-4 and other developing countries. Oxfam (2002) estimated that African countries incurred a loss of more than US$301 million. Burkina Faso, Mali and Benin suffered more than 1% reduction in their GDP and more than 8% in the export earnings, leading to balance-of-payments crises in these countries. The ICAC (2002) estimated that the removal of subsidies would result in a 10% decline in US cotton production

[2] It is based on the average of the cheapest five prices from a selection (at present numbering eighteen) of the principal upland cottons traded internationally.

and a 26% increase in world cotton prices. Sumner (2003) also established in the absence of domestic and export subsidies for the US upland cotton, its exports would have declined by 41.2%, and world price of upland cotton would have increased by 12.6% in 1999-2002. Even FAO (2004) re-confirms that excess supply induced by domestic subsidies had a depressing effect on world price. Baffes (2004) stated, overproduction of subsidized cotton in the US resulted in a 10% reduction in world prices. Traore (2007) also arrives at a similar conclusion.

The issue of the US cotton subsidies reached the WTO dispute settlement body (DSB) when Brazil successfully challenged the US domestic support measures, export guarantees and other measures alleged to be trade-distorting. The US had been supporting its farmers through counter-cyclical payments, direct payments and market loss assistance payments, among others under the Farm Act, 2002. Additionally, cotton also received export subsidies through marketing loan programs, export credit guarantees programs such as GSM 102-103 and the user marketing payments. The WTO Panel and the Appellate Body found that some of the domestic support measures and export subsidies had a depressing effect on international cotton prices. Further, it was also found that direct payments did not satisfy the conditions of the Green box. After more than one decade, the US took certain steps to reform its cotton policy. Both parties ended their decade long dispute through a Framework for a Mutually Agreed Solution. The US abolished the counter-cyclical payments (CCPs) and direct payments under the Farm Act, 2014 (Townsend 2015).

A few other aspects of the domestic support policy for cotton are also worth mentioning. Besides the direct payments under Farm Act 2002, the cotton farmers were supported through the CCPs, a kind of price deficiency payment. Under this, the government set target prices for different products, including cotton. In case the market price of the product falls below the target price, the eligible producers were eligible for payments based on the formula provided in the Acts 2002 & 2008. The US notified CCPs as non-product specific support under the Amber box. Given the fact that each product had a different target price, these payments should have been considered as the product-specific support (Ratna, Das and Sharma 2011). Despite the WTO members raising this question in different meetings of the committee on agriculture, the US kept notifying it as non-product specific support arguing that these payments were based on a fixed period. However, it deliberately ignored the fact that these payments were related to current market prices of specific products. Interestingly, to have more policy space the US wanted to shift the CCPs under the Blue box during the Doha round negotiations (Das and

Sharma 2011). For this purpose, the US demanded to broaden the definition of Blue box to include CCPs as product-specific Blue box payments (Sharma et al. 2020b). Paradoxically, the CCPs were treated as non-product specific support under the Amber box, whereas a carve-out was sought to treat these payments as a product-specific in the Blue box. As the CCPs were treated as non-product specific support, the notified product-specific support to cotton was understated between 2002-2014 (Table 3).

The US had taken some steps to reform its cotton sector by eliminating direct payments and CCPs in the Farm Act, 2014, and introduced a CCP-like program, the PLC payments. These payments did not cover cotton farmers, but they continued to be entitled for support under the market loan payment program. The same Act supported cotton farmers through highly subsidized insurance programs, viz., STAX and other federal insurance policies. Even these programs had a depressing impact on the international prices of cotton (Lau et al. 2015). With declining international prices of cotton, the US introduced new programs to protect its cotton farmers, for example (1) Cotton Ginning Cost Share (CGCS) program under which US$ 3.26 billion was spent in 2016; (2) covering the seed cotton by PLC in the Farm Act 2018; and (3) support under the Market Facilitation Program which aimed to compensate farmers from losses arising out of the US-China Trade war. Amidst the Covid-19 pandemic, cotton farmers are also entitled for assistance under the Coronavirus Food Assistance Program.

Table 4 An overview of the cotton sector in selected members

Description	Unit	USA	India	China[3]	C-4
Farmers	Number	8103	9801538	8586200	1017294
Average cotton farm size	Hectare	624.7	1.2	0.4	0.7 to 4.8
Average cost of lint	US$/Kg	1.65	1.44	2.09	1.10 to 1.48
Average cost of seed cotton	US$/Kg	0.56	0.45	0.75	0.38 to 0.54
Notified cotton support*	Million US$	952.05	261.41	2535.03^	0
Per farmer notified support	US$	117494	27	295	0
Notified support as a % of VoP	%	11.70	2.37	21.32	0
Flexibility for cotton-Amber Box (2020)	% of VoP	228	10	8.5	10

Note * Notified support of US, India and China is for years 2017, 2018 and 2016 respectively. ^ China has started a Blue box program from 2017 onwards

Source Authors' calculation based on ICAC (2020); domestic support notifications

[3] It is to be noted that cotton-specific support to China was well beyond its *de minimis* limit in 2016. Due to this, China eliminated the cotton-specific Amber box support and started the cotton-specific Blue box programme in 2017.

Instead of reforming its cotton sector, the US has been challenging domestic support measures in other countries to get market access for its highly subsidised cotton. Through a counter-notification, the US alleged that India is providing massive support to its farmers. However, the reality is opposite. India has more than 9 million cotton farmers with an average cotton farm size of 1.2 hectares. On the other hand, the total number of farmers in the US are 8103 with an average cotton farm size of 624 hectares. Over and above, per-farmer cotton-specific Amber box is only US$ 27 in India as compared to US$117494 in the US (table 4).

The US has flexibility to provide support up to 238% of the cotton VoP in 2020 due to AMS entitlement, whereas the developing countries are capped at 10%. It may be noted that in the Amber box, the per-farmer support for cotton is much higher than support for other crops in the US. In 2017, the average per farmer support in the US was US$ 7489 as compared to US$117494 for cotton. Further, as a percentage of VoP, the product-specific support to cotton in India has always remained below the *de minimis* limit, and despite this the average cost of production of cotton lint and seed cotton in India is less than that in the US. The US cotton farmers receive support through several programs, whereas cotton farmers in developing countries are low-income or resource-poor without any adequate safety nets (Sharma 2014). These farmers remain extremely vulnerable to price fluctuations caused by the entitlements of the developed members to provide support beyond the *de minimis* limit. This clearly shows that millions of poor cotton farmers in developing countries have been facing an unfair and uneven playing field in the international cotton trade.

SECTION 4: WTO COTTON NEGOTIATIONS AND POLICY SPACE FOR THE US

Several proposals have been submitted by the WTO members to discipline the trade-distorting support to cotton. Some of these are cotton-specific, while others are related to general agriculture but have implications for domestic support to cotton. These proposals aim at curtailing the existing flexibilities of the members under the AoA to provide domestic support to cotton. It is due to the high policy space that some countries can provide huge support to their cotton farmers (Wise and Sharma 2015). For instance, as per the WTO notifications, the US had provided support of 74.2% of the VoP in 2001. Except in 1995, 1996 and 2010, the product-specific support to the US cotton farmers was always above its applicable *de minimis* limit of 5%. The US can provide that much support without breaching its commitments because of its AMS entitlement of US$19 billion.

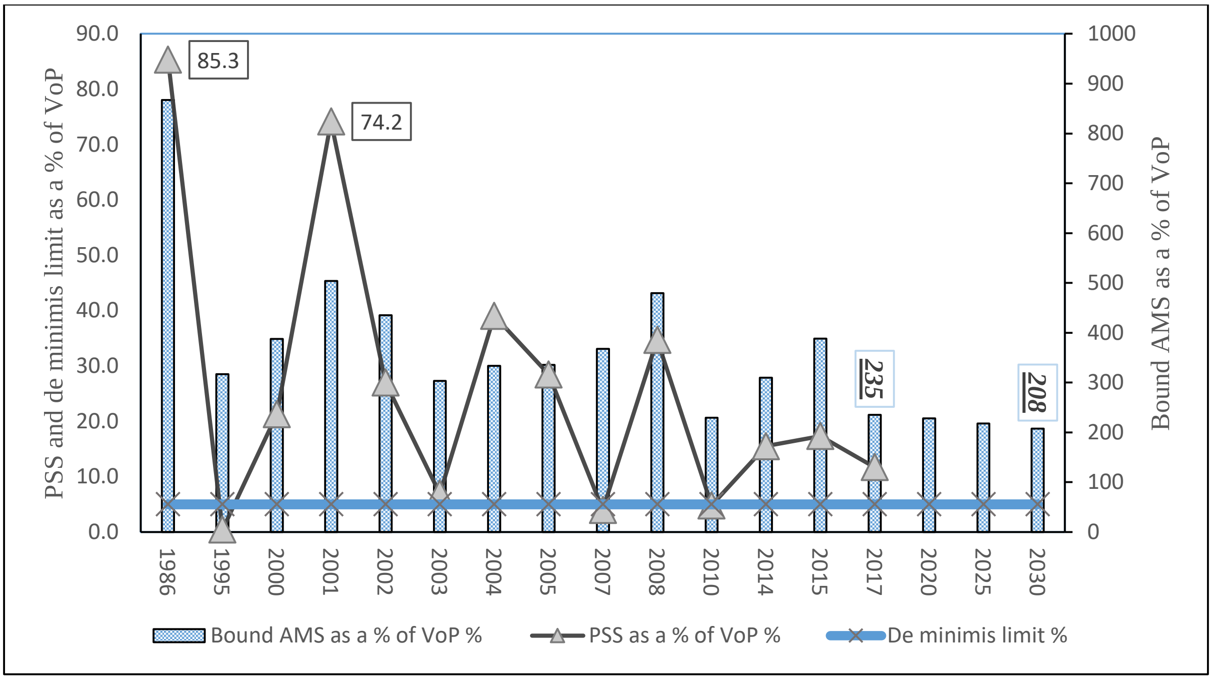

Figure 5 Trend in product-specific support (PSS) and final bound AMS entitlement as a percentage of the VoP of cotton

Source Authors' calculations

Before analyzing the impact of various proposals on the policy space of the US, it is important to examine its existing policy space under the AoA. The US can provide cotton-specific Amber box support up to either of the *de minimis* limit (5%) or final bound AMS (US$ 19 billion), whichever is higher. By assuming that the US is concentrating its final bound AMS entitlement only in cotton, the policy space for the US will be up to US$ 19 billion, which amounted to

235% in 2017 and is predicted to be 208% in 2030 of the cotton VoP. Figure 5 clearly shows that the potential policy space to provide Amber box support to cotton was 235% of the VoP, whereas as per the latest notifications, notified cotton-specific Amber box support was only 11.70% in 2017. Disciplining these expansive flexibilities to reduce trade-distorting support remains one of the contentious issues in the cotton negotiations.

Pursuing the mandate of General Council Decision (2004) and the Hong Kong Ministerial Conference (2005), various proposals and modalities have been submitted and discussed to address the cotton subsidies ambitiously, expeditiously and specifically within the agriculture negotiations. The cotton issue was specifically dealt in the Draft Modalities Text of agriculture negotiations, which were the result of intense discussions and consultations among the members during the Doha round. The 4th Revised Draft Modalities Text for agriculture (Rev. 4) (WTO 2008) provides the following reduction formula to address the issue of cotton-specific domestic support:

Rc= Rg + [((100-Rg) *100)/3*Rg]

Where Rc = applicable cotton-specific reduction; Rg = general AMS reduction rate.

Table 5 Determination of cotton-specific AMS limit under the Rev. 4

S.N.	Description	Amount
A	Final bound AMS (Million US$)	19103.00
B	General AMS reduction (Rg%)	60.00
C	Applicable cotton specific reduction for USA (Rc%)	82.22
D	Base year average cotton AMS (1995-2000) (Million US$)	806.00
E = D*82.22%	Reduction (Million US$)	663.00
F = D-E	Product-specific final cotton AMS (Million US$)	143.00
G	Proposed *de minimis* limit (%)	2.50

Source Authors' calculation based on domestic support notifications and Rev. 4

Para 13 (b) of the Rev. 4 provides that Rg would be 60% for those members who have final bound total AMS between US$ 15 to US$ 40 billion. Given the US has a final bound total AMS of US$19 billion, the applicable Rg would be 60%. It implies that the cotton-specific reduction rate (Rc) for the US would be 82.22% (Table 5). This reduction rate (Rc) would be applicable on the average cotton-specific AMS during 1995-2000 for the developed member-countries. The average cotton-specific AMS was US$ 806[4] million during this period, and therefore, after applying the prescribed reduction rate, the cotton-specific limit would have been US$143 million.

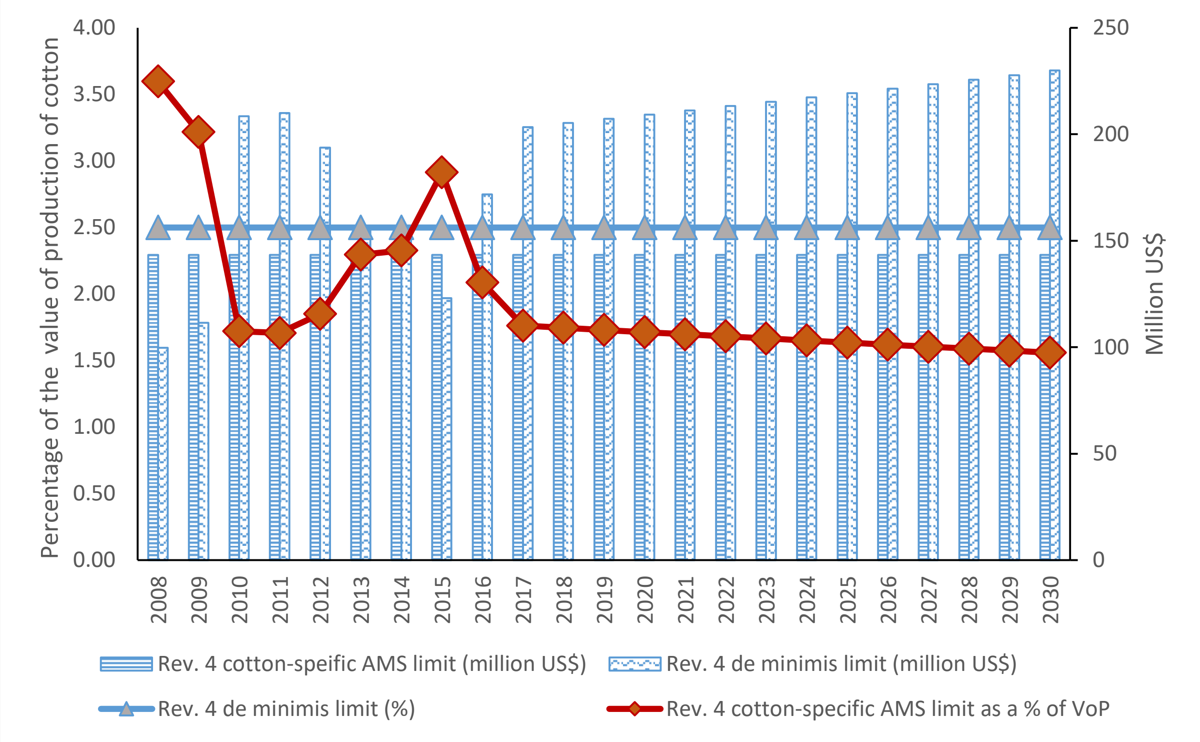

Figure 6 Comparison of cotton-specific AMS and proposed *de minimis* limit (2.5%) under the Rev. 4

Source Authors' calculation

Additionally, instead of the existing 5%, the Text fixes *de minimis* limit at 2.5% of the VoP for the developed countries. Therefore, the upper limit to provide the cotton-specific Amber box would be higher at US$ 143 million or 2.5% percent of the cotton VoP. Figure 5 shows that except in 2008, 2009 and 2015, the Rev. 4 *de minimis* limit (2.5%) remains higher than the prescribed applicable cotton AMS in the US. In other words, the Rev.4 significantly reduces the policy space of the US to support cotton farmers. Further, the Text prescribes the capping of Blue box support by limiting cotton-specific Blue box up to the one-third of cotton-specific AMS limit emanating from application of the above formula. Therefore, the product-specific

[4] The cotton-specific support was below the *de minimis* level in 1995 and 1996. The average cotton specific AMS during the 1995-96 is computed by considering the cotton specific support inclusive of *de minimis* support during 1995-2000.

Blue box limit for the US would be US$47.66 million. However, the member-countries failed to achieve consensus on the modalities due to divergent views and interests.

Over the years, the sponsors (C-4) of the sectoral initiative on cotton submitted many proposals to contain the cotton-specific support. In 2017, the C-4 members suggested an overall trade-distorting support (OTDS) limit that covers the support under the AMS, Blue box and *de minimis* limit (WTO 2017a). The base OTDS for cotton is determined as the arithmetic average of the amounts notified by members for cotton in the Amber and Blue boxes from 2009 to 2013. The base OTDS will be reduced by the rates depending on the final bound AMS entitlement of a member given in table 6.

Table 6 Applicable reduction rate in the base OTDS based on final bound AMS

Members	Final bound AMS (billion US$)	Total reduction %
Developed	>40	90.0
	15-40	80.0
	<15	70.0
Developing	With Final bound AMS entitlement	60.0

Source Authors' compilation based on WTO document TN/AG/GEN/46

Given the final bound AMS of US$19 billion, the base OTDS will be reduced by 80%. The US did not provide any Blue box support during 2009-2013, therefore, the base OTDS is calculated as the arithmetic average of the cotton-specific Amber box support, which amounts to US$575 million. After the applicable reduction of 80% the final cotton-specific OTDS limit would be US$115 million. The proposal suggests that the developed as well developing countries shall refrain from providing a cumulative of AMS and Blue box support beyond the applicable *de minimis* limit. Over and above, the proposal prescribes that the WTO members should not provide direct payments to cotton producers under the Green box.

Table 7 C-4 proposal on reduction and implementation period to reduce cotton subsidies

Members	Final bound AMS	Total reduction	Implementation period (2021-2025)
	billion US$	%	Reduction per annum %
Developed	> 2	40.0	8
	1 to 2	35.0	7
	< 1	30.0	6
Developing	With final bound AMS	26.7	

Source Authors' compilation based on WTO document TN/AG/GEN/49/Rev.1

The C-4 made another proposal in 2019 suggesting reduction in the base value of cotton support over the period 2021-2025 as per table 6 (WTO 2019). The base value of support to cotton is calculated as the arithmetic average of the Amber box amounts notified by the members over the past three years. The proposal also recommends that the AMS level shall remain lower or equal to the applicable *de minimis* level under the AoA. Additionally, the cumulative amount of AMS level and Blue box support should not be more than the applicable *de minimis* limit. Like the previous proposal, it also recommends that the members should avoid giving cotton-specific Green box support as it is a trade-distorting support.

Given the final bound AMS of the US is US$ 19 billion, therefore, the applicable reduction rate for cotton subsidies will be 40%. The US needs to reduce the base cotton AMS by 8% per annum over the implementation period 2021-2025. The average cotton AMS for the last three years (2015-17) was US$880 million, which needs to be reduced to US$ 527 million over 2021-2025. This proposal implies that the US should not provide AMS support of more than US$ 527 million from 2025 onwards. Additionally, the cumulative support under both the Amber and Blue box should not be more than 5% of cotton-specific VoP.

Another proposal, the 'EU-Brazil proposal' was submitted by the EU, Brazil, Colombia, Peru and Uruguay in 2017 (WTO 2017b). It called for addressing cotton subsidies ambitiously, expeditiously and specifically. This proposal also has other elements, like establishing an OTDS limit for agriculture, as well as provisions related to public stockholding for food security purposes. For cotton, the proposal seeks to limit all trade-distorting support by [W%]. The numerical value of 'W' would be determined based on the consensus. In this paper, we assume W = 2.5 or 5 or 7.5% of the cotton VoP. At 2.5% the US must undertake substantial cuts in its policy space. On the other hand, at W= 7.5 percent, US would not have to take cuts in its *de minimis* limit, rather it gains 2.5 percentage points in lieu of sacrificing its final bound AMS entitlement. At W = 5%, the US will be allowed to provide cotton-specific support up to the *de minimis* level. In this context, it worth-mentioning about the China-India proposal (WTO 2017c) also sought to eliminate the AMS entitlement for the developed member-countries. Although the proposal is not specific to cotton, it leads to the capping of product-specific support to agriculture including cotton for the developed member-countries by the applicable *de minimis level* (5%).

In 2017, Argentina proposed to establish an OTDS limit for agriculture, which would cover the support under *de minimis* level and AMS (WTO 2017d). On cotton, the proposal recommended an overall limit on Amber box support including *de minimis* support, at [X%] of the cotton VoP. In this context, it is interesting to examine the impact on policy space of the US to provide Amber box support to cotton by applying the same provision which Argentina proposed to determine the OTDS for agriculture. As per this proposal, the OTDS limit for the developed member-countries can be determined as the higher of the following:

Option A: Double the member's de minimis percentage of its average value of total agricultural production during the period 2011-2015.
Option B: 110% of the average cotton-specific notified Amber box support by the member for the most recent three notified years at the date of adoption.

Table 8 Determination of the cotton-specific OTDS limit under the Argentina proposal

Option A	Million US$	Option B	Million US$
A1: Average VoP (2011-15)	6696	B1: Average Article 6 support (2015-17)	880
A 2: Double of *de minimis* limit	10%	B2: Limit of B1	110%
A3 = A1*A2: OTDS limit (A)	670	B3= B1*B2: OTDS limit (B)	968
Cotton-specific OTDS limit is higher of option A or B = US$968 million			

Source Authors' calculations as per WTO document no. JOB/AG/120

Based on these provisions, the cotton-specific overall limit for the US would be US$ 968 million. It is to be noted that this limit would remain for the future and the US would not be able to provide Amber box support more than this (Table 8). A similar limit is also observed in case the provisions of the Australia-New Zealand proposal (WTO, 2017e) are accepted. The only difference is the coverage of components. The overall limit under the Argentina proposal covers only Amber box support, whereas the Australia-New Zealand proposal stringently encompasses all the elements of Article 6, which includes the Amber, Blue and Development boxes. Being a developed member-country, the US is not entitled for Development box support, however, its flexibility to provide Blue box support to cotton would be capped by an overall limit of US$ 968 million.

The Rev. 4 Text would have a very restrictive impact on the US with the cotton-specific limit capped at US$143 million or reduced *de minimis* limit of 2.5%, whichever is higher. Similarly, the C-4 proposal of 2017 has the lowest cotton-specific limit, however the US will have policy space to provide support up to the *de minimis* level of 5%. The C-4 proposal not only seeks to cap the trade-distorting support under Amber and Blue boxes but also recommends no direct payments to cotton farmers under the Green box. The China-India, along with the EU-Brazil proposal (W=5%) imply capping the Amber box support by the existing applicable *de minimis* limit of 5%. Amongst all, the Argentina proposal provides the largest policy space to the US where the Amber box limit would be fixed at US$ 967 million for the future. As percent of the VoP the limit remains over 10% during 2020-2030. Further, the US can provide Blue box support and direct payments under the Green box. Overall, the policy space to provide Amber box support under all proposals varies between 2.5 to 11.6% of the cotton VoP during 2020-2030 (Table 9). On the whole, the policy space of the US significantly declines under all the proposals that will help cultivating and harvesting prosperity for cotton farmers in the African as well as other developing countries.

Table 9 Impact of various proposals on the policy space of the US to provide cotton-specific domestic support

Description	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
VoP (million $)	8368	8447	8527	8608	8690	8772	8855	8939	9024	9110	9196
De minimis limit (million $)	418	422	426	430	434	439	443	447	451	455	460
Bound AMS million $	19103	19103	19103	19103	19103	19103	19103	19103	19103	19103	19103
Bound AMS as % of cotton VoP	228	226	224	222	220	218	216	214	212	210	208
A. Revised Draft Modalities Text (Rev.4) ^											
Rev. 4 Cotton limit (Million $	143	143	143	143	143	143	143	143	143	143	143
Rev.4 *De minimis* limit (2.5%)	209	211	213	215	217	219	221	223	226	228	230
B. C-4 proposal (TN/AG/GEN/46)											
Overall limit	115	115	115	115	115	115	115	115	115	115	115
limit as a % of VoP	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2
De minimis limit (5%)	418	422	426	430	434	439	443	447	451	455	460
C. C-4 proposal limit (TN/AG/GEN/49/Rev.1)											
Overall limit	809	739	668	598	528	528	528	528	528	528	528
limit as a % of VoP	9.7	8.7	7.8	6.9	6.1	6.0	6.0	5.9	5.8	5.8	5.7
D. EU-Brazil Proposal (JOB/AG/99)											
W = 2.5%	209	211	213	215	217	219	221	223	226	228	230
W = 5.0%	418	422	426	430	434	439	443	447	451	455	460
W = 7.5%	628	634	640	646	652	658	664	670	677	683	690
F. India-China Proposal (JOB/AG/102)											
Limit = 5 % of VoP	418	422	426	430	434	439	443	447	451	455	460
G. Argentina Proposal (JOB/AG/114) *											
Limit (million $)	967	967	967	967	967	967	967	967	967	967	967
Limit as a % of VoP	11.6	11.4	11.3	11.2	11.1	11.0	10.9	10.8	10.7	10.6	10.5

Notes ^ The limit would be higher of reduced *de minimis* limit or cotton-specific support limit as determined in Rev.4
*Argentina proposal is a fixed reference period model under which the overall limit would be fixed in monetary value and does not change in monetary terms with the VoP.
Source Authors' calculations

SECTION 5: CONCLUSION

It is a well-documented fact that high level of entitlement enjoyed by the US to provide trade-distorting support has a disastrous impact on the millions of poor cotton farmers in the developing and LDCs that already face farm distress due to small farm size, absence of adequate safety nets and lack of infrastructure. The advantageous position of the US farmers can be gauged from the fact that 8103 cotton farmers who have the average cotton farm-size of more than 624 hectares have received per farmer cotton-specific Amber box support of US$117494 in 2017. On the other hand, in developing members such as India where 9.8 million people are engaged in cotton farming with an average farm size of 1.2 hectare received only US$27 as per cotton farmer Amber Box support. Despite these challenges, the cost of cotton production in C-4 countries as well as in developing countries is generally lower than in the US. However, due to the high levels of support, the US enjoys artificial comparative advantages by capturing more than a 35 percent share in the World's cotton exports. By exporting more than 80% of its produce which is backed by massive cotton subsidies to the exorbitant amount of US$40.1 billion during 1995-2020, the US shows that it is not the 'survival of the fittest' but rather a 'survival of the financially fattest' that matters in the international cotton market.

The multilateral rules have been ineffective in disciplining the US cotton subsidies. The analysis clearly shows that the US inflated its AMS entitlement by taking credits for the voluntary reforms during the Uruguay round (1986-88). It is because of this AMS entitlement that the US is able to provide cotton-specific Amber box support more than 74% of the VoP without breaching its commitments under the AoA, whereas the developing member-countries' policy space is capped at 10%. Furthermore, the US circumvented the spirit of the AoA by notifying the deficiency payments as Blue box payments in 1995, whereas the same was treated as Amber box during the UR negotiations to inflate its policy space for the future. The US once again circumvented the Amber box provisions by notifying its counter-cyclical payments as non-product specific support rather than as product-specific support. This intra-Amber box shifting was one of the reasons for the sharp decline in notified product-specific support to cotton farmers from 2002 onwards. Surprisingly, during Doha Round, the US attempted to categorize the same program as product-specific Blue box support by broadening the definition of the Blue box criterion. This is a classic example of intra-box and inter-box shifting of the same program to evade any effective reductions in the policy space to support cotton farmers.

The developing countries in general and C-4 countries in particular are demanding steep reductions in the cotton-specific policy space of developed countries. Due to the expansive policy space, the US can provide more than 200% of the VoP as a cotton-specific Amber box. To curtail the policy space, many modalities and proposals such as (1) Rev. 4; (2) C-4; (3) EU-Brazil; (4) India-China; (5) Argentina, were submitted and discussed over the years. Our results show that these proposals would cap the policy space of the US to provide cotton-specific support in the range of 2.5 to 11.6% of the VoP during 2020-2030. Sadly, the US is not constructively engaging in cotton negotiations, rather it is challenging the domestic support policies of the developing countries to gain market access for its massively subsidized cotton sector. To harvest prosperity for the poor cotton farmers across the developing world, disciplining the policy space of the US is a prerequisite and an absolute litmus test for the successful 12th Ministerial Conference of the WTO in Kazakhstan to be held in 2021.

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ABOUT THE CENTRE

The Centre for WTO Studies was set up in the year 1999 to be a permanent repository of WTO negotiations-related knowledge and documentation. Over the years, the Centre has conducted a robust research programme with a series of papers in all spheres of interest at the WTO. It is currently engaging itself in an exercise to back its research with an equally robust publication programme. The Centre has also created a specialized e-repository of important WTO documents, especially related to India, in its Trade Resource Centre. It has been regularly called upon by the Government of India to undertake research and provide independent analytical inputs to help it develop positions in its various trade negotiations, both at the WTO and other forums such as Free and Preferential Trade Agreements and Comprehensive Economic Cooperation Agreements. Additionally, the Centre has been actively interfacing with industry and Government units as well as other stakeholders through its Outreach and Capacity Building programmes by organizing seminars, workshops, subject specific meetings etc. The Centre thus also acts as a platform for consensus building between stakeholders and policy makers.

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