Part 2

Structuring development-friendly WTO rules

6

The Doha Round agricultural tariff-cutting formulae and tariff escalation

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1. Introduction

Tariff escalation is a phenomenon where tariffs increase along the processing chain, such that tariffs on the processed products (e.g. refined sugar) are higher than on the corresponding primary products (e.g. raw sugar). An escalating tariff structure creates greater protection for the processing sector in the importing country. For exporters, on the other hand, this acts as a disincentive for exporting processed products. For this reason, tariff escalation is seen as one of the impediments for developing value-adding processing industries. This is an issue for the developing countries in particular because of their much greater need for industrialization. Moreover, global trade in processed products has been growing relatively faster than in primary products.

Given the importance of the topic, many studies have been conducted on the quantification of the extent of tariff escalation (TE), notably in the context of the impact of the Uruguay Round (UR), and on what may be done to reduce the phenomenon. On the whole, almost all studies have shown that TE remains widespread despite the reductions in tariffs in the UR. One of the most comprehensive analyses of TE was conducted by FAO in 1997 (Lindland, 1997; Lindland, 1998), covering close to 300 agricultural commodities and two stages of processing beyond the primary level. The three import markets analysed were the EU, Japan and US. The study found that although there was a widespread reduction in the (bound) tariff wedges between processed and primary products following the

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UR, over 50 percent of the commodity pairs examined would still have escalating bound tariffs after the full implementation of the UR commitments, with an average nominal tariff wedge of 17 percent. The highest post-UR bound tariff escalation was found in the dairy, sugar, fruit, tobacco and hides and skins sectors.

Similar results were found in other studies. For OECD countries, it was documented that the reduction of tariffs on processed products was lower than on primary products (OECD, 1996; OECD, 1997). A recent UNCTAD study (UNCTAD 2003) evaluated the degree of TE for 12 agricultural commodity pairs by averaging nominal tariffs for different processing stages in the Quad markets (Canada, the EU, Japan, and the US). It found that, with a few exceptions, the post-UR tariffs escalate not only between raw and semi-finished but also between semi-finished and finished products. On average, the escalations in Canada, Japan and the EU were higher between raw and finished products, while in the US the highest average escalation was found between semi-finished and finished goods. An earlier USDA study (USDA, 2001) also demonstrated that TE existed not only in agricultural markets in the developed but also in developing countries. Elamin and Khaira (2004) have also quantified TE for several product groups and extended the analysis to assess the impact of some tariff cutting formulae, including that proposed in the Harbinson draft modalities. Finally, a study by the Swedish Board for Agriculture (Burman *et al*, 2001) is fairly comprehensive in covering several aspects of tariff escalation, including some estimates on the impact on effective protection.

Consistent with these studies that have shown widespread TE in the post-UR period, many negotiating proposals have called for the elimination or reduction of TE as an explicit goal within the market access pillar of the Doha Round negotiations.

The latest official text of the negotiations, the Hong Kong Declaration of December 2005, in Annex A (para 17) under "other elements" of market access, states that: "There has been no further material convergence on the matters covered by paragraphs 35 and 37 of the July 2004 Framework text. The same may be said for paragraph 36 on tariff escalation, albeit that there is full agreement on the need for this to be done, and a genuine recognition of the particular importance of this for commodities exporters." Although this text speaks of a lack of convergence, the fact is that hardly any concrete proposals have been tabled so far on TE. The latest official position - as of January 2006 - remains the agreement reached in the 2004 Framework to find a formula that will address TE.[2]

The Harbinson modalities text of March 2003 was more specific on this topic. The relevant text, in the paragraph following that on the tariff reduction formula (para 8), reads as follows: "In applying this formula, where the tariff on a processed product is higher than the tariff on the product in its primary form, the rate of tariff reduction for the processed product shall be equivalent to that for the product in

[2] In para 36 of the Framework, this is expressed as follows: "tariff escalation will be addressed through a formula to be agreed".

its primary form multiplied, at a minimum, by a factor of [1.3]".[3] In other words, whenever the formula results in positive tariff escalation, a factor of [1.3] will be applied to reduce the gap. This rather concrete proposal was however not carried forward in the subsequent texts.

For example, the G-20 text of 7 July 2005 proposed that "as provided for in the Framework" an additional formula shall be established to reduce TE in developed countries. It was also said that the products in which TE, in terms of increased effective protection, exist, will need to be identified. Thus the text entertains the idea of an additional formula, but specific to reducing TE in developed countries only. Second, the text specifically mentions effective protection, which is a very different concept from nominal tariff escalation that most other texts refer to. It also says that these products need to be identified, which is both a very important and a difficult task as will be discussed towards the end of this paper.

In the 24 August 2003 WTO draft text for Cancun, it was stated that TE "will be effectively addressed". What the text means by "effectively" is anybody's guess. The 13 September 2003 Cancun text was more specific: "The issue of tariff escalation will be addressed by applying a factor of […] to the tariff reduction of the processed product in case its tariff is higher than the tariff for the product in its primary form". This is similar to the Harbinson proposal on the factor of [1.3]. Several important texts however did not mention TE. These include inter alia the EC-US text of August 2003, the October 2003 text of G10, the October 2005 text of the ACP Group and the US text of October 2005.

A related proposal is on the treatment of TE for tropical products. Various texts include a language that calls for the developed countries in particular, in implementing market access commitments, to provide for greater improvement of opportunities and terms of access for agricultural products of particular interest to the developing countries, including the "fullest liberalization of trade in tropical products, whether in primary or in processed form". For tropical products at least, several proposals are clear that there should be no tariff escalation. However, exactly what tropical products are is yet to be defined.

Ultimately, given the vague language in the Hong Kong text, the key guideline for the ongoing negotiations would be the proposal in the 2004 Framework which speaks of a formula to be negotiated: "tariff escalation will be addressed through a formula to be agreed". The question is what might that formula be?

Following this introduction of the issue and negotiating proposals, Section 2 outlines a method for quantifying TE and discusses the data base used and the products covered. Section 3 then presents the results of the likely impact of the new tariff cutting formulae on TE. Section 4 addresses the question of what may be done in the negotiations to address TE. Section 5 summarizes the main observations.

[3] In the WTO negotiating texts, a square bracket [ ] indicates texts proposed, but not as yet agreed.

2. Methodology and the tariff data used

2.1 Measuring tariff escalation

Most studies quantify TE on the basis of the bound tariffs. This is a simpler method as all that is required in terms of statistics is the bound tariffs. Some studies have extended this analysis by using applied tariffs to analyse the extent of TE in practice. The other extension that is sometimes undertaken uses trade (import) weights to average tariffs, bound or applied, where many tariff lines define a product (e.g. several oilseeds and oils). Lastly, some studies have attempted to measure TE using the concept of effective protection (e.g. Lindland, 1997; Burman *et al*, 2001). Effective protection is obviously a better indicator of trade protection than is nominal protection, especially where a processed product is produced from multiple, rather than a single, primary product. In practice however it is very difficult to compute effective protection rates for a large number of products or tariff lines as this requires input-output coefficients.

The analysis presented below is based on nominal bound tariffs, those prevailing at the end of the UR implementation period. This is the simplest approach and is also the most useful in the context of the negotiations where the focus is on reducing bound tariffs.

As in the 1997 FAO study, nominal tariff escalation is measured in this paper on the basis of the nominal tariff wedge, the difference in tariffs between a processed and a primary product. The nominal tariff wedge (TW) for a given period is defined as:

$$TW = T - t$$

where T is tariff on the processed product and t is tariff on the primary product. Three situations can be characterized based on the tariff wedge:

- Tariff escalation: $TW > 0$
- Tariff de-escalation: $TW < 0$
- Tariff parity (neither escalation nor de-escalation): $TW = 0$.

The impact of a trade round, e.g. the Doha Round, on nominal tariff escalation is measured as follows (with subscript "0" referring to the base period and "1" for the TW after application of the formula cuts):

$$\Delta TW = TW_1 - TW_0$$

where,

ΔTW is the change in the tariff wedge due to the Round

$TW0$ is the tariff wedge before the formula cuts (end of the UR)

$TW1$ is the tariff wedge after formula cuts.

Depending on the signs of TW0 and ΔTW, four outcomes can be characterized as follows:

$TW_0 > 0$ and $\Delta TW < 0$ = a *decrease* in nominal tariff escalation
$TW_0 > 0$ and $\Delta TW > 0$ = an *increase* in nominal tariff escalation
$TW_0 < 0$ and $\Delta TW < 0$ = an *increase* in nominal tariff de-escalation
$TW_0 < 0$ and $\Delta TW > 0$ = a de*crease* in nominal tariff de-escalation

The case that is mostly discussed in the literature and the one that the WTO proposals have been referring to is the first one, i.e. a situation where TE exists in the base case (TW0>0) and the objective is to see that this escalation is reduced or eliminated in the Doha Round (i.e. $\Delta TW < 0$ or $\Delta TW = 0$). The outcome that is not desired is the second one where a positive TE further escalates following tariff cuts. The last two cases have specific economic meanings but are not of concern in the negotiations.

2.2 The data used

The analysis covers a sample of 11 countries, eight of which are developing (Brazil, Egypt, India, Indonesia, Pakistan, Philippines, Sri Lanka and Turkey) and three are developed (the EU, Japan and the US). For these countries, tariff escalation is quantified for the base period, the end of the Uruguay Round implementation period, and following the application of three tariff cutting formulae proposed by the US, G-20 and EU in October 2005. Table 1 shows the three formulae.

The starting point of the analysis is the conversion of non-ad valorem tariffs into ad valorem equivalents (AVEs). This was undertaken following the method agreed by the WTO Members in 2005 and using the databases on tariffs and trade referred to in that agreement, which include the IDB, COMTRADE and CTS databases. The AMAD and WITS databases were also used to fill any gaps in the data. However, many complex tariffs could not be converted, in particular those belonging to the HS-2 (meats) and HS-4 (dairy) groups. The analysis is based on 8-digit HS level for the three developed countries and on 6-digit HS level for the eight developing countries. The numbers of tariff lines used were roughly 1 700, 1 400 and 1 700 for the EU, Japan and US respectively and around 600 lines for the selected developing countries.

Various difficulties were encountered in the conversion process (Sharma, 2006). These included: missing import values for the years used for the calculation of the weighted import values; an inability to convert either the IDB or the COMTRADE import unit value into units used for the specific bound tariffs; ambiguous units used for specific bound tariffs, such as "percentage volume of alcohol per hectoliter" or "agricultural component"; different levels of disaggregation for some countries and different from the IDB dataset from which import unit values had to be drawn; tariffs mixed with two specific components with different units; different units used for the same products, complicating the application of the agreed 40/20 filter; and bound and applied tariffs not always matching.

The following were some of the key assumptions made in the application of the reduction formulae, which also speaks of the limitations of the data base. First, the flexibility provision in the fourth tier of the EU formula was not implemented;

rather, only the average cut rate specified in the proposal was used. Second, assumptions were made about the number of tariff lines that are sensitive and special (SnP and SP) products. A total of 2 percent of the tariff lines were assumed to be SnPs for the developed countries and 6 percent as SnPs plus SPs for the developing countries. It was assumed that these are the products that currently face the highest bound tariffs. Third, for these SnPs and SPs, tariffs were reduced by 25 percent (or a quarter) of the applicable formula reduction rate in the respective tier in which these products fall. For example, if the tier reduction rate is 80 percent, the rate applicable to the SnPs will only be 20 percent. Lastly, average reduction rates were measured as the average of the individual reduction rates for all tariff lines, i.e. these are average cut rates, and not the cuts in the average.

TABLE 1
Tariff-cutting formulae proposed by the US, G-20 and EU (all cuts are linear)

US Poposal

	Developed countries			Developing countries		
		Cuts at (%)			Cuts at (%)	
	Threshold (bound tariff)	lowest end	highest end	Threshold (bound tariff)	lowest end	highest end
Tier 1	> 60	85	90	> 60	57	60
Tier 2	> 40 to = 60	75	85	> 40 to = 60	50	57
Tier 3	> 20 to =40	65	75	> 20 to =40	43	50
Tier 4	0 to 20	55	65	0 to = 20	37	43
	Tariff cap	75		Tariff cap	112	

Note: The parameters in the last two columns shown in italic are assumed - reduction rates are 2/3rd of the corresponding rates for the developed countries while tariff cap is set at 3/2rd of 75%.

G20 proposal

	Developed countries		Developing countries	
Tier	Threshold (bound tariff)	Cut rate (%)	Threshold (bound tariff)	Cut rate (%)
Tier 1	>75	75	>130	40
Tier 2	> 50 to =75	65	> 80 to =130	35
Tier 3	> 20 to =50	55	> 30 to =80	30
Tier 4	0 to 20	45	0 to =30	25
	Tariff cap	100	Tariff cap	150

EU proposal

	Developed countries		Developing countries	
	Threshold (bound tariff)	Cut rate (%)	Threshold (bound tariff)	Cut rate (%)
Tier 1	> 90	60	> 130	40
Tier 2	> 60 = 90	50	> 80 = 130	35
Tier 3	> 30 = 60	45	> 30 = 80	30
Tier 4	0 to 30	35 (20-40)	0 = 30	25 (10-40)
	Tariff cap	100	Tariff cap	150

Source: Negotiating proposals, October 2005.

The products chosen for the TE analysis are shown in Table 2. Most of them are also products of export interest of developing countries. A prominent product group that is missing is hides, skins and leather for which appropriate tariff data did not exist (moreover, leather is classified as industrial product in the WTO classification and subject to a different tariff cutting formula).

TABLE 2
Primary and processed product pairs covered in the analysis

Product group	Primary	Processed
Cocoa	Cocoa beans (HS1801)	Coca powder, butter, paste and chocolate (HS1803 to HS1806)
Coffee	Green coffee (HS0901 (0901 11, 0901 12))	Roasted coffee (HS 09012100, 090122000)
Fruits	Fruits (HS0804 to HS0810)	Fruit juices and fruit products (HS2007 to 2009)
Sugar	Raw sugar (HS170111, 170112)	Refined white sugar (HS170199)
Oilseeds	Various oilseeds (HS1201 to 1207)	Vegetable oils (HS1507 to 1522)
Grains	Various grains (HS1001 to 1008, excluding rice)	Processed grain products (HS1101 to 1109)
Rice	Paddy and brown (husked) rice (HS100610, 100620)	Milled rice (HS100630, 100640)

3. The results

3.1 Tariff escalation at the end of the Uruguay Round

Table 3 shows the average bound tariffs for primary and processed products and the tariff wedges (TW) for the base period (i.e. end-UR). It shows that for the three developed countries taken together, TE (positive TW) existed for 16 of the 21 cases (Three countries times seven product pairs) and de-escalation in the other five (sugar in the EU, Japan and US and oilseeds in Japan and US). There is a large variation in TWs across products and countries. The simple average TW for the products with a positive TW is 14 percent for the EU, 59 percent for Japan and 5 percent for the US.

In some cases, the relatively high average bound rates are mainly due to one or two very high tariffs in the product group masking the fact that most of the tariffs are very low or zero. For example, the 18 percent average bound rate on US oilseeds is due to two lines with tariffs of 164 percent and 132 percent (groundnuts) while tariffs on the remaining 16 oilseeds are close to zero. Similarly, the relatively high average tariff on processed cocoa products is due to a very high tariff on chocolates. Likewise, in the case of Japan, the 61 percent average bound rate on oilseeds is due

to four tariff lines with 287 percent tariff on average while tariff rates on rest of the oilseeds are zero. Some similar patterns are also found in the EU tariffs. For the developed countries in particular, one also finds several instances of negative tariff wedges, mostly on products that have farm policies aimed at supporting farmers, e.g. sugar in the EU.

TABLE 3
End-Uruguay Round average bound tariffs on primary and processed products

	Brazil	Ergypt	India	Indonesia	Pakistan	Philippines	Sri Lanka	Turkey	EU	Japan	US
Cocoa											
Primary	35	20	100	40	100	40	50	25	0	0.0	0.0
Processed	33	43	130	40	100	40	50	62	17	42.7	13.0
TW	-2.4	23	30	0	0	0	0.0	37	17	43	13
Coffee											
Primary	35	10	125	43	100	40	50	50	4	0.0	0.0
Processed	35	40	133	40	100	40	50	50	8	12.0	1.6
TW	0.0	30	8	-3	0	0	0.0	0.0	4	12	2
Sugar											
Primary	35	20	150	95	150	50	-	135	406	397.2	90.5
Processed	35	20	150	95	150	50	-	135	36	79.7	54.9
TW	0.0	0.0	0.0	0	0	0	-	0.0	-370	-318	-36
Fruits											
Primary	36	56	84	47	100	40	50	62	8	9.4	5.1
Processed	35	60	120	52	100	43	50	58	19	19.2	10.7
TW	-0.9	3.9	36	5	0	3	0.0	-4.1	11	10	6
Oilseeds											
Primary	34	16	106	39	100	39	50	19	0	60.5	18.2
Processed	35	21	210	40	100	38	50	29	29	5.8	4.6
TW	0.3	5	104	1	0	-1	0.0	9.5	29	-55	-14
Grains											
Primary	46	8	84	38	117	38	50	180	30	66.2	1.1
Processed	48	17	131	37	100	36	50	43	34	153.4	2.8
TW	2	9	47	-1	-17	-2	0.0	-137	4	87	2
Rice											
Primary	55	20	80	-	100	-	50	45	40	702.2	2.5
Processed	55	20	75	-	100	-	50	45	60	847.4	5.3
TW	0.0	0.0	-5.0	-	0	-	0.0	0.0	20	145	3

Note: A positive TW, the difference between the two bound rates, indicates tariff escalation, and a negative TW tariff de-escalation, in percentage points.

Source: Author.

In the case of the developing countries, of the 53 cases (eight countries times seven product groups, with three cases missing), there was tariff escalation in 17 cases in the base period, de-escalation in 11 and tariff parity (i.e. neither escalation nor de-escalation) in 25 cases (Table 3). The high frequency of tariff parity is due to fairly uniform tariff structure, i.e. the bound tariffs on both processed and primary products are same or similar. This is so for Sri Lanka in all the seven product pairs as well as in most cases for Pakistan. Of the 17 cases with tariff escalation, the tariff wedge exceeds 10 percentage points in seven cases. These are four cases for India and two each for Egypt and Turkey.

3.2 Impact of the formula cuts on tariff escalation

Table 4 presents tariff wedges (TWs) following the formulae cuts for the EU, Japan and US. The first column is the TW for the base period (UR) (as in Table 3). The following three pairs of columns show both the TW and ΔTW, following formula

cuts. The former measures the difference in tariffs between a primary and processed product while ΔTW measures a change in the TW between the base period and after formula cuts, and is an indicator of the change in degree of TE. Of the total of 21 cases, five pairs have negative TWs (tariff de-escalation) both in the base period and following the formula cuts. In all these cases, tariff de-escalations narrow after tariff reductions (ΔTW>0), which follows from the formulae. For example, the (negative) TW of 36 percent for the US sugar in the base case became 33 percent with the US formula cut. The decline in the TWs is notably marked for sugar in the EU and Japan, from the very high levels in the base case to much smaller values.

TABLE 4
Tariff wedges and changes in tariff wedge between primary and processed products following tariff cuts (EU, Japan and US markets)

Market	Product	End UR	US formula cuts		G-20 formula cuts		EU formula cuts	
		TW	TW	ΔTW	TW	ΔTW	TW	ΔTW
EU	Cocoa	17.1	5.5	-11.6	8.2	-8.9	10.6	-6.5
	Coffee	4.1	1.7	-2.4	2.3	-1.8	2.7	-1.4
	Sugar	-369.6	-66.8	302.8	-85.9	283.8	-79.7	289.9
	Fruits	11.0	3.4	-7.6	5.3	-5.7	7.0	-4.0
	Oilseeds	28.8	4.9	-24.0	6.8	-22.1	7.7	-21.1
	Grains	3.9	2.3	-1.6	2.8	-1.1	3.1	-0.8
	Rice	20.4	1.8	-18.6	6.8	-13.6	9.4	-10.9
Japan	Cocoa	42.7	8.4	-34.3	14.1	-28.6	20.2	-22.5
	Coffee	12.0	4.6	-7.4	6.6	-5.4	7.8	-4.2
	Sugar	-317.5	-61.8	255.8	-76.3	241.2	-65.3	252.2
	Fruits	9.8	2.9	-6.9	4.6	-5.2	6.2	-3.6
	Oilseeds	-54.7	-4.4	50.3	-12.0	42.7	-17.3	37.4
	Grains	87.2	14.3	-72.9	17.8	-69.5	17.6	-69.6
	Rice	145.2	0.0	-145.2	0.0	-145.2	0.0	-145.2
US	Cocoa	13.0	4.8	-8.2	7.0	-6.0	8.4	-4.6
	Coffee	1.6	0.6	-1.0	0.9	-0.7	1.1	-0.6
	Sugar	-35.5	-33.2	2.3	-41.4	-5.9	-32.8	2.7
	Fruits	5.6	2.8	-2.8	3.9	-1.7	4.0	-1.6
	Oilseeds	-13.5	-7.3	6.3	-9.5	4.0	-9.2	4.3
	Grains	1.7	0.6	-1.1	0.9	-0.8	1.1	-0.6
	Rice	2.8	1.0	-1.8	1.6	-1.3	1.8	-1.0

Note: TW is tariff wedge, the difference in tariffs between primary and processed products. A combination of TWUR>0 and ΔTW<0 indicates a reduction in tariff escalation (see Section II). As an example, the EU cocoa case shows that TWUR was 17.1 percentage points which fell to 5.5 percentage points with the US formula cuts, indicating a fall in tariff escalation of 11.6 percentage points.

Source: Author.

Of the remaining 16 cases with positive TWs, the TE fell in all 16 instances (ΔTW<0). The average TWs fall most markedly with the US formula, followed by the G-20 and EU formulae. Note that TWs for rice in Japan are zero for all three formulae. This is because the very high UR bound tariffs on both groups of rice were capped at 75 percent under the US formula and at 100 percent under the G-20 and EU formulae, and thus the wedges are zero. For the 16 cases with positive TWs and escalation, the simple average of the TW fell from 25 percentage points in

the base period to 4, 6 and 7 percentage points with the US, G-20 and EU formula respectively. Thus, one main conclusion is that the formulae reduce the degree of TE significantly but do not eliminate it. Whether these reductions amount to the Framework's standard of "effectively" dealing with the phenomenon of the TE is a matter for debate.

Table 5 shows changes in TWs following formula cuts for the eight developing countries.[4] As noted previously, there was tariff parity for 25 of the 53 product pairs in the UR itself. The formula cuts do not change this parity because tariffs on both primary and processed products are reduced by the same extent. Of the remaining 27 cases, there was TE in 17 cases in the base period and de-escalation in the other 10.

TABLE 5

Tariff wedges between primary and processed products in the base period and following the tariff cuts - eight developing countries

	End UR	US formula cuts		G-20/EU formula cuts		End UR	US formula cuts		G-20/EU formula cuts	
Product	**TW**	**TW**	**ΔTW**	**TW**	**ΔTW**	**TW**	**TW**	**ΔTW**	**TW**	**ΔTW**
	Brazil					Egypt				
Cocoa	-2.4	-1.2	1.3	-1.4	1.0	23.0	9.6	-13.4	15.6	-7.5
Coffee	0.0	0.0	0.0	0.0	0.0	30.0	14.8	-15.2	20.5	-9.5
Sugar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fruits	-0.9	-1.2	-0.3	-1.7	-0.8	3.9	3.1	-0.8	2.8	-1.2
Oilseeds	0.3	0.4	0.1	0.2	-0.1	5.2	3.2	-2.0	4.1	-1.0
Grains	1.7	-8.6	-10.3	-3.9	-5.6	8.9	4.6	-4.3	6.2	-2.7
Rice	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	India					Indonesia				
Cocoa	30.0	10.6	-19.4	15.0	-15.0	0.0	0.0	0.0	0.0	0.0
Coffee	8.3	2.9	-5.4	4.2	-4.2	-3.3	-1.3	2.1	-2.3	1.0
Sugar	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
Fruits	35.9	13.3	-22.6	18.5	-17.3	5.4	1.7	-3.7	3.8	-1.6
Oilseeds	104.0	36.3	-67.7	43.4	-60.5	1.5	1.0	-0.5	0.9	-0.6
Grains	46.9	17.3	-29.6	20.5	-26.4	-1.0	-0.4	0.6	-0.9	0.2
Rice	-5.0	-2.2	2.8	-3.5	1.5	-	-	-	-	-
	Pakistan					Philippines				
Cocoa	0.0	-1.9	-1.9	0.0	0.0	-0.1	-0.3	-0.2	-0.1	0.0
Coffee	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fruits	0.0	0.7	0.7	0.0	0.0	2.8	8.5	5.7	6.1	3.2
Oilseeds	0.0	-1.4	-1.4	0.0	0.0	-1.3	0.7	1.9	0.1	1.4
Grains	-16.7	-23.9	-7.2	-23.3	-6.7	-2.4	-2.4	-0.1	-2.4	-0.1
Rice	0.0	0.0	0.0	0.0	0.0	-	-	-	-	-
	Sri Lanka					Turkey				
Cocoa	0.0	0.0	0.0	0.0	0.0	36.6	13.6	-23.1	23.5	-13.1
Coffee	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
Fruits	0.0	0.0	0.0	0.0	0.0	-4.1	-1.8	2.3	-2.0	2.1
Oilseeds	0.0	0.0	0.0	0.0	0.0	9.5	4.4	-5.1	6.7	-2.9
Grains	0.0	0.0	0.0	0.0	0.0	-137.4	-52.9	84.5	-78.1	59.3
Rice	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: See notes to Table 4 for explanations.

Source: Author.

[4] Note that for the developing countries, the EU proposal is the same as the G-20 proposal, and so a separate analysis is not needed.

Of the 17, the tariff wedge exceeded 10 percentage points, which may be considered to be significant, or more than de minimis, in seven instances only. The formula cuts reduce these wedges considerably. For example, the TW for these seven cases falls from 44 percentage points on average in the UR to 16 and 22 percentage points with the US and G-20/EU formulae respectively. This translates into reductions in TE, as measured with ΔTW, of 28 and 22 percentage points.

Whether these reductions are sufficient or not is a matter of judgement. For example if the "desired" degree of TE is, say, 10 percentage points or less, the formula cuts are not enough and additional reductions will be needed with the use of a multiple factor like [1.3] or more as suggested in the Harbinson text.

3.3 The role of the tariff caps and SnP/SP exemptions

All of the above results were based on the assumption that 2 percent of tariff lines of the developed countries are SnPs and 6 percent of the developing countries' tariff lines are SnPs or SPs. What difference would it make if no exemptions were made at all for these tariff lines? The only source of the difference in the results (i.e. in TWs and ΔTWs) under the two scenarios are where some tariff lines fall under the SnP/SP category in one case, while the full reduction rate is applied in the other scenario. In the case of the developed countries, such differences were noted particularly for the three product pairs where tariff de-escalation was found, namely sugar, rice and oilseeds. The reason was that the tariffs on primary products were very high to start with relative to those on the processed products, and so the former were classified as SnP. As a result, in the "with-SnP" scenario, the new bound rates on primary products remained much higher after formula cuts, leading to larger de-escalation. In other words, because of the SnP assumption, tariff de-escalation continued to be higher. Other than for these three groups of products with high tariffs, the difference in TWs and ΔTWs between the two scenarios was very small.

In the case of the developing countries, tariff parity was the rule rather than exception in 50 percent of the cases. As for the rest, there were far fewer changes in TWs and ΔTWs between the two scenarios. This does not mean that there were no differences in new bound rates between the with-SnP/SP and without-SnP/SP scenarios. With so many high tariff lines, this is bound to happen. However, as the bound rates were same, TWs were zero and so there were no changes in tariff escalation. As an example, in the case of the US formula cuts, Indonesia's bound tariffs on both raw and white sugar fell from 95 percent in the UR to 81 percent under the with-SnP scenario and 41 percent under without-SnP scenario. But the tariff wedge did not change, as it was zero before and after the cuts.

What was very important, however, was the role of the tariff caps. The importance of tariff caps in determining the overall reduction rates, as well as for individual tariff lines, was stressed in Sharma (2006). In many cases, the provision to cap tariffs was effective in capping many very high tariffs to the levels of 100 percent or 75 percent, depending on the formula. As a result, large wedges in the UR scenario virtually disappeared after the formula applications because with capping, the new bound tariffs on both the processed and primary products were the same. The main

message is that tariff caps play a very important role in eliminating tariff escalation when bound tariffs are very high.

4. The negotiations: what might be done to tariff escalation?

The latest official position on the table (2004 Framework) is to address TE through a formula to be agreed. The only instance of a concrete idea on this was the Harbinson proposal to use a negotiated multiple to further reduce tariffs on processed products wherever tariffs escalate after formula cuts.

Even this seemingly simple idea is difficult to implement in practice without some further parameters that need to be agreed to. In what follows, two key building blocks that are essential for addressing TE in the ongoing negotiations are discussed: a list of tariff lines or processed products that will be the subject of the adjustment; and the nature of the adjustment factor itself.

4.1 Listing of products for addressing tariff escalation

The analysis in this paper was undertaken for seven product groups, covering many tariff lines, ranging from four to six lines in the case of rice to over 100 lines in the case of oils and fruits. One could define the entire HS-10 as primary products (primary grains and rice) and the entire HS-11 as the corresponding processed products, as done in this paper. But this does not always work, notably for processed products that are derived from multiple primary products, and where more than one processing stage is involved. Many such product chains are found in the meat and dairy groups. For example, the following product chain involves at least three stages of processing: live animals, carcasses, fresh cut meats and further processed meats. In such cases, the tariff lines to be identified for targeting TE could run into hundreds.

Without such a list to start with, there is nothing to apply the TE formula to. Given that there are potentially hundreds if not thousands of tariff lines that may be called processed, especially if several levels of processing are taken into consideration, an agreement would be needed on a list of processed products for targeting TE. As the exercise is about comparing tariffs on primary and processed products, a list of the corresponding primary products is also essential. The list of the processed products can not be Member-specific, as is identified for tariff concessions like in sensitive and special products, because a processed product is a processed product irrespective of the membership. Refined sugar for example can not be a processed product for one importing country and a primary product for the other. An expert panel could draw up a list of such products. However, given the member-driven nature of the negotiations, all interested Members could be asked to submit a list of a limited number of processed products for the purpose of TE, for example 100 tariff lines at the HS-6 level (about 25-30 products) as processed as well as the corresponding primary products. To prepare a final, common list the most common 100 tariff lines for processed and 150-200 corresponding lines for primary could be selected. These would be the products that would be targeted for containing TE.

4.2 Reducing tariff escalation for the identified processed products

The only concrete proposal so far on this is that in the Harbinson text of March 2003.[5] In what follows, this proposal is illustrated with an example, along with an alternative, and perhaps a better, approach. As will be evident, there are several practical complications that one faces in implementing even a seemingly simple formula.

Table 6 shows a concrete example for a product chain, cocoa and products. In this case, the cocoa beans, the primary product, go through two stages of processing - 1st stage processing into cocoa paste, butter and powder, and a second stage processing into chocolates. Addressing TE where a product goes through more than one stage of processing is one complication, because a decision is needed on whether all the stages are to be considered or if one stage is to be ignored. For example, should chocolates be included in the cocoa product chain? Second, for the work to be manageable, tariff lines may need to be grouped into categories of homogenous primary and processed products. This will be required for averaging bound tariffs and for implementing reductions. In the cocoa example, all chocolate products (17 tariff lines) are considered to be one category of second stage processed product (chocolates). This simplifies considerably the application of a formula. The alternative, treating all 17 lines differently and computing separate tariff wedge is not impossible to implement but will probably not be manageable. This is a complication that will recur in numerous product chains.

[5] "In applying this formula, where the tariff on a processed product is higher than the tariff for the product in its primary form, the rate of tariff reduction for the processed product shall be equivalent to that for the product in its primary form multiplied, at a minimum, by a factor of [1.3]", paragraph 8 of the Harbinson modalities, March 2003.

TABLE 6
Bound tariffs and tariff wedges for cocoa and products

HS-8	description	UR bound tariff (%)	G-20 Tier 1/	G-20 formula cut: Cut rate	G-20 formula cut: New bound (%)	Change in TE (% points)
18010000	Cocoa beans	0	4	0.45	0	-
18031000	Cocoa paste - not defatted	5	4	0.45	3	-
18032000	Cocoa paste - defatted	10	4	0.45	6	-
18040000	Cocoa butter, fat and oil	0	4	0.45	0	-
18050000	Cocoa powder	13	4	0.45	7	-
18061010	Chocoletes - Containing added sugar	22	3	0.55	10	-
18061020	- - Containing added sugar	22	3	0.55	10	-
18062011	- - - - Containing added sugar	93	1	0.75	23	-
18062019	- - - - Containing added sugar	93	1	0.75	23	-
18062021	- - - - Containing added sugar	93	1	0.75	23	-
18062029	- - - - Containing added sugar	93	1	0.75	23	-
18062031	- - - - Containing added sugar	93	1	0.75	23	-
18062032	- - - - Containing added sugar	93	1	0.75	23	-
18063100	- - Filled	10	4	0.45	6	-
18063210	Chocolate confectionery	20	3	0.55	9	-
18063221	Chocolate confectionery	30	3	0.55	14	-
18063222	Chocolate confectionery	20	3	0.55	9	-
18069010	Preparations containing not less than	37	3	0.55	17	-
18069021	Preparations containing not less than	37	3	0.55	17	-
18069022	Preparations containing not less than	37	3	0.55	17	-
18069031	Preparations containing not less than	37	3	0.55	17	-
18069032	Preparations containing not less than	37	3	0.55	17	-
		---------- Simple averages ----------				
	Primary (cocoa beans - 1 tariff line)	0	-	0.45	0	-
	1st stage processed (paste, butter, powder, 4 tariff lines)	7	-	0.45	4	-
	2nd stage processed (chocoletes, 17 tariff lines)	51	-	0.61	16	-
		---------- Tariff wedges (TWs) ----------				TE = ΔTW
	Between primary and 1st stage processed	7	-	-	4	-3
	Between primary and 2nd stage processed	51	-	-	16	-35
	Between 1st stage and 2nd stage	44	-	-	13	-31

Note: 1/ These are the tiers of the G-20 formula, with Tier 1 including the highest tariff lines, and so on. TW is tariff wedge, the difference in the bound tariffs between a processed and primary product. TE is tariff escalation, or ΔTW, before and after a formula cut.

Source: Author.

The third and fourth columns in Table 6 show the UR bound tariffs and the tier to which the tariffs belong to in the G-20 tariff-cutting formula, which is used here for illustration. The next column shows the corresponding reduction rates (based on the G-20 formula) while the sixth column is the resulting new bound rates. The bottom segment of the table shows summary statistics - simple averages of the tariffs and reduction rates, as well as computed TWs and tariff escalation (ΔTW). In this example, the end-UR TW is 7 percentage points between cocoa beans and 1st stage products, 51 percentage points between cocoa beans and 2nd stage products, and 44 percentage points between the 1st and 2nd stage products. With the G-20 formula cuts, the TWs are reduced to 4, 16 and 13 percentage points while tariff escalation (ΔTW) itself falls by 3, 35 and 31 percentage points, respectively.

According to the Harbinson proposal, a further adjustment is made whenever TWs are positive after formula cuts. In this example, all three TWs are positive. Assume that a multiple of 1.3 is agreed, which means reducing the tariff on a processed product by 1.3 times the tariff on the corresponding primary product.

There is a technical glitch in the formula as stated and a problem with the proposed formula itself.

The glitch is that the formula does not work where the bound tariff on the primary product is zero (as is the case with cocoa beans in the above example) because in this case a reduction rate is not defined (tariff reduced from 0 percent to 0 percent) and so there is nothing to multiply the 1.3 factor with. One finds many product pairs in the tariff data where this is the case, notably in the case of the developed countries due to many duty free tariff lines. Presumably, the Harbinson text refers to the reduction rate of the tier into which the primary product falls. In the cocoa example, this is 45 percent. Thus, the tariff on the processed product is reduced by 1.3*45 or 58.5 percent.

The problem with the Harbinson proposal is that there is no "the" single multiple that produces a desired outcome in all situations. In the cocoa case for example, a multiple of 1.3 will reduce the TW between the primary and 1st stage processed products because the reduction rate on the processed products is now 58.5 percent. However, this reduction will be very small (a TW of 2.9 after the adjustment, versus 3.8 before) as there was no reduction in the primary product (bound tariff being zero to start with). Higher multiples, like 1.9, will reduce the TW considerably. A multiple of 2.2 will fully eliminate the TE in this case.

The case of the pair of cocoa beans and chocolates illustrates that smaller multiples like 1.3 do not always reduce the TE. This is because the formula reduction rate for the chocolates, 61 percent, is higher than 45 percent*1.3. In this case, TE begins to decline only with a multiple of 1.5 or more while a factor of 1.8 will reduce TW by 50 percent over and above the formula cuts.

These examples illustrate the problem with the Harbinson proposal of negotiating a single multiple factor for addressing TE. Put simply, there is no one number that works in all situations.

In view of this, an alternative approach is proposed here, which is to negotiate a threshold within which to contain TE. This threshold may be called a *de minimis* level. Thus, the TWs for all identified product pairs are reduced to within the de minimis level of, say, 5 percentage points for the developed countries and 10 percentage points for the developing countries. In this case, the multiple discussed above becomes a variable rather than a fixed number.

In the cocoa example of Table 6, assuming a *de minimis* threshold of 5 percent, no adjustment is needed in the case of the TE between the primary and 1st stage processed products because the TW is 3.8 percent, i.e. below the 5 percent level. On the other hand, the TW between the primary and 2nd stage processed products is 16.5 percentage points after the G-20 formula application, which means a further adjustment is required. In this case, a reduction rate of 90 percent is required to reduce the TW to within 5 percentage points (the G-20 cut rate was 61 percent). In terms of the Harbinson formula, this translates into a multiple of 2 (45 percent*2 = 90 percent). As a third example, the TW between the 1st stage and 2nd stage processed products is 12.5 percentage points after the G-20 formula application. The required reduction rate in this case to meet the *de minimis* target is 85 percent, which implies a multiple of 1.88.

This example illustrates yet another issue to be settled. Note that there are two reduction rates for the 2nd stage processed products: 90 percent when compared with the primary product; and 85 percent when compared with the 1st stage processed products. Similar cases will arise whenever a product chain involves more than a single stage of processing. In order to address TEs between multiple pairs of primary and processed products, the reduction rate for the product in the last stage of processing has to be the highest of all the reduction rates, i.e. 90 percent and not 85 percent in the above example.

In conclusion, it appears very difficult to implement the Harbinson-type formula based on a single negotiated multiple, given the wide range of tariff wedges that are found in the tariff profiles. It is also clear that for applying this or other formula there has to be a target level of TE to be attained. In view of these problems, the alternative method suggested above appears more attractive. Bringing tariff wedges to within some agreed de minimis threshold would be an "effective" response to the phenomenon of escalating tariffs in line with the spirit of the Framework Agreement.

5. Summary

Effectively dealing with tariff escalation (TE) is one of the stated goals within the market access pillar of the ongoing WTO negotiations. This follows from the recognition that escalating tariffs act as a disincentive for exporting processed products, notably by developing countries where the need for developing value-added, processing economic activities is urgent. In this context, this study analysed the implications on TE of three tariff-cutting formulae and discussed some approaches for addressing TE in the negotiations. The analysis covered seven product pairs and 11 countries, three developed (EU, Japan and US) and eight developing. The following are the key findings of the study.

First, and in common with several previous studies, TE continues to remain for many product pairs even after the full implementation of the Uruguay Round tariff cuts. For the three developed countries covered, escalation of bound tariffs was found for 16 of the 21 cases (three countries times seven product pairs) examined. The simple average tariff wedge (the difference in bound tariffs between the processed and primary products) for the seven product pairs was 14 percent for the EU, 59 percent for Japan and 5 percent for the US. For these countries, tariff de-escalation, i.e. the tariff on a primary product is higher than on the corresponding processed product, was also fairly common. In the case of the developing countries, tariff parity , i.e. the same tariff rate for both the primary and processed products, was more common, reflecting uniform tariff structures. Tariff escalation was found in about 30 percent of the total cases, with significant escalation (10 percentage points or more) in half of the cases.

Second, all tariff-cutting formulae reduce TE. In the case of the developed countries, with 16 cases of TE, the simple average tariff wedge fell from 25 percentage points in the base period to 4, 6 and 7 percentage points with the US,

G-20 and EU formulae. Thus, one robust finding was that these formulae reduce TE significantly but do not eliminate it. Similarly, tariff de-escalations, where these existed, were squeezed further following the formula cuts.

In the case of the developing countries, tariff escalation in the base period was significant (tariff wedge exceeding 10 percentage points) in seven of the 53 cases analysed. For these cases, the base tariff wedge of 44 percentage points on average fell to 16 and 22 percentage points with the US and G-20/EU formulae respectively, which translate into 28 and 22 percentage points reductions in TE itself.

Third, tariff caps in the formula proposals were found to play an important role in containing or eliminating tariff escalations. As a result of these caps, many very high tariffs were reduced to the level of the cap for both the processed and primary products, thus eliminating the TE. The role played by the exemptions for sensitive and special products is less clear. Where both primary and processed tariff lines are sensitive, TE will not be affected because all tariffs are reduced uniformly. In some cases, the two tariff lines fall into different tiers of the tariff cutting formula and so tariff wedges are affected after the formula cuts.

Lastly, on how TE might be addressed in the negotiations, the analysis showed that there are two key building blocks that are required: i) a list of products (and tariff lines) that would be the subject of further adjustment for containing TE; and ii) a threshold within which all tariff wedges are to be contained. One of the important conclusions reached is that no formula or method will work unless there is a list of "TE products" to start with.

Agreeing to a list of "TE products" will not be simple, given the long-standing difficulty experienced in the GATT/WTO negotiations to agree to a seemingly simpler list of tropical products. Unlike with tropical products, many TE products will include import-sensitive products. But such a list is essential. An idea proposed in this paper is to request all interested Members to submit a list of 100 tariff lines for processed products (about 25-30 products) as well as the corresponding lines for primary products. The most common, say 20-25, processed products could be selected for addressing TE.

Once selected, it is relatively straightforward to adjust the tariff reduction rates so that tariff wedges are within a limit. One option is to make a one-time adjustment using a negotiated number like [1.3] as suggested in the Harbinsion text wherever TE persist (perhaps significant ones) after formula cuts, and leave it there irrespective of the resulting degree of TE. This proposal, i.e. using a single negotiated number, is fraught with practical problems. Instead, an alternative would be for the Members to agree to contain TE, as measured by tariff wedges, within a de minimis level, which could be, for example, 5 percentage points for the developed countries and 10 percentage points for the developing countries. In this case, the Harbinson-type adjustment factor becomes variable instead of a fixed number. Containing TE within low levels would be an "effective" response to this long-standing issue.

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7

Special products: a comprehensive approach to identification and treatment for development

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1. Introduction

The Ministerial Declaration launching the Doha Development Agenda made several commitments to foster development among poorer developing countries. Paragraph 3 "committed to addressing the marginalization of least-developed countries in international trade". Paragraph 13 stated that Special and Differential treatment (SDT) measures shall "be an integral part of all elements in the negotiations on agriculture" and these measures should be "operationally effective and enable developing countries to take account of their development needs, including food security and rural development".[1] The World Trade Organization (WTO) thereby committed its trade rules to achieving development results.

The commitment "to fulfilling the development dimension of the Doha Development Agenda, which places the interests of developing and least-developed countries at the heart of the Doha Work Programme" was reiterated in the July 2004 Framework agreement.[2]

This paper focuses on the identification and treatment of a category of products deemed Special Products (SPs) based on the modality agreed by WTO members in the July 2004 Framework document (paragraph 41) and extended in the Hong Kong Ministerial declaration (paragraph 7) as follows:[3]

> *"Developing country Members will have the flexibility to designate an appropriate number of products as Special Products, based on criteria of food security, livelihood security and rural development needs. These products will be eligible for more flexible treatment. The criteria*

[1] WTO, (WT/MIN(01)/Dec/1, Doha Ministerial : Ministerial Declaration 20 November, 2001.
[2] WTO, WT/L/579. Doha Work Programme, Decision adopted by the General Council on 1 August, 2004.
[3] The underlined words in both quotes are introduced by the authors for emphasis.

and treatment of these products will be further specified during the negotiation phase and will recognize the fundamental importance of Special Products to developing countries."
July Framework agreement of 2004, paragraph 41.
"Developing country Members will have the flexibility to self-designate an appropriate number of tariff lines as Special Products guided by indicators based on criteria of food security, livelihood security and rural development.
Hong Kong Ministerial declaration, paragraph 7.

The main differences between the July 2004 Framework and the December 2005 Hong Kong Ministerial declaration document is the greater flexibility(self designation), specificity (number of tariff lines) and reference to indicators included in the latter document. The approach presented here to advance the process of selecting SPs is fully consistent with the dimensions included in the SPs modality.

The fundamental message of the paper is that given that designating SPs is associated with increasing food security, livelihood security and rural development, the identification and treatment of SPs should be addressed in a development friendly and comprehensive manner, linked with binding commitments on WTO members. A comprehensive approach as presented in this document would increase the chances of achieving the Millenium Development Goals, particularly the first related to poverty and hunger and the last committed to establishing a global partnership for development.

The paper is divided into five sections as follows. The second section argues that Special Products is the most important development modality among WTO rules and that it should be addressed in the WTO in a more comprehensive manner. The third section details an approach to identification and designation of Special Products emphasising development indicators and trade policy considerations consistent with WTO's modalities generally. The fourth section presents results from four case studies using the approach suggested to identify SPs. The final section draws lessons from the results of the identification exercise and summarizes the components of a comprehensive approach that would make identification and treatment of Special Products a useful policy measure for promoting development.

2. Special Products (SPs) - towards a comprehensive development approach

The modalities related to SPs fall under the Market Access pillar and are considered special and differential treatment (SDT) for developing countries. However, it is contended in this paper, that given that the 2005 Hong Kong Declaration modality that extends duty free and quota free market access to LDCs is neither enough to promote development generally nor does it cover sufficient countries, that the WTO SP modality should be broadened into a comprehensive modality linked to other WTO modalities, especially those related to trade development, commodity diversification and poverty reduction strategies. A comprehensive approach to SPs as set out in this section, is essential for trade expansion and advancing development

across the large majority of developing countries and a comprehensive SP modality would be conceived in a development context and linked directly with the other modalities in the WTO negotiations.

2.1 A comprehensive approach to special products

There are four dimensions to the comprehensive approach to SPs being presented in this paper. Firstly, conceiving SPs in a development context linked to achieving the outcomes related to the criteria on which the SP modality is currently based under market access. Secondly, linking the SP modality to the modalities under the other two pillars of the agriculture negotiations. Thirdly, establishing a link between SPs in the agriculture negotiations with other development related aspects of the overall agreement and fourthly recognizing the relationship between SPs and other product categories for which best endeavour modalities now exist and address them simultaneously as a component of a comprehensive SP modality.

Special Products is the only current modality that is directly associated with three critical dimensions of development - food security, livelihood security and rural development. Moreover, it is the only modality that is tied explicitly to indicators and criteria of development, linked to specific products/commodities. The agreement in the Hong Kong Ministerial that developing country Members will have the flexibility to self-designate an appropriate number of tariff lines as SPs when the Doha Round is concluded is very important. This new concession should be interpreted as an advance in the general appreciation of the heterogeneity between developing countries. More importantly, it allows countries to effectively link their trade policy to their development policy.

SPs based on rural development indicators also suggest that SPs can become growth poles for rural area development. Thus, the SP identification approach, viewing products as a part of development plans and regional strategies should include the building of capacity to serve the interest of the rural areas and the economic activities that will sustain their development. Therefore, SPs should be seen as measures promoting diversification, allowing the catching up of local capacity so that the SP could be produced efficiently and competitively and be an activity that contributes to food security, livelihood security and rural development. An important aspect of this argument is also related to the implicit concept of a safety net associated with SPs, particularly related to food security and livelihood security. The link between these two criteria and rural development should be explicit in that SPs are seen as permitting the policy space that enables risks to be taken, facilitating the transition out of the current livelihood systems or making them sustainable.

2.2 SPs and other WTO agriculture negotiations modalities

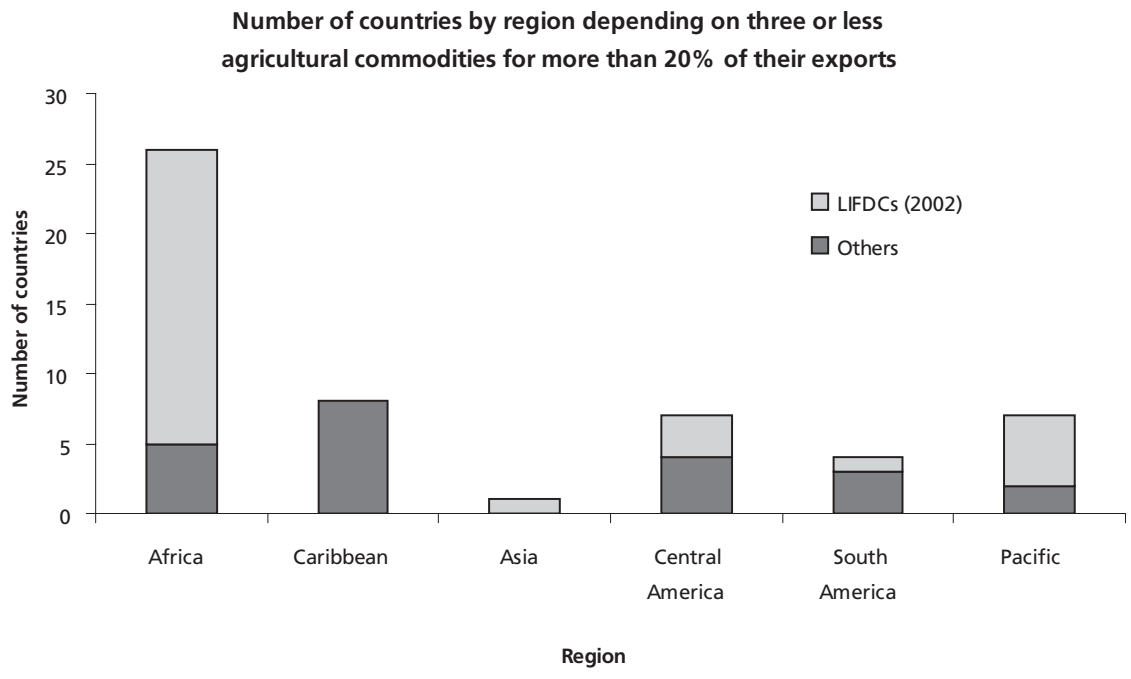
The approach to SPs should be recognized as requiring flexibility and change under more than just the market access modality. Reducing tariffs at a lower rate over a longer period has not by itself proved beneficial in achieving competitiveness or facilitating successful transition to new areas of production. Countries designating

SPs should be able to provide additional support to these selected commodities, both in terms of investment and related subsidies, as well as facilitating their marketing and exporting arrangements. Thus, just as cotton has modalities related to all three pillars, a modality section on Special Products and conditions for their development should be created that includes modalities related to domestic support and export competition. For instance, the treatment of SPs should link them more clearly with increased flexibility under Article 6.2 (under the Domestic Support pillar) to allow increased support for expanding domestic supply capacity and to Article 9.4(under the Export Subsidy pillar) for export trade assistance.

A comprehensive approach should make even more explicit the role of commodities for rural area transformation. This approach should recognize that it is through commodity strategy development leading to commodity diversification and increased trade that rural development, food security and livelihood security, would be achieved.

This link to specific products is seen as critical because this paper holds that commodities are the central element of trade as an engine of growth and development in rural areas where the poor are concentrated. Further, the focus on commodities and commodity concentration is essential as many of the poorest countries also have the highest dependence on a few products (Figure 1). SPs as an instrument promoting product diversification is therefore a critical part of its role in achieving rural development.

FIGURE 1
Agriculture commodity dependent countries by region



Using the Hong Kong Ministerial Declaration document as the reference, the role of Special Products should be elevated and mentioned as important to trade and development in the context of paragraph 55 (commodities), paragraph 41(small economies), and even more importantly, paragraphs 48 (Integrated Framework) and 57 (Aid for Trade). The Hong Kong Declaration is explicit in its support for an enhanced Integrated Framework (IF) that makes funding more predictable, mainstreams trade into national development plans and poverty reduction strategies and greater cooperation and coherency across the six core agencies of the IF (IMF, ITC, UNCTAD, UNDP, WB and WTO). The IF's principles of country ownership and partnership are consistent with the principle of self-designation of SPs agreed in Hong Kong and the need for strategic alliances to achieve development.

The Development Committee paper on the IF calls for consideration to extending IF eligibility beyond LDCs and possibly creating a separate window to fund trade and development activities of non-LDCs.[4] Given the references and importance attributed in the Hong Kong Ministerial declaration to the IF, the possibility of a non-LDC window of the IF as a means of further differentiating between WTO member situations should be explored. Assistance characterized by the IF approach tied to Special Products that are linked to poverty and rural development reduction would go a far way in making SDT more than "best endeavour" clauses and the Doha Round truly a Development Round.

SPs and "best endeavour modalities"

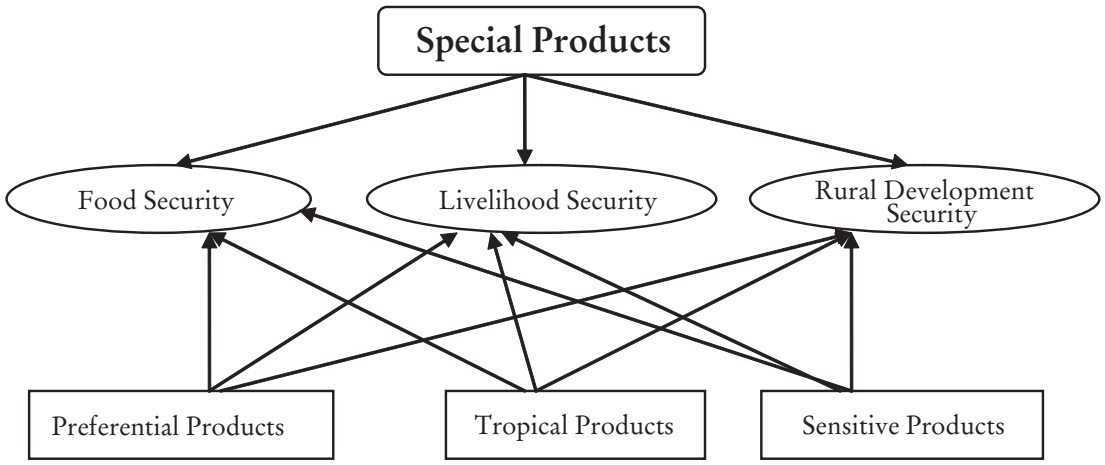
The concept of Special Products is not new in multilateral negotiations. The identification of specific products, staple products and strategic products, linked to the economic growth of developing countries has been a part of multilateral trade negotiations at least since the 1950s. Similarly, the attention in the current negotiations (July 2004 Framework document) to tropical products, preferential products and sensitive products, are also all related to achieving development goals and increasing flexibility for developing countries. Although there is no officially agreed definition of these types of products Annex 1 provides a description of context and conditions including what products have been referred to when these terms have been used in different multilateral trading frameworks.

While it undoubtedly would complicate approaches to WTO negotiations to treat Special Products in a more integrated manner than it is now addressed - purely as a set aside for some products from the full impact of the proposed tariff cuts - it is important to recognize that just designating Special Products without linking them to a development programme would possibly serve the goal of increased trade liberalization, but would not serve to achieve the goal of development. Too many of the key interests of poor and small developing countries remain sidelined because it is believed that to address them would complicate the negotiations and jeopardise the achievement of further liberalization. Three reasons are offered for proposing

[4] IMF, World Bank. *Doha Development Agenda and Aid for Trade*, Development Committee, September 12, 2005 (DC2005-0016).

SPs as an umbrella for these various types of products (special products, tropical products, preferential products and sensitive products) in the negotiations. Firstly, as Figure 2 below suggests the existence and goals underlying the creation of these product categories in multilateral negotiations are very similar.

FIGURE 2
Special Product and other product categories in multilateral negotiations



In all cases attention is called to these product categories to address concerns related to food/livelihood security and rural development. Secondly, while there has been some clear agreement during the modalities stages on SPs, there has been no progress on other commitments "to address" issues related to Preferential Products and Tropical Products, both an explicit part of the modalities mandate. Linking them to a more comprehensive modality on a wider SP category can hopefully get the important issues associated with these products addressed. Thirdly, the very close overlap/relationship between sensitive and special products categories can immediately be identified, as some of the most frequently selected "sensitive" products by both developed and developing countries (sugar, rice, dairy products, meat) are undoubtedly also linked to the criteria for Special Products.

This link is already being made as represented by the ACP Ministerial Declaration for Hong Kong that called for "products receiving preferential access under long-standing preferences to be designated as sensitive products by preference-providing countries".[5] Further, "the treatment of such products shall be moderated in light of its impact on preference erosion and development objectives. Further, any TRQs expansion on an MFN basis shall not be at the detriment of ACP existing quotas".

[5] *G-90 Declaration, the Secretariat of the African, Caribbean and Pacific Group of States*, ACP/61/057/05 Rev.2, December 2005.

While this approach undoubtedly introduces increased complexity in WTO negotiations, the reality is that these product issues are in the negotiations and need to be addressed, both for further trade liberalization and for development. Such an approach would place the emphasis on ambition for development, enabling WTO processes to meet some of their commitments in the area of development.

In sum, a comprehensive approach, building SPs into development, agricultural sector and commodity development plans is needed. Coordination and consistency within regions and across bilateral and multilateral agreements and with multilateral development agencies is a key dimension. The process of designating and treating SPs would be linked to commitments and goals during specific time periods, including levels of assistance and increased liberalization of SPs as different phases of development are passed. This approach would introduce balance in WTO negotiations between trade liberalization and trade and development. SPs as one aspect of special and differential treatment could become the development rule of the WTO negotiations.

3. Special Products - identification

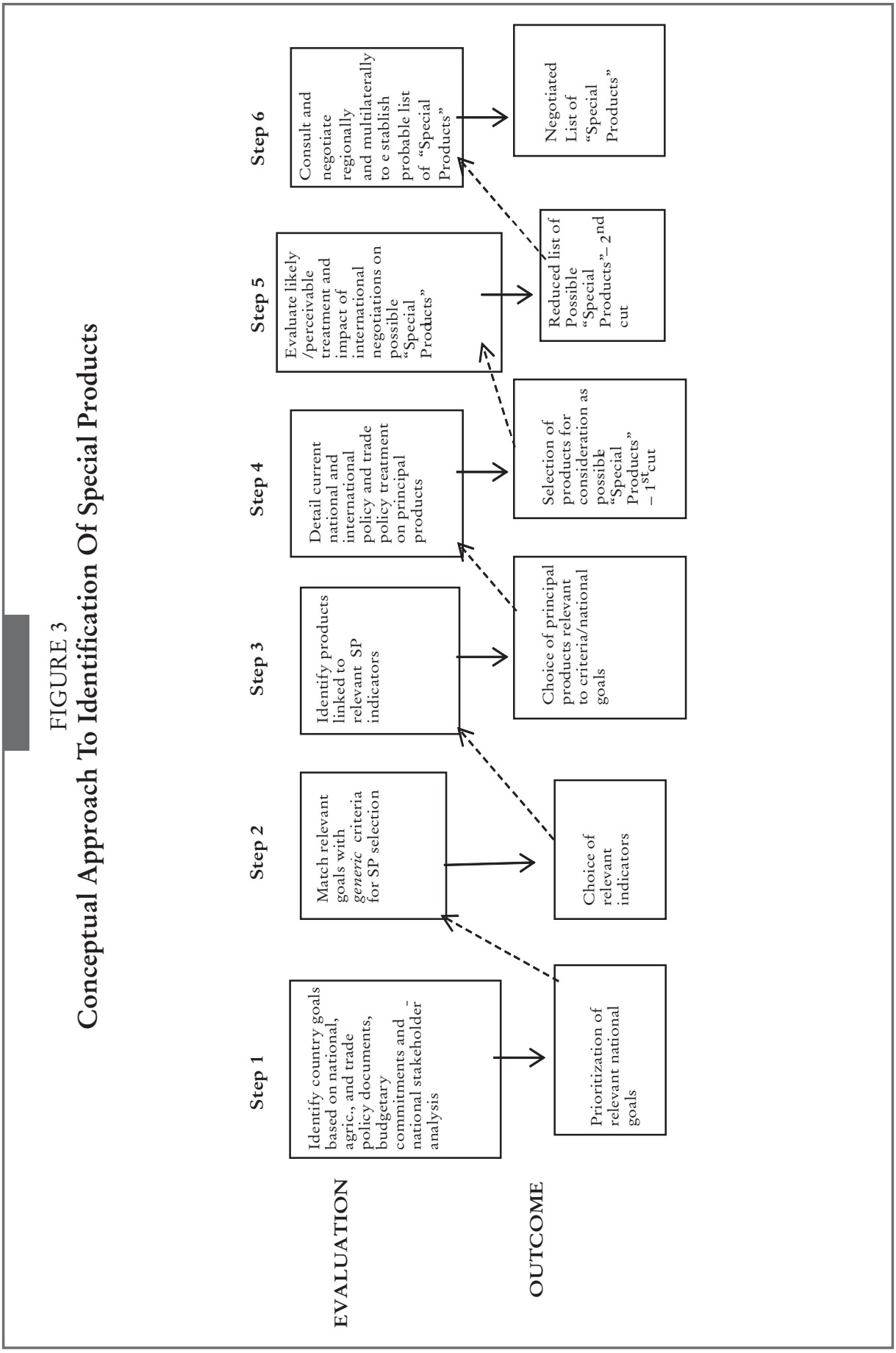
This section presents a conceptual approach and an analytical framework for identifying Special Products. The point of departure is to present an identification process that results in the designation of Special Products that will increase the chances of achieving the development goals imbedded in the concept of Special Products. Satisfactory progress on the designation of Special Products in that context means that countries will be better prepared to contribute to increased liberalization in the context of the WTO.

The three criteria for identifying Special Products represent a fundamental link between trade negotiation outcomes and development goals. As a result, the importance of understanding the role of the country's goals and strategies to designation of Special Products is recognized as being a critical point of departure for the analysis.

The following questions elaborate steps presented schematically in Figure 3 as a process designed to facilitate the identification of Special Products.

FIGURE 3

Conceptual Approach To Identification Of Special Products



1. What are the country's goals and strategies, including relative priorities and weights, for achieving food security, livelihood security and rural development?
2. What definition/indicators of food security, livelihood security and rural development match best with the national goals and policy commitments related to the criteria for choosing Special products?
3. What products are the main contributors to the achievement of these goals and strategies? How are these products ranked in terms of the criteria indicators and goals at the national aggregated level and particularly at the disaggregated local levels?
4. What national and international policies exist and are needed (related to the principal products) to promote achievement of the goals related to the three criteria? What is the status (do they conform/violate) of these current and needed policies in relation to WTO regulations (market access)?
5. Which of the products most need "flexibility" and why do they need the "flexibility"? At this point the list of principal products is reduced to those needing flexibility?
6. What are the policy/product combinations that do not conform to WTO regulations and what policy flexibility is needed (also related to substitutes). At this point possible treatment of Special Products is addressed at the national, regional and multilateral levels.
7. What are the current levels of disciplines in the WTO and ambition in multilateral Negotiations and how can the needed "flexibility" for possible Special Products be accommodated in the modalities negotiated? At this point probable Special Products and Flexibility are identified, negotiations for support and tradeoffs take place.
8. What adjustments can be made in the probable list of Special Products in order to negotiate a multilateral agreement that is beneficial to all the participating countries and their needs? At this point, one establishes the probable Special Products list and associated flexibility for negotiation.

The above approach is laid out as a series of steps but it should also be perceived as an iterative and dynamic process as countries will change goals and policies as national and international conditions change and are better understood.

The agreed framework for analysis on Special Products is underpinned by the criteria set as the basis for identifying the Special Products. In a trade context the next sub-section addresses definitional and measurement issues related to the three specific criteria agreed for designating Special Products.

3.1 Special Product identification: development criteria linked indicators

A major challenge facing developing countries in the establishment of an effective Special Products mechanism rests on the perceived misunderstanding of its policy basis by some WTO Members that view the Special Products initiative as motivated by simple protectionism or opposition to liberalization. It is therefore necessary to emphasize that the Special Products modality should be seen as providing

developing countries with policy flexibility to address crucial development concerns (food security, livelihood security and rural development) that might not be achieved through trade liberalization, in addition to coping with the unstable nature of agricultural markets, and negative impacts from trade liberalization (which can produce damaging shocks, especially to poor and vulnerable developing economies), as well as increasing the possibility for greater levels of liberalization.

How then can developing countries select products based on the three criteria agreed in the WTO negotiations as the basis for designating Special Products? Further, can the criteria be viewed as independent or mutually exclusive? Does a product need to satisfy all three criteria to qualify for special treatment under the Special Products initiative or need it only satisfy one of the criteria ? In answering these questions we first examine the indicators that can be used to measure each of the three criteria and then assess the importance or contribution of each agricultural commodity and indicator towards achieving the objectives implied by the criteria. Box 1 provides working definitions of the criteria.[6]

BOX 1
Working Definitions

Food Security: According to FAO, "Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life".

Livelihood Security: The adequate and sustainable access to income and other resources to enable households to meet basic needs. This includes adequate access to food, potable water, health facilities, educational opportunities, housing, and time for community participation and social integration.

Rural Development: is a process which affects the well-being of rural populations, including the provision of basic needs and services, i.e. access to food, health services, water supply, basic infrastructure (roads, etc.) and the development of human capital through education. It also refers to activities that reduces the vulnerability of the agricultural sector to adverse natural and socio-economic factors and other risks, and strengthens self-reliance.

[6] There are various definitions for these concepts but they generally embody the critical elements mentioned in these three definitions.

3.2 Food Security Indicators[7]

In evaluating and monitoring food security four dimensions are considered critical:

- availability (production and supply side issues related to physical access and sufficient food)
- accessibility (market demand, income, and trade issues related to economic access),
- stability (including vulnerability both in terms of vulnerable groups and situations)
- use (food safety, nutrition and food choice issues).

The indicators used below are a few indicators considered most relevant in the context of linking products to food security dimensions:

(a) Contribution of product to nutrition

This indicator measures the share of calories per capita from the product. The ratio used can be:

- calories per capita per day derived from the product/calories per capita per day derived from all products

(b) Self sufficiency or import dependency in the product[8]

These indicators measure the share of domestic consumption in domestic production or the proportion of consumption of the product that is imported. The ratios used can be:

- total of product (X) consumed/total of product (X) produced
- total of product (X) imported/total of product (X) consumed

(c) Stability in access of the product

This indicator reflects the production and/or price variability of the main consumed products. The production variability is focused on products mainly produced within the country. The price variability measure covers all important food products, both domestically supplied and imported. The measure used can be:

- standard deviation/coefficient of variation of production and price of product
- degree of price transmission (international vs. domestic) of product
- variability in revenue (export) generated by product activity
- share of (household) total income derived from product activity(ies)

[7] For more discussion on each of the indicators see an earlier paper by the authors (FAO 2005). Data for most of the indictors described below are generally available from FAOSTAT and the WTO.

[8] These indicators can be used inter-changeably, since a low share of production in consumption could also imply a high share of imports in consumption.

(d) Product consumption expenditure

This indicator reflects the share of expenditure incurred on the purchase of a product in the total expenditure on the purchase of all products. The ratios used can be:

- expenditure on the individual food basket item/total expenditure on food basket

3.3 Livelihood security indicators

Livelihood security is an even broader concept than food security and includes several of the dimensions of food security. The aspects stressed in the indicators used here are employment and household income derived from the product.

(a) Level of employment in product/sector

This indicator reflects the product's share of employment in total employment in a specific area and/or industry, including vulnerable aspects of the labour force linked to the project. Some measures are:

- Share of employment of the product in total agricultural labour force or in total rural employment
- Share of labour force employed in product industry in total labour force - Gender/Age distribution of labour force employed by the product

(b) Income from product

This indicator reflects the product share of income in household income. This can be measured as:

- Income from product industry/ total household income

(c) Agricultural land/assets product share

This indicator reflects the product share of the agricultural land/holdings/assets under cultivation in the country or rural area. This can be measured as:

- Land acreage planted with product/total land under cultivation
- Farm holdings growing the products/total number of farm holdings

(d) Incidence of surge/displacement by imports

This indicator is a more defensive and dynamic indicator, measuring the extent to which some livelihood systems may be under threat by imports coming to the country.

- Correlation between imports and domestic production of product
- Growth rate of import substitutes/growth rate of competing domestic product

3.4 Rural Development Indicators

The linkages between rural area agricultural development and increased levels of overall economic development are well documented. Thus, the key phrases for selecting Special Products related to rural development criteria are "potential

growth" and "economic linkages and development", which evaluate products in terms of their potential as growth and development poles.

(a) Importance of product in rural agricultural economy

This indicator measures the share of the product in total rural agricultural production.

- Product economic activity share in total rural agricultural output

(b) Product and rural area growth

This indicator seeks to capture the importance of a particular product to the growth taking place in a particular rural area.

- Product growth rates relative to rural area growth rates

(c) Domestic value-added potential of product

This indicator focuses on the value linkages of the product as a catalyst and contributor to rural development

- Degree to which the product can be transformed into other products/uses

(d) Tariff revenue from product import/export

This indicator recognizes the role of some products as critical suppliers of revenue for rural development investment in areas such as infrastructure, utility services and social services.

- Tariff revenue generated by the product

3.5 Issues related to implementation of the indicator analysis

The indicators above facilitate the identification of special products based on the criteria of food security, livelihood security and rural development. One of the main considerations in presenting them is to have quantifiable measures on which to base consideration of Special Products. This facilitates comparison across commodities and countries, but importantly, in the context of WTO negotiations, ensures objectivity. However, possible shortcomings of this process may emanate from several standpoints:

- the indicators may not capture all the products, especially small and remote area products
- not all important dimensions of the three criteria can be easily quantified
- data for all the indicators may not be easily obtainable from both national and international sources
- there is a strong level of inter-dependency amongst the indicators both within the same criteria and between different criteria
- accurately identifying substitute products and the degree of value addition for a product may prove difficult in some circumstances.

Despite the several challenges related to measuring the indicators, they provide a sound basis for identifying special products and data for four countries is used to present results in section 4 of this paper.

3.6 Special Products - trade policy and treatment

The current policy treatment of the product, including the trade policy measures, and its relationship to the current and potential trade regime commitments clearly will determine the final selection of Special Products. This applies to both the country's own treatment of the products and the treatment of the product by its trading partners and others in the multilateral trading system.

The July Framework document and the Hong Kong Ministerial Declaration are silent on treatment of Special Products stating that this "*will be further specified during the negotiation phase*". However, the latter agreement on modalities indicates that member countries will be allowed to self designate an appropriate number of tariff lines as SPs.

If the "appropriate" number of Special Products is more flexible and allowed to correspond to the needs according to the three specified criteria as presented by countries, one would assume that Special Products will have a cost and countries will have to compensate with greater tariff reductions in some areas, possibly the opening of tariff rate quotas on Special Products. In these cases, the tariff reduction and the tariff rate quota would probably be less than on normal and "Sensitive Products" while similarly the level of in quota tariffs would be relatively higher.

There is also the issue of the level at which tariff lines should be designated - broader or narrower. This too is related to what is allowed in terms of numbers and categories of products to be classified as Special Products. Protection of the domestic market from alternative related crops that displace local crops may require identification of tariff lines in different HS Chapters to protect the same product.

Identification and treatment could also be linked to perceived vulnerability of the different Special Products as might be reflected through the current tariff profile of the country. In some cases, countries may have to explore renegotiation of tariff levels if in the light of the flexibility needed for Special Products the current tariff profile does not already provide sufficient protection.

The nature of the Special Safeguard Mechanism, its availability and what it offers in terms of flexibility is also important to Special Products and will undoubtedly influence both the choice and treatment of Special Products. The same applies to the determination on Sensitive products. Given that Sensitive products are also open to developed countries and the principle of "substantial improvement" will apply to each product chosen, it may be possible for developing countries to negotiate that in this Doha Round Special Products should be exempted from any commitments. This would essentially be treating Special Products for all developing countries the same as all products for least developed countries. Unfortunately, the controversial problem of the developing country category being too wide could again be a stumbling block.

3.7 Summary

In summary, using the criteria identified in the Doha negotiations for selecting Special Products raises several challenges.

- First, the concepts themselves are very broad and extremely complex to define and measure. They are to be applied to a range of very different countries and

conditions within those countries. The conditions differ both in terms of levels of development but also capacities and needs.

- Secondly, given the numerous variables affecting outcomes in the criteria to be used for selection of Special Products, it could be difficult to make definitive trade and trade policy linkages between specific products and the criteria outcomes.
- Thirdly, there is the issue of data availability, at the national level and more so at the rural level where the importance of the criteria are relatively more concentrated.
- Fourthly, while criteria for choice of Special Products have been specified, it is still not agreed what the treatment of Special Products will be. This treatment would clearly influence the choice of products to be classified as special.
- Fifthly, managing the large number of possible indicators and linking them to the criteria through a process that meets general acceptance in a multilateral context would clearly be a formidable task.

The next section of this paper provides results for four countries after applying the approach detailed above using both national level and sub-national level information. The main objective is to demonstrate the methodological approach through examples so that countries can advance their own processes of selecting Special Products and improve their participation in WTO negotiations. The lists of SPs arrived at are not suggested SPs for any country, only the country itself can decide on such a list.

4. Special Products: application of the methodology - case study results

This section presents results in two frames. First, analysis in the context of the criteria as evaluated through product, indicators and their trade policy regimes. Secondly, an evaluation of the indicators themselves, using factor analysis to test for interrelationships and possible reduction of the indicators into principal factors.

4.1 Indicator analysis results

The indicator analysis is based on secondary data available in the public domain for four countries - Belize, Egypt, Nigeria and Thailand. In the case of Belize and Thailand there has been relatively more detailed work. The national, agricultural and trade policy goals as presented in the WTO Trade Policy Review, National Development Plans and Agricultural Sector Plans and Policy Statements provided the background and context to the analysis.

Table 1 provides a summary of the nine indicators across which data were collected for each country. Four, three and two indicators were used for food security, livelihood security and rural development, respectively. The choice was in part driven by data availability.

TABLE 1
Criteria and indicators against which products evaluated

Indicator Name	Measure
I1. Product share in calorie consumption	Daily per caput calorie intake from product/Daily per caput calorie intake from all products
I2. Product import as a share of domestic consumption	Volume of product imported/Volume of product consumption (%)
I3. Ratio of domestic consumption of product in domestic production of product	Volume of product consumed/Volume of product produced (%)
I4. Co-efficient of variation of domestic production	Coefficient of variation of domestic production of product[1]
I5. Import growth rate	Exponential growth rate of product import volume[1]
I6. Share in area harvested	Land area utilised for cultivation of crop/Total land area under cultivation for all crops (%)
I7. Coefficient of correlation (production & import)	Coefficient of correlation between product production and product import volumes[1]
I8. Share in production (volume)	Volume of product produced/Total volume of all products produced (%)
I9.Production (volume) growth rate	Exponential growth rate of product production volume[1] (%)

[1] For the period 1985-2002

Each agricultural product for the country in the FAOSTAT database was evaluated against the nine indicators above. Table 2 shows the number of products for each country evaluated in the context of the indicators and the number of products that qualified in the top thirty in at least one of the indicator categories. It also shows the number of products in terms of the number of indicators under which they qualified.

TABLE 2
Number of products evaluated by country and number of products meeting 1 to >= 3 Indicators

	No. of products considered		No. of products with no. of indicators			Total Products
	Produced	Imported	>= 3	2	1	> = one indicator
Belize	99	248	20	38	90	148
Egypt	225	366	21	36	117	174
Nigeria	147	261	23	34	124	181
Thailand	252	392	18	40	128	186

The total products produced (and exported) and imported for each country indicates the total number of products evaluated. Obviously, some indicators evaluated only imports or production (exports) and depending on data availability the numbers of products evaluated under each indicator varied. For each base variable/indicator the top thirty products generally accounted for more than 75 percent of the total activity reflected by the indicator. For example, the top thirty products under total calorie consumption or land harvested accounted for greater than 75 percent of calories consumed or land harvested. The top thirty products for each variable was considered the base set of possible products, and products that made that cut and identified with at least three indicators were chosen as the list for further analysis. Table 3 shows the products and the indictors for each country that were in the top thirty on at least three of the indicators. Annex 2 presents the country tables with the indicator values for the products qualifying with three indicators.

TABLE 3
Products and at least three of their related indicators

Thailand		Belize		Egypt		Nigeria	
Product	**Indicators**	**Product**	**Indicators**	**Product**	**Indicators**	**Product**	**Indicators**
Sugar cane	I1, I3, I6, I8, I9	Chicken meat	I1, I5, I7, I8, I9	Oil of soybeans	I1, I2, I4, I7, I9	Sweet potatoes	I1, I4, I6, I7, I8
Barley	I2, I3, I4, I7	Potatoes	I1, I2, I3, I4, I7	Sugar beets	I3, I4, I6, I7, I8	Tomatoes	I3, I4, I6, I7, I8
Maize	I1, I6, I7, I8	Sorghum	I1, I3, I7, I8, I9	Oranges	I1, I3, I6, I7, I8	Flour of wheat	I1, I4, I8, I9
Bananas	I1, I6, I8	Beef and veal	I1, I5, I7, I9	Potatoes	I1, I3, I6, I7, I8	Taro (Coco Yam)	I1, I4, I6, I8
Cassava	I1, I6, I8	Beer of barley	I1, I5, I7, I8, I9	Sugar cane	I1, I3, I6, I7, I8	Vegetables fresh nes	I1, I4, I6, I8
Chicken meat	I1, I5, I8	Cassava	I1, I3, I4, I9	Maize	I1, I6, I7, I8	Sugar refined	I1, I4, I9
Cocoa beans	I2, I3, I7	Plantains	I1, I3, I4, I8	Sesame seed	I1, I2, I6, I7	Wheat	I2, I3, I4
Coconuts	I1, I6, I8	Beans, dry	I1, I5, I8	Dates	I1, I3, I6, I8	Cocoa beans	I6, I7, I9
Fruit tropical fresh nes	I1, I6, I8	Cantaloupes and other melons	I4, I8, I9	Grapes	I1, I6, I7, I8	Maize	I5, I6, I8
Jutelike fibres	I3, I6, I9	Cashew nuts	I1, I4, I9	Olives	I1, I3, I4, I6	Cashew nuts	I1, I4, I6
Mangoes	I1, I6, I8	Cocoa beans	I2, I3, I4	Onions, dry	I3, I5, I6, I8	Cassava	I1, I6, I8
Milled paddy rice	I1, I7, I8	Grapefruit juice Sing-Str	I5, I7, I8	Tomatoes	I1, I3, I6, I8	Citrus fruit nes	I1, I6, I8
Potatoes	I2, I3, I7	Maize	I3, I7, I8	Cocoa butter	I4, I5, I9	Cow peas, dry	I1, I6, I8
Rice, paddy	I6, I7, I8	Milled paddy rice	I1, I5, I8	Oil of groundnuts	I3, I4, I7	Fruit fresh nes	I1, I6, I8
Soybean cake	I2, I3, I7	Onions and shallots, green	I4, I7, I9	Rice, paddy	I3, I6, I8	Groundnuts shelled	I1, I4, I8
Sugar refined	I1, I7, I8	Orange juice concentrated	I1, I7, I8	Seed cotton	I6, I8, I9	Plantains	I1, I6, I8
Sweet corn prep. or pres	I4, I5, I9	Papayas	I7, I8, I9	Silk, raw and waste	I4, I5, I9	Soybeans	I1, I4, I6
Wheat	I2, I3, I7	Pigmeat	I1, I5, I7	Sorghum	I3, I6, I8	Yams	I1, I6, I8
		Soybeans	I4, I5, I9	Sunflower seed	I3, I7, I8	Flour of maize	I1, I5, I8
		Yams	I3, I4, I9	Flour/meal of oilseeds	I4, I5, I9	Groundnuts in shell	I4, I6, I8
				Sweet potatoes	I3, I4, I9	Sorghum	I3, I6, I8
						Pigmeat	I1, I5, I9
						Potatoes	I3, I4, I7

The FAOSTAT product descriptions were then mapped with the equivalent HS codes for the products qualifying against three indicators. This allowed evaluation of the trade characteristics of the product. In the case of Belize and Thailand additional disaggregated work and policy information led to some additional tariff lines being added beyond the indicator analysis at the national level. For Nigeria and Egypt the products in the indicator analysis lists reflect only those products that satisfied the threshold points on at least three indicators.

Belize

The Belize analysis in this section incorporates additional indicator results from a completed study on Special Products at the disaggregated level with stakeholders across the six districts of Belize.[9] The results of the disaggregated work are consistent with earlier national level data analysis by FAO in that 19 of the 20 products identified as possible Special Products by the national level work (Annex 2) are also identified in the more recent study. As expected the main difference applying the indicator analysis at the disaggregated level is the identification of additional commodities that are important to food security, livelihood and rural development in particular rural areas. This is the case even in a country like Belize where there is considerable agricultural commodity concentration, for instance, where the top five products by acreage in each district account for 90 percent of the land under cultivation. However, the products vary considerably by District. Applying the indicators under the three criteria at the disaggregated level resulted in 47 products being identified as Special Products (Table 4). This resulted in 102 as opposed to the earlier 37 tariff lines (corresponding to 20 products) at the HS6 level. This SP list, based on the indicator analysis is much less than a list of 238 sensitive agricultural commodities compiled generally by Belize.

The trade policy information from Belize is particularly reinforcing of the indicator analysis approach adopted as more than 60 percent of the products that arise from the indicator analysis are products that are exceptions (above) to Belize's ceiling binding of 100 percent, products with a bound tariff of 105 or 110 percent. Further, all of these products have a tariff overhang of 60 percent or greater, the difference between CARICOM's Common External Tariff (to which Belize subscribes) and its ceiling binding. Most of the products that do not appear on the selected indicator list of three or greater appear on the list of products qualifying with one or two indicators for Belize. Thus, in the case of Belize a largely overlapping set of products are possible for Special Product identification. In the categories of the framework agreement perhaps as follows: food security (rice, maize, poultry, dried beans), livelihood security (sugar, citrus, bananas), rural development (pig meat, fruits, potatoes).

[9] Belize Case Study, Special and Sensitive Products in the WTO Agriculture Negotiations, FAO Project - GCP/INT/818/JPN, FAO, January 2006.

TABLE 4
High indicator count products including trade policy dimensions

Product	HS Number	Bound Tariff	Applied Tariff	Trade Policy Remarks (Exception to Annex 1A of AoA)
Beef (Dressweight):	0202.10/.2010/.2090/.3010 /.3020/ .3030/.3090	110	40	x
Pigs (Dressweight):	0203.11/.12/.19/.21/.22/.29	110	40	x
Poultry (Dressweight):	0207.11/.12/.13/.1410/.1420/.1430 /.1490/.24/.25/.26/.2710/ .2790	110	40	x
Milk:	0401.10/.20/.30;0402.21/.29	100	0	
Layers:	0407			
Hatching eggs	0407.002	100	0	
Other fresh eggs	0407.003	100	40	
Honey	0409	110	40	x
Irish Potato	0701.90	100	42 cents/100 lbs	
Tomatoes	0702	100	30	
Onions	0703.101	100	42 cents/100 lbs	
Cabbage	0704.901	100	30	
Carrots	0706.101	100	30	
Cucumber	0707.001	100	30	
Okra	0709.902	100	30	
Pumpkin	0709.903	100	40	
Sweet Pepper	0709.904	100	30	
Sweet Corn	0710.80	100	30	
Beans:	0710			
Black eye Peas	713.1030	110	45	x
Small Red Beans	713.3200	110	5	x
RK Beans	713.3310	110	40	x
Black Beans (Other)	713.3390	110	5	x
Cassava	0714.10	110	40	x
Sweet Potato	0714.20	110	40	x
Coco-Yam	0714.9030	110	40	x
Coconuts (nuts):	0801.11/.1910/.1999	100	40	
Cashew Nuts:	0801.31/.32	110	40	x
Bananas& Plantains	0803.0010/.0020/.0030	110	40	x
Pineapple	0804.30	110	40	x
Avocado	0804.40	100	40	
Mangoes	0804.5020	110	40	x
Oranges	0805.10	110	40	x
Lime	0805.3020	110	40	x
Grapefruit+C38	0805.3030	110	40	x
Canteloupes	0807.1910	100	40	

Product	HS Number	Bound Tariff	Applied Tariff	Trade Policy Remarks (Exception to Annex 1A of AoA)
Watermelon	0807.11	100	40	
Papayas	0807.20	110	40	x
Soursop	0810.9040	100	40	
Craboo	0810.9090	100	40	
Coffee:	0901.1110/.1199/.1210/.1290/.21/.22	100	5	
Pepper:	0904.11/.12	100	40	
Ginger	0910.10	100	40	
Corn (Maize)	1005.9	110	40	x
Rice	1006.1000/.1090/.2010/.2020/.3010/.3020/.3030/.3040/.3050/.3060/.4010/.4090	110	25	x
Sorghum	1007.0090	100	40	
Soybeans	1201.0090	110	10	x
Peanuts:				
In shell	1202.10	100	40	
Shelled	1202.2090	110	40	x
Sugar -cane C35	1212.92	100	10	
Annatto	1404.1030	100	5	
Other chicken sausage:	1601.0020/..0030/.0090	100	20	
Sugar	1701.10	110	40	x
Cocoa	1801.001	100	5	

Thailand

In the case of Thailand seventeen products were highlighted by the indicator analysis based on the threshold of being important in terms of at least three of the nine indicators (Annex 2). These products were reclassified in terms of relevant HS codes and evaluated further in the context of trade policy information available for Thailand. The information included trade policy reviews, trade agreement reports and commodity market assessment documents. Incorporating this information led to the 78 tariff lines (Table 5) listed here as possible Special Products. The trade policy analysis findings, particularly in terms of products previously declared under the Special Safeguard clause, reinforced the indicator analysis findings. Out of the 51 tariff lines on the Thailand Special Safeguard list, seventy percent (34 tariff lines) are on the Special Products list. Seventeen lines on the SSG list did not qualify linked to SP criteria. The food security crops (rice, sugar, cassava, maize and chicken meat) are on the indicator list, with maize, chicken meat and rice all also having an SSG designation. These are also the crops that are prominent among the indicators under livelihood security and rural development and reinforce the expectation of overlapping product influence across the indicators and criteria. Some products that were also important under the two other criteria were coconuts and pineapples (livelihood security) and bananas and sugar (rural development).

TABLE 5
Thailand high indicator count products and trade policy dimensions

ITEM (Names used in FAOSTAT)	HS Number (HS 4 & 6 Digit)	Tariff lines at HS 6 digit level	Bound Tariff (%)	Applied Tariff (%)	Tariff over-hang (%)	Trade Policy Remarks
Bananas	0803	1	195.8	112.1	83.6	
Barley	1003	1	27.0	23.0	4.0	
Beans, Dry	0713.31,32,33,39	4	40.0	30.0	10.0	
Beet sugar	1701.12	1	94.0	1.5	92.5	SSG/TRQ
Beverages Dist Alcoholic	2208	7	72.6	343.0	-270.4	
Cassava	070990	1	40.0	40.0	0.0	
Chicken Meat	0207.11,12,13,14	4	33.8	35.0	-1.3	
Cocoa Beans	1801	1	27.0	27.0	0.0	
Coconuts	080110	1	54.0	60.0	-6.0	TRQ
Coconut (copra) oil, Crude oil	1513.11, 19	2	52.0	1.5	50.5	SSG/TRQ
Coffee	0901.11,12,21,22, 30, 40	6	90.0	40.0	50.0	SSG/TRQ
Copra	1203.00	1	36.0	0.0	36.0	SSG/TRQ
Extracts, essences and concentrates, of coffee	2101.10	1	49.0	60.0	-11.0	SSG/TRQ
Flour of Wheat	110100; 110311; 11321	3	34.7	17.5	17.2	
Food Wastes	2309.90	1	9.0	9.0	0.0	
Fruit Tropical Fresh nes	0809	4	84.4	43.4	41.0	
Jute-Like Fibers	530390	1	N/A	5.0		
Hen Eggs	0407	1	27.0	13.5	13.5	
Maize	1005	2	46.5	8.9	37.6	SSG/TRQ
Mangoes	080450	1	96.8	40.0	56.8	
Rice	1006.10,20,30,40	4	52.0	8.5	43.5	SSG/TRQ
Milk and cream	0401.10,20,30	3	41.0	40.0	1.0	SSG/TRQ
Milk and cream in powder	0402.10, 91	2	74.0	17.5	56.5	SSG/TRQ
Pineapples	080430	1	141.7	40.0	101.7	
Pineapples, Canned	2008.20	1	88.6	44.6	44.0	
Potatoes, fresh or chilled, Seed	0701.10, 90	2	125.0	60.0	65.0	SSG/TRQ
Rice Flour	1102.30;1103.14,29	3	30.0	30.0	0.0	
Soyabeans	1201	2	80.0	20.5	59.5	SSG/TRQ
Soybean Cake	2304.00	1	119.0	6.0	113.0	SSG/TRQ
Soybean oil	1507.10, 90	2	146.0	3.5	142.5	SSG/TRQ
Sugar Cane	1701.11	2	94.0	7.2	86.8	SSG/TRQ
Sugar Refined	1701.91,99	2	94.0	65.0	29.0	SSG/TRQ
Sweet Corn Prep. or Pres.	071040; 200490	2	45.6	35.1	10.5	
Tobacco Leaves	2401	3	72.0	67.5	4.5	SSG/TRQ
Vegetables Fresh nes	0706.10,90; 0709.40,90	4	40.0	40.0	0.0	

Total Agricultural Tariff Lines*	651
Special Products Lines	78
Percentage of Special Products in the total agricultural tariff lines at HS 6 digit level	12

* This is country specific total lines
Source: World Integrated Trade Solution (WITS) and Market Access Map database

A number of products that appeared on the indicator list (sweet corn, jute like fibres) were not on the Thailand Special Safeguard list and some on the Special Safeguard list (garlic, onions, palm oil) were not on indicator list. Two products, green coffee and whole milk did not show up as significant among the original nine indicators but were both highly significant on one or two indicators and the trade policy results suggested there inclusion on the list. The bias of national indicator level analysis toward bulky, high-valued and major crops is clear and possibly results in crops such as garlic and spices not making the indicator list of selected products. Further, even with disaggregated district level analysis, a crop that is scattered across districts as opposed to being concentrated in one or a few districts could be missed. There is also the influence of lobbying capacity by a particular commodity organization whereby a crop may be on the list for special treatment with no relation to its potential to be competitive, contribute to food security or rural development.

The concluded and anticipated regional trade agreements are also a major factor in shaping a final SP product list as evidence indicates that very different products are being considered for special treatment in the context of the different negotiations. For example, products such as pig meat and beef in its free trade negotiations with Australia, apples, pears, garlic and onions in its negotiations with China, and groundnuts with the US are products of concern to national stakeholders. None of these products are on the indicator list of this study and not all of them are on the Special Safeguard list of Thailand.

Egypt

For Egypt, among the products that qualify for selection as possible SPs under a large number of indicators, sugar beets, oranges, potatoes and oil of soybeans top the list with a top 30 ranking under five of the nine indicators (Table 6). Though there is some domestic production of oil of soybeans, the high variability in production, largely due to demand fluctuation which varies based on competitive prices and availability of substitutes (for example, palm oil) has led to a large reliance on imports.

Cereals in Egypt are the most consumed food, reflected also in the high dependence on these commodities by the population for deriving maximum calories. Therefore, production of wheat, rice and maize together account for almost 43 percent of all area harvested in the country. The low bound and applied rates for maize is consistent with the fact more than 40 percent of total domestic consumption of maize, like wheat, is met from imports. The importance of cereals is further underscored by their employment-generation capacity, with almost one-

third of the total agricultural labour force in the country employed in production of these three commodities. Cotton is produced on roughly five percent of the total harvested land while amongst the main fruit and vegetables, tomatoes, oranges and grapes occupy some seven percent of the total harvested area in the country.

Production of some soybean products (oil, flour and meal) and cocoa butter show a high potential for future growth. Particularly, in the case of soybean meal which has traditionally been imported (mainly for use as poultry feed). The government is in the process of installing several soybean crushing plants in order to reduce its import dependence. Another commodity that has shown a high growth rate of production is seed cotton, even though it's current share in Egypt's total agricultural output is very low.

TABLE 6
Egypt high indicator count crops and trade policy dimensions

Product	HS Number	Bound Tariff	Applied Tariff	Tariff overhang
Oil of Soybeans	1507	15	9	6
Sugar Beets	121291	30	20	10
Oranges	080510	60	40	20
Potatoes	0701	40	30	10
Maize	1005	5	1	4
Sesame Seed	120740	10	1	9
Dates	080410	40	30	10
Grapes	080610	60	40	20
Olives	070990	40	25	15
Onions, Dry	070310	20	20	0
Tomatoes	0702	20	20	0
Wheat	1001	5	1	4
Cocoa Butter	1804	30	30	0
Oil of Groundnuts	1508	20	12.5	7.5
Rice, Paddy	100610	20	20	0
Seed Cotton	120720	10	1	9
Silk, Raw and Waste	5002	n.a	n.a	n.a
Sorghum	1007	10	5	5
Sunflower Seed	1206	5	1	4
Flour/Meal of Oilseeds		n.a	n.a	n.a
Sweet Potatoes	071420	30	30	0

Nigeria

Table 7 shows the list of high indicator count products and trade policy information for Nigeria. The main products affecting food security are on the list - millet, cassava, maize, yams, sorghum, and cowpea. All of these products have the highest applied (100 percent) and bound (150 percent) rates, except maize which has a high applied rate of 70 percent. These products are also among the major products contributing to calorie availability. In terms of livelihood security, the main products identified by the indicators are cotton, cocoa beans and groundnuts. These crops are particularly important for employment in rural areas as indicated by the share of land harvested. For Nigeria there is a considerable overlap between the criteria hence most of the food security and livelihood security crops contribute to rural development.

TABLE 7

Nigeria high indicator count crops and trade policy dimensions

Product	HS Number	Bound Tariff	Applied Tariff	Tariff overhang
Sweet Potatoes	071420	150	100	50
Tomatoes	0702	150	100	50
Flour of Wheat	110100; 110311 / 110321	150	43	107
Taro (Coco Yam)	071490	150	100	50
Vegetables Fresh nes	070610 /070690 / 070940 / 070990	150	100	50
Sugar Refined	170191 / 170199	150	15	135
Wheat	1001	150	5	145
Cocoa Beans	1801	150	25	125
Maize	1005	150	70	80
Cashew Nuts	080130	150	100	50
Cassava	‘070990	150	100	50
Citrus Fruit nes	080590	150	100	50
Cow Peas, Dry	071339	150	100	50
Fruit Fresh nes	081090	150	100	50
Groundnuts Shelled	120220	150	25	125
Plantains	080300	150	100	50
Soybeans	120100	150	25	125
Yams	071490	150	100	50
Flour of Maize	110220 / 110313 / 110329	150	40	110
Groundnuts in Shell	120210	150	25	125
Sorghum	1007	150	100	50
Pigmeat	020311 / 12 / 21 / 22	150	25	125
Potatoes	0701	150	100	50

Note: For products with multiple HS Numbers, tariffs presented in the table are average tariffs of those HS Numbers.

An important result in the context of the negotiations for Special Products is also the number of tariff lines that might be potentially claimed for exemption. Using the analysis above, for Egypt and Nigeria based mainly on the products qualifying under three indicator categories, and for Belize and Thailand incorporating more trade policy information, Table 8 indicates that as much as 15 percent of tariff lines could be suggested for designation as Special Products. For Egypt and Nigeria the estimates are considered low given that the analysis is based only on secondary data. It is expected that based on the Belize and Thailand experience, with further disaggregated level analysis, the percentages could be twice as high.

TABLE 8
Low estimate of tariff lines for SP exemption

Country	Total commodities evaluated	HS Lines	% of tariff lines at HS 6 level
Belize	148	102	15.0
Egypt*	174	28	4.3
Nigeria*	181	39	6.0
Thailand	186	78	12.0

* Based only on Indicator Analysis and considered low estimates.

5. Summary and Conclusions

This paper has argued for comprehensive treatment of Special Products in the modalities of the WTO if the goals of development to which the Doha Round committed are to be adequately addressed. It also presented a conceptual approach for the Identification of Special Products and results from applying this approach on four case study countries. The summary and conclusions are presented in three related contexts:

a) A comprehensive approach to Special Products

(i) The WTO modalities allow self-designation of Special Products by developing countries, directly linking these products with development related criteria. For this to be effective, both in terms of increased trade participation and development, the approach to identification and treatment should be linked to national development plans, commodity strategies and regional development and trading frameworks.

(ii) In the context of the Agriculture negotiations there should be an approach that sufficiently recognizes the development purposes of Special Products and therefore the need for policy flexibility for Special Products under all three pillars of the Agriculture agreement. Essentially, taking a similar approach to Special Products as is being done for Cotton.

(iii) The problems of commodity dependent countries, the challenges of least developed countries and small economies are all related to promotion of increased product diversification and commodity competitiveness. It is only logical that the development related modalities that address these type of country interests be linked to Special Products.

(iv) Special Products are also Tropical Products and Preferential Products, critical to food security, livelihood security and rural development. In order to address the modalities linked to these two neglected product areas in the ongoing negotiations, and to address them in an adequate manner, they should be linked to Special Products and Sensitive Products in the negotiations.

b) Lessons from case studies on the identification of Special Products

(v) An approach to identification and designation of Special Products should include detailed national level disaggregated commodity indicator/criteria and trade analysis assessments to ensure adequate coverage of products to meet the objectives associated with the concept of Special Products.

(vi) Based on the indicator analysis, the results suggest that there is a possibility of specifying a relatively small number of tariff lines, less than 15 percent, as Special Products. Given some of the current proposals in the negotiations this would increase the flexibility for developing countries without sacrificing their ability to call for ambition in the negotiations.

c) Possible treatment of Special Products

(vii) Tariff overhang is limited in assisting Special Products designation. The uniform manner in which bound rates were set by countries implies that the protection needs of individual products were not evaluated when they were set during the Uruguay Round. Further, applied tariff rates were set and in many cases restrictions imposed on their level in other multilateral frameworks, often as loan conditionalities. Countries should be free to adjust bound and applied rates for Special Products.

(viii) Given the possibility that designating Special Products does in fact lead to greater ambition that could result in bound rates falling below currently applied rates, the flexibility for all products now given to LDCs, should perhaps be considered for Special Products for all developing countries. Thus, for a specified period there could be no commitments, no tariff reductions and no TRQs on products designated Special Products. However, the impact of this consideration on developing country and LDC exports should also be assessed.

(ix) Given the levels of ambition being pursued in the negotiations and the possible resulting narrowness of the gap between the bound and applied rates that might result for some products, Special Products should have access to the SSM.

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Annex 1

Preferential Products - has generally referred to products that have been granted market entry conditions more favourable than the "most favoured nation (MFN)" status offers. In other words, these products when exported by particular countries enter the markets of their trading partners at rates of duty lower than the same product from other countries competing for the same market. Bananas exported by ACP countries to the EU market is one example of a preferential product.

Sensitive Products - these are products for which countries seek to apply lower disciplines than agreed on in the negotiations. The specific purpose or conditions for seeking or being granted this allowance are not generally articulated. However, "non-trade" concerns (for environmental protection, food safety) are often cited by developed countries as the basis for sensitive products. Basic food products (rice and meat) and tariff revenue products(tobacco and alcohol) are generally listed as sensitive products. Special Products are not an option for developed countries and as a result where the objectives with Special Products coincide the products are expected to be similar. Both "Sensitive" and Special Products are options for developing countries.

Special Products - based on an interpretation of the July Framework Agreement, would be products for which countries feel application of the general disciplines agreed in the Doha Round negotiations to these products would undermine achievement of their goals related to ensuring food security, improving livelihood security and advancing rural development. Thus, cereals, sugar, milk and root crops have been identified as Special Products.

Staple Products - has generally referred to those products that characterize food consumption in a particular country. In the Special Treatment clause at the end of the Uruguay Round some countries were permitted to treat products specially (delay tariffication) if the products met certain conditions. One of these conditions for products qualifying for special treatment was that "the commodity concerned must be the predominant staple in the traditional diet". For most of the countries using this option the product was rice, the most important food product in their diet.

Strategic Products - has generally referred to products which countries feel the need to manage for purposes related to national development. They may be both food products and developed products. In the Mauritius TPR, 2001 the report indicates that "several parastatal bodies, including the State Trading Corporation and the Agricultural Marketing Board, purchase, import, and store "strategic" products (including flour, ration rice, petroleum products, cement, table potatoes, onions, and garlic). Price controls, consisting of a fixed maximum price system (on imports and locally produced goods) and a maximum percentage mark-up system (only on imports), are also maintained on some of the strategic products".

Tropical Products - has generally referred to the main agricultural exports from tropical zone countries, historically to products such as coffee, cocoa and tea. In several different Multilateral Negotiation Rounds there have been efforts to define what tropical products are but there has been no consensus. Participants in the Uruguay Round agreed to engage in negotiations seven product groups with the understanding that it was not to be considered a definition of tropical products. The seven products groups were: i) tropical beverages (cocoa, coffee, tea); ii) spices, flowers and plants ; iii) certain oilseeds, vegetable oil and oil cakes (e.g. palm and coconut oil); iv) tobacco, rice and tropical roots; v) tropical fruits and nuts (e.g. bananas, pineapples and peanuts); vi) tropical wood and rubber; vii) jute and hard fibres.

Annex 2

Country tables with the indicator values for the top products qualifying with three or more indicators.

Belize

Product	Count	Food Security				Livelihood Security			Rural Development	
		Share in calorie consumption (%)	Volume imported/ Volume consumed (%)	Volume consumed/ Volume produced (%)	Co-efficient of variation of domestic production	Import growth rate (%)	Share in area harvested (%)	Coeffient of correlation (prodn & import)	Share in production (vol) %	Production (vol) growth rate %
Potatoes	6	0.93	72.20	420.52	0.77	-44.69	0.05	0.14	0.04	-28.55
Sorghum	6	0.98	0.00	100.36	0.31	-31.29	1.59	0.40	0.35	38.61
Chicken Meat	5	4.05	0.02	1.02	0.23	855.37	0.00	0.55	0.41	23.12
Cassava	5	0.65	0.00	99.87	0.75	0.00	0.03	0.00	0.03	87.24
Plantains	5	1.82	0.00	100.00	0.85	0.00	0.56	0.00	0.86	-13.69
Beef and Veal	4	1.09	0.01	1.01	0.12	48.12	0.00	0.21	0.06	27.60
Beer of Barley	4	0.94	0.18	1.28	0.27	128.55	0.00	-0.07	0.22	-14.35
Beans, Dry	4	3.64	0.06	0.66	0.27	41.85	4.07	-0.48	0.20	-15.42
Cantaloupes&oth Melons	4	0.02	0.38	1.62	0.99	-100.00	0.02	0.10	0.01	22.00
Cashew Nuts	4	0.73	0.00	1.00	1.76	0.00	0.25	0.00	0.03	37.94
Maize	4	5.96	0.02	103.44	0.21	19.02	7.88	0.10	1.54	2.70
Milled Paddy Rice	4	9.84	0.11	1.18	0.38	62.00	2.98	-0.32	0.26	5.96
Onions+Shallots, Green	4	0.05	1.00	0.00	2.02	-84.30	0.04	0.02	0.01	66.01
Papayas	4	0.03	0.01	0.09	0.70	0.00	0.02	0.71	0.25	37.27
Soybeans	4	0.37	0.05	1.32	0.85	53.48	0.69	0.61	0.03	37.51
Yams	4	0.01	0.00	100.00	1.62	0.00	0.06	0.00	0.00	31.43
Cocoa Beans	3	0.39	89.16	538.03	0.69	0.00	0.05	0.00	0.00	-6.91
Grapefruitjuice Sing-Str	3	0.35	0.00	0.25	0.95	58.74	0.00	-0.10	0.25	-36.32
Oranjuice Concentrated	3	0.96	0.01	0.07	0.51	0.00	33.31	0.84	0.86	-14.00
Pigmeat	3	0.81	0.07	1.07	0.28	27.49	0.00	0.08	0.04	7.78
Sugar, raw	3	18	0	100	0.08	0	0	-0.27	48.3	-1.5

Egypt

Product	Count	Food Security				Livelihood Security			Rural Development	
		Share in calorie consumption (%)	Volume imported/ Volume consumed (%)	Volume consumed/ Volume produced (%)	Co-efficient of variation of domestic production	Import growth rate (%)	Share in area harvested (%)	Coeffient of correlation (prodn & import)	Share in production (vol) %	Production (vol) growth rate %
Oil of Soya Beans	5	1.03	79.71	480.00	0.45	-2.79	0.00	0.70	0.03	19.81
Sugar Beets	5	0.00	0.00	100.00	0.59	0.00	0.96	0.60	1.70	0.23
Oranges	5	0.47	0.08	90.00	0.05	-31.34	1.54	0.70	1.05	1.89
Potatoes	5	1.17	3.46	90.00	0.12	-9.99	1.40	0.70	1.20	2.01
Maize	4	4.83	41.45	160.00	0.13	0.20	14.91	0.90	4.17	1.41
Sesame Seed	4	0.63	64.82	270.00	0.13	-5.62	0.49	0.70	0.02	-0.21
Dates	4	1.70	0.03	100.00	0.24	30.23	0.51	-0.69	0.64	5.10
Grapes	4	0.77	1.83	100.00	0.80	20.17	1.04	0.84	0.67	1.73
Olives	4	0.44	0.20	100.00	0.49	0.00	0.74	-0.45	0.18	3.17
Onions, Dry	4	0.25	0.20	90.00	0.19	157.63	0.47	0.14	0.46	11.22
Tomatoes	4	1.23	0.10	100.00	0.16	-49.62	3.24	-0.78	4.08	-0.96
Wheat	3	33.12	44.00	180.00	0.15	5.15	17.8	-0.82	4.1	-1.34
Cocoa Butter	3	0.00	0.00	0.00	0.57	53.43	0.00	0.00	0.00	24.96
Oil of Groundnuts	3	0.25	0.25	100.00	0.70	-21.35	0.00	0.90	0.01	0.19
Rice, Paddy	3	0.25	0.78	80.00	0.18	25.20	10.70	0.30	3.55	-2.39
Seed Cotton	3	0.00	0.00	0.00	0.12	0.00	5.05	0.00	0.46	11.22
Silk, Raw and Waste	3	0.00	0.00	0.00	0.39	123.96	0.00	0.00	0.00	13.39
Sorghum	3	1.30	0.01	100.00	0.13	0.00	2.78	-0.11	0.57	-6.35
Sunflower Seed	3	0.00	10.32	100.00	0.18	2.29	0.29	0.70	0.03	-1.25
Flour/Meal of Oilseeds	3	0.00	0.00	0.00	0.98	471.30	0.00	0.00	0.00	131.84
Sweet Potatoes	3	0.27	0.00	100.00	0.39	0.00	0.18	0.30	0.17	7.93
Sugar Refined	1	4.0	35.4	160.0	0.2	-12.5	0.0	0.1	0.4	-2.2

Nigeria

Product	Count	Food Security				Livelihood Security			Rural Development	
		Share in calorie consumption (%)	Volume imported/ Volume consumed (%)	Volume consumed/ Volume produced (%)	Co-efficient of variation of domestic production	Import growth rate (%)	Share in area harvested (%)	Coeffient of correlation (prodn & import)	Share in production (vol) %	Production (vol) growth rate %
Tomatoes	6	0.00	0.01	106.23	0.32	19.31	0.28	0.80	0.50	0.28
Sweet Potatoes	5	1.35	0.00	100.00	0.72	72.67	0.88	0.67	1.34	0.49
Cashew Nuts	4	0.36	0.00	90.60	0.48	0.00	0.65	0.00	1.05	1.05
Cassava	4	3.19	0.00	100.00	0.12	-96.94	7.29	0.27	19.18	1.68
Cocoa Beans	4	0.00	0.00	49.26	0.09	0.00	2.02	0.42	6.28	6.28
Flour of Wheat	4	4.48	2.31	102.00	0.65	-67.03	0.00	-0.49	0.81	7.63
Groundnuts in Shell	4	0.00	0.00	100.00	0.33	0.00	6.12	-0.20	1.60	-2.42
Maize	4	7.29	0.20	100.00	0.13	1912.90	9.27	-0.73	2.84	0.45
Potatoes	4	0.18	0.00	100.73	0.95	34.63	0.26	0.98	1.98	1.98
Sorghum	4	13.37	0.00	100.12	0.14	-99.59	15.56	-0.41	4.37	-0.30
Taro (Coco Yam)	4	0.59	0.00	100.00	0.62	0.00	1.39	0.00	2.19	0.55
Vegetables Fresh nes	4	0.66	0.00	99.99	0.27	-85.20	1.45	0.48	2.32	2.51
Wheat	4	4.50	96.90	2753.05	0.31	8.15	0.12	0.16	-7.62	-7.62
Citrus Fruit nes	3	0.64	0.00	100.00	0.11	0.00	1.65	0.00	1.88	0.05
Cow Peas, Dry	3	3.29	0.00	100.00	0.18	0.00	11.51	0.00	1.24	0.69
Flour of Maize	3	7.33	0.00	100.01	0.13	79.06	0.00	-0.11	1.48	0.54
Fruit Fresh nes	3	0.47	0.00	100.00	0.02	53.09	0.50	0.38	0.82	0.00
Groundnuts Shelled	3	1.55	0.31	100.24	0.33	16.77	0.00	-0.28	0.99	-2.69
Pigmeat	3	0.46	0.00	100.01	0.19	81.39	0.00	0.00	6.91	6.91
Plantains	3	1.53	0.00	100.00	0.14	0.00	0.64	0.00	1.14	1.82
Soybeans	3	1.08	0.64	98.84	0.37	-98.94	1.33	-0.27	1.34	1.34
Sugar Refined	3	3.40	82.32	558.16	0.75	11.55	0.00	0.62	36.80	36.80
Yams	3	7.95	0.00	100.00	0.18	0.00	6.37	0.00	15.18	0.88

Thailand

Product	Food Security				Livelihood Security			Rural Development	
	Share in calorie consumption (%)	Volume imported/ Volume consumed (%)	Volume consumed/ Volume produced (%)	Co-efficient of variation of domestic production	Import growth rate (%)	Share in area harvested (%)	Coeffient of correlation (prodn & import)	Share in production (vol) %	Production (vol) growth rate %
Barley	0.00	90.92	1736.33	0.72	-0.10	0.04	0.85	0.01	4.82
Maize	2.14	3.33	99.40	0.10	-63.90	7.01	0.10	2.18	-1.91
Bananas	1.45	0.00	99.70	0.03	0.00	0.77	-0.34	0.87	0.94
Cassava	1.45	0.00	88.90	0.09	0.00	6.03	-0.30	8.56	-4.00
Chicken Meat	1.69	0.02	77.50	0.20	149.33	0.00	0.60	0.58	6.56
Cocoa Beans	0.00	209.10	3025.20	0.00	4.30	0.00	0.55	0.00	0.00
Coconuts	2.68	0.09	98.90	0.02	-19.80	1.87	0.02	0.69	0.43
Fruit Tropical Fresh nes	0.39	0.00	95.80	0.02	0.00	1.01	0.00	0.35	0.70
Jute-Like Fibres	0.00	0.00	100.00	0.47	0.00	0.14	0.00	0.02	24.48
Mangoes	0.51	0.00	99.40	0.23	0.00	1.50	0.00	0.76	2.32
Milled Paddy Rice	39.68	0.03	53.80	0.13	18.40	0.00	0.68	7.19	-0.40
Potatoes	0.12	65.01	269.52	0.40	-10.10	0.04	0.91	0.05	2.11
Rice, Paddy	0.00	0.00	100.00	0.13	0.00	56.54	0.68	12.44	-0.30
Soyabean Cake	0.00	64.03	282.21	0.39	10.50	0.00	0.90	0.38	3.23
Sugar Refined	12.45	0.00	56.10	0.28	35.70	0.00	0.71	1.54	-1.99
Sweet Corn Prep. or Pres	0.00	5.60	1.50	1.01	76.52	0.00	0.00	0.02	29.35
Wheat	0.03	118.01	91180.83	0.18	8.60	0.01	0.91	0.00	0.00

8

The European Union preferential trade with developing countries. Total trade restrictiveness and the case of sugar

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1. Introduction

Preferential trade agreements are considered to be important instruments for integrating developing (DCs) and least developed countries (LDCs) into the world trading system, and thus in promoting their development. However, these agreements are discriminatory policies, entailing trade liberalization with respect to only a subset of trading partners and hence tend to interfere with multilateral trade liberalization processes. The world trading system is characterized by a wide variety of preferential trade agreements, whose compatibility with the principle of non-discrimination, the cornerstone of the multilateral trading system, is ensured by a set of exemptions to the Most Favoured Nation rule. In particular, an Enabling Clause[2] has created a permanent legal basis for trade preferences, both generally for all developing countries under the General System of Preferences (GSP) regimes, and for more specific preferential treatment of LDCs. Individual developed countries sometimes grant specific preferences for limited groups of developing countries which include non-LDCs, such as those that the EU extends to the African Caribbean and Pacific (ACP) countries.

Non reciprocal preferential market access for developing countries emerged as an element of special and differential treatment for these countries under the Uruguay Round of the GATT. These unilateral trade concessions to developing

[1] This paper integrates and presents the work of the Division on trade preferences. Julie Claro and Patrizia Mascianà provided excellent assistance with the data for which we are grateful.

[2] Decision on Differential and More Favourable Treatment, Reciprocity, and Fuller Participation of Developing Countries, GATT Document L/4903, 28 November 1979, BISD 26S/203.

countries have developed into a key issue in the efforts to negotiate further multilateral trade liberalization in the Doha Development Agenda. The July 2004 Framework Agreement of the WTO states that "the importance of long-standing preferences is fully recognized" (paragraph 44). Despite this declaration and the recent re-affirmation in the Hong Kong Ministerial declaration (paragraph 9), the debate continues on the importance of maintaining the effect preferences have on beneficiary countries, amidst the search for options that would lead to more liberalized trade regimes. Meanwhile, preferences are losing their value, being undermined by policy changes at the multilateral, bilateral and national levels. LDCs are concerned about the erosion of the value of their current preferential access, whilst middle-income countries appear concerned about the discrimination that they face in OECD markets. Developing countries that benefit from non-reciprocal preferential trade account for a very small proportion of global trade. This trade is limited and concentrated on few products that are often subject to restrictive policies in preference granting countries. A comprehensive survey of studies on the benefits of preference regimes undertaken by the Organisation of Economic Cooperation and Development (OECD) (2003), indicates that despite the different methodologies, different data sets and different assumptions, the overall impact of preferential trade arrangements on welfare and trade is found to be non-negligible and generally positive, but also relatively small.

The LDCs have been the focus of two major preference programmes to facilitate the expansion of their trade and promote their development: the Everything but Arms (EBA) initiative of the European Union (EU), and the United States (US) African Growth and Opportunity Act (AGOA). With the AGOA, the US extended preferences to 37 African countries, providing duty free access to agricultural commodities, some subject to tariff rate quotas and quota free access, including among others a range of textile and petroleum products. Rules of origin require that a product be grown, produced or manufactured in a beneficiary African country. In addition there are various conditions related to national security, liberalisation and human rights, reviewed on an annual basis. AGOA was extended in 2004 to continue until 2015. The EU's Everything but Arms (EBA) initiative, introduced in 2001, is discussed in detail in the following section.

This paper assesses the degree of effectiveness of trade preferences extended to DCs and LDCs by the EU in improving market access. The EU currently offers a number of potentially conflicting preferential trade agreements, arising from historical relations developed over the colonial period, as reflected in the case of the Cotonou Agreement, and the promotion of the development of the LDCs, as in the case of the EBA initiative. The extent to which developing countries effectively enjoy preferential treatment in the EU market is measured by means of the Mercantilistic Trade Restrictiveness Index (MTRI) (Anderson and Neary, 1996), a theoretically founded bilateral aggregate measure of trade restrictiveness. The MTRI is estimated on the basis of trade flows within a general equilibrium model framework. The erosion in the value of preferences to sugar producing beneficiary countries due to trade and domestic policy reform of the EU sugar

sector is also estimated by means of a model structure comprised of a partial equilibrium model and a representation of bilateral trade flows based on the notion of gravity.

The next section provides a brief review of the most important preferential trade agreements implemented between the EU, the DCs and the LDCs. Section 3 is devoted to the theoretical basis and the estimation of the MTRI. Section 4 focuses on the sugar sector, an important sector in the present preferential trade regime of the EU, in which the erosion of the existing preferences is likely to result in significant impacts. The final section concludes by providing a perspective on the possible strategies available to countries which are likely to suffer such consequences, with special reference to developments in the sugar producing countries.

2. European Union preferential trade with developing countries

Preferential trade agreements have always formed an integral part of the EU's policy towards developing countries. Since the 1960s, a significant number of non- reciprocal trade preferences have been granted by the EU to a number of African Caribbean and Pacific (ACP) countries, within the Yaounde and the Lomé Conventions, and currently within the Cotonou Agreement. Other initiatives in which the EU is involved include the bilateral free trade areas with Mexico, South Africa and Chile, the negotiations with Mercosur, and the Generalized System of Preferences (GSP), which is extended to all developing countries. The two most important specific initiatives aimed at developing countries are the Cotonou process and the GSP framework, within which the EBA initiative has taken place.

The Cotonou Partnership Agreements include preferences and linkages between trade and financial assistance to over 70 ACP countries. The agreements follow a series of Lomé Convention arrangements which provide non-reciprocal trade benefits in 99 percent of the industrial goods and some agricultural products of significant importance to these countries. Under the Cotonou Agreement current non-reciprocal "Lomé" preferences will be maintained temporarily until 2008, when new reciprocal Economic Partnership Agreements are to be negotiated and implemented in a gradual manner.

The GSP scheme provides non-reciprocal preferences with lower tariffs or duty-free market access for imports from 178 developing countries and territories into the EU market. Under the GSP, industrialized countries grant autonomous trade preferences to all developing countries. The framework is an exception to the MFN principle that since 1971 allows WTO members to grant unilateral concessions to products originating in more than 100 developing countries. The EU's extended GSP, implemented since April 2005, includes three categories of benefits:

- the General Scheme for all developing countries (with 40 percent of products receiving duty-free access, but with ceilings and graduation criteria that eliminate largest exporters);
- the EBA initiative for Least Developed Countries which grants duty-free access on all products - with the exception of arms and munitions - to all LDCs; and,

- the 'GSP plus', which provides duty-free access for all products from 'countries with special development needs' that implement international conventions on the environment, as well as on human and labour rights.

The Everything but Arms (EBA) initiative came into effect in 2001, aiming at discriminating in favour of LDCs by granting duty free access to imports of all products that originate in these countries with the exception of arms and munitions. Total access to EU markets was immediate except for fresh bananas, rice and sugar where imports are subject to tariff rate quotas, with duty-free in-quota imports and a gradually reduced tariff for out-of-the-quota imports until 2009. An important difference between the EBA initiative and other EU schemes is that EBA preferences are granted to the LDCs for an unlimited period and are not subject to periodic review. This results in a reduction in the risk to which investors and exporters are exposed, thus enhancing the possibilities of increasing efficiency and diversifying the production base.

For specific ACP countries, the importance of EU preferences is undeniable. Small sugar and banana producers earn a substantial proportion of their foreign exchange from these single commodities (Fiji and Guyana earn as much as 20 percent of the foreign exchange from sugar), whilst in many cases these commodities are a major contributor to GDP (bananas contribute as much as 5 percent of GDP in St. Lucia and St. Vincent). Proponents of preferences identify preferential market access and the higher prices received by producers as one of the reasons for the relatively high levels of human development achieved in the beneficiary countries (e.g. Barbados and Mauritius through sugar; St. Lucia through bananas). The case is often made that preferences have played a part in explaining relatively strong economic performance and economic diversification of Mauritius (Subramanian, 2003).

If ACP preferences are important, the same appears not to apply to the EBA initiative, at least at this initial stage, as duty-free access for the majority of products was already granted under the Generalised System of Preferences (GSP) and the Cotonou Agreement. The evidence so far is that the initial impact of the EBA initiatives on LDCs' total exports to the EU is small, whilst the limited export success is not uniform across countries.

In general, the effectiveness of preference schemes depends upon the way in which trade reacts to a complex set of rules, arising not only from the different existing regimes, but also from the heterogeneous tariffs implemented for different commodity specifications, and from a number of exceptions. The degree of bilateral trade restrictiveness is the product of how protection is distributed across products, and the countries' specialization in terms of traded goods. Thus, even if the EU applied MFN bound tariffs to all exporters, the impact would be differentiated: trade would be more restricted in the case of countries exporting products facing the highest tariffs.

The determinants of the extent to which specific preferences are effective can be summarized as follows: (i) the composition of exports of the beneficiary country (e.g. primary versus processed); (ii) the preferences that are also granted within other trade schemes (e.g. EBA and GSP); and (iii) any exceptions for specific commodities.

3. Did developing countries really receive preferential treatment from the EU?

There is an extensive literature on measures of trade restrictiveness (Cipollina and Salvatici, 2006). Some studies rely on trade intensity measures, e.g. estimating the volume of trade in the distorted equilibrium relative to that in free trade. The rationale is that such a ratio summarizes the impact of all trade policy instruments. The problem is that import volumes could be much lower than in free trade, either because tariffs are high on supply-inelastic goods, or because though low, they are imposed on highly supply-elastic goods.

In order to measure the protection granted by a country's trade policy regime, two important aggregation hurdles need to be overcome, aggregation of different forms of trade policies and aggregation across goods with very different economic importance. Regarding the first aggregation problem, all types of trade policy instruments need to be brought into a common metric, in most cases an ad valorem equivalent. In order to solve the second problem, using theoretically sound aggregation procedures, it is necessary to specify the type of information to be maintained, so that the final number is equivalent to the original multiple data in the dimension of interest.

According to Anderson and Neary (1996), a general definition of a policy index is as follows. Depending on a pre-determined reference concept, any aggregate measure is a function mapping from a vector of independent variables - defined according to the policy coverage - into a scalar aggregate. The greatest advantage of this approach is that it is theoretically consistent since the equivalence is determined according to a fundamental economic structure. Secondly, it provides an unequivocal interpretation of the results, since the definition and properties of these "equivalence-based" indicators are predetermined. Finally, it solves the problem of the so-called "endogeneity bias", since the weights are not inversely related with the absolute value of the import demand elasticity.

3.1 The Mercantilistic Trade Restrictiveness Index (MTRI)

The MTRI relies on the idea of evaluating trade policy using trade volume as the reference standard. The interest is in the extent to which trade distortions limit imports from the rest of the world, so that the aggregation procedure answers the following question: what is the equivalent uniform tariff that, if imposed, would leave aggregate imports unchanged?

The MTRI is defined in terms of the uniform tariff τ^u that yields the same volume (at world prices) of tariff-restricted imports as the initial vector of (non-uniform) tariffs. This can be expressed with import demand functions M, while holding constant the balance of trade function at level B0:

(1) $$\tau^u : M\left[p^u, p^0, B^0\right] = M^0\left(p^0, p^*, B^0\right), \text{ with } p^u = p^*\left(1+\tau^u\right).$$

where p^* denotes the international prices (p_k^*) vector of the N goods k = (1,…,N),

M0 is the value of aggregate imports (at world prices) in the reference period, and p^0 is the initially distorted price vector.

Define the scalar import demand as

(2) $$M(p, p^*, B) \equiv \sum_{c=1}^{r} \sum_{k=1}^{N} p^*_{c,k} I^m_{c,k}(p, B)$$

where $I^m_{c,k}$ denotes the uncompensated (Marshallian) import demand function of good k from country $c = (1,..., r)$ where r is the number of countries. Accordingly, the MTRI uniform tariff τ^u would lead to the same volume of imports (at world prices) as the one resulting from the uneven tariff structure, denoted by the Nxr bilateral tariffs matrix T whose elements are $t_{c,k}$:

(3) $$\sum_{c=1}^{r} \sum_{k=1}^{N} p^*_{c,k} I^m_{c,k}\left[p^u, B^0\right] = \sum_{c=1}^{r} \sum_{k=1}^{N} p^*_{c,k} I^m_{c,k}\left[p^0, B^0\right]$$

The previous definition focuses on the overall distortions imposed by a country's trade policies on its import bundle. In this application, though, the interest is in calculating the MTRI uniform tariff bilaterally to obtain the level of trade restrictiveness that the EU imposes on exports of each country c. Accordingly, in equation (3), instead of summing over k and c, one would only sum over k to obtain a bilateral uniform tariff MTRI (τ^u_c) defined as follows:

(4) $$\tau^u_c : M_c\left[p^*\left(1+\tau^u_c\right)B^0\right] = M^0_c,$$

where M^0_c is the value of aggregate imports (at world prices) from country c in the reference period.

In the standard definition, prices are assumed fixed on world markets.[3] However, since the index is going to be computed in a model with endogenous world prices, the uniform tariff equivalent is redefined by relaxing the small country assumption, i.e., the vector of world prices p^* is a function of tariffs T. To accommodate this, the definition of the MTRI [equation (4)] is modified as follows

(5) $$\tau^w_c : M_c\left[\left(1+\tau^w_c\right)p^*(T), B^0\right] = M^0_c,$$

where (τ^w_c) is the bilateral MTRI uniform tariff with endogenous world prices (Antimiani and Salvatici, 2005). The same computation is performed both for the overall protection, and for the protection faced by each exporter in different sectors. To this end, the total number of goods (N) is partitioned into three groups: agriculture, manufacture, and services, and both the aggregated and the three sectoral MTRI indexes computed.

[3] Anderson and Neary (2003), argue (footnote 8) that "there is a rationale for a ceteris paribus trade restrictiveness index that fixes world prices even when these prices are in fact endogenous". Such a rationale may be represented by the fact that, by keeping world prices constant, we focus on the component of protection explained by national policies, and not by the degree of market power of the country.

The computation is based on a modified version of the model of the Global Trade Analysis Project (GTAP). This is a static, multi-region, general equilibrium model, which includes an explicit treatment of international trade and transport margins, a "global" bank designed to mediate between world savings and investment, and a consumer demand system designed to capture differential price and income responsiveness across countries (Hertel, 1997). The model employs the simplistic, but robust assumptions of perfect competition and constant returns to scale in production activities. Bilateral international trade flows are handled using the Armington assumption by which products are exogenously differentiated by origin (Armington, 1969). In the standard closure case, global investment adjusts to global saving, so that national balances of payments are endogenous.

The calculation is based on the latest version of the GTAP database, version 6, which provides a baseline for year 2001. Trade policy is set at the tariff line level, but this implies a level of detail that is not consistent with the GTAP (or any other existing) model. To reach consistency between trade distortions and model aggregation, atheoretic trade weighted average tariffs are normally used, losing considerable information. Specific tariffs were converted into *ad valorem equivalent* (AVE) terms by dividing the duty by a unit value. A significant problem lies in the choice of this unit value, a rather sensitive issue both from a theoretical and from a political point of view. This has led to AVE calculations being based on the median unit value of worldwide exports originating from a reference group to which the exporter belongs.[4] In the case of mixed tariffs, i.e. tariffs involving a choice (a maximum or a minimum operator) between various terms, the choice is made as follows:

- when the tariff is defined as an ad valorem base tariff, the base tariff is retained. If the base tariff is in specific terms and the cap and the floor are ad valorem, a simple average of the two bounds is retained;
- when the tariff involves choosing between two terms, priority is given to ad valorem tariffs.
- regarding tariff rate quotas (TRQs), three market regimes are considered, depending on the level of the fill rate:
  - if the fill rate is less than 90 percent (quota not binding), the in-quota tariff rate is chosen as the applied rate;
  - in the (90-99 percent) range (quota assumed to be binding), a simple arithmetic average is used; and
  - if it is higher than 99 percent (quota binding), the applied rate is equal to the out-of-quota tariff rate.

The presence of prohibitive tariffs is problematic when calculating AVEs. Therefore, an upper limit to the AVE is established starting at the HS6 level: the limit is set to 1 000 percent for the sum of all instruments.

[4] These groups are defined on the basis of a hierarchical clustering analysis based on GDP per capita (in terms of PPP) and trade openness.

Finally, since the database does not provide information about protection for services, the protection data are integrated with estimates of ad valorem tariff equivalents for these sectors (Park, 2002). In terms of regional aggregation, 20 regions were singled out as EU trading partners. Although the database cannot take into account the 2004 EU enlargement, the analysis considers an enlarged EU (EU25) building a counterfactual baseline where the enlargement would have taken place in 2001 (Antimiani, Conforti and Salvatici, 2003). Accordingly, all trade barriers and export subsidies between EU members are eliminated and the EU trade policy extended to the new members.

TABLE 1

Countries, regions, products and endowments

Country/Region	Products	Primary factors
Brazil	paddy rice	land (sluggish)
ACPs	wheat	skilled labour (mobile)
Argentina	other cereals	unskilled labour (mobile)
ASEAN	oilseeds	capital (mobile)
Canada	vegetables and fruits	natural resources (sluggish)
EU candidates	cane and beet	
Chile	sugar	
India	raw milk	
Japan	vegetable oils and fats	
non-WTO members	livestock, cattle,sheep, goat and horses	
LDCs	plant based fibres	
Middle East and North Africa	other live animals	
China	other food products	
US	wool, silk worms, cocoons	
Rest of America	forestry	
Mexico	fisheriy	
Turkey	meat, cattle,sheep, goat and horses	
Rest of South-Asia	othe rmeats	
Oceania	beverages and tobacco	
Rest of Europe	other foods	
	dairy products	
	processed rice	
	primary non food	
	water	
	constructions	
	trade	
	communication	
	financial services	
	transport	
	other services	
	garments	
	wood products	
	paper products, publishing	
	petroleum, coal products	
	chemical, rubber, plastic products	
	mineral products nec	
	other mineral products	
	motor vehicles and parts	
	electronic equipment	

As far as regional aggregation is concerned, the choice was driven by the geographical focus of the EU trade policies presented in Section 2, given the limitations of the GTAP database.[5] It is worth recalling that many regional and preferential agreements allow for long implementation periods, and were not in place in 2001, as in the case of the EBA initiative.

In the model, the computation of τ^{TH} is performed by specifying a variable *tr(r,s)*, which is a product-generic tariff levied on imports from region *r* into region s (EU25 in this case). The model is run from the counterfactual baseline, assuming that all EU trade policies (i.e., tariffs and export subsidies) with respect to a specific region *s* are removed to compute the uniform tariff that would eliminate any incentive to increase or decrease the volume of imports from the region/country under consideration.

3.2. Results

Total MTRI values, reported in the first column of Table 2, show some expected results, such as the low value of protection faced by the LDCs, even before the implementation of the EBA initiative. However, it is striking to observe that a number of developing countries appear among those which are most constrained in their trade with the EU. This is the case for Brazil, India, and Argentina, and even for the ACP (non-LDC) group, which have enjoyed a long tradition of preferential access into the EU market. On the other hand, countries still awaiting WTO membership, such as Russia, appear not to be significantly discriminated against: on the contrary, they seem to face the lowest trade barriers.[6]

[5] Several countries are not available as individual entities in the GTAP database version 6; therefore the LDCs and the ACP groups employed in the analysis are in fact only the best possible approximation of the real country composition. Particularly, the proxy for the LDC group includes Bangladesh, Malawi, Mozambique, Tanzania, Zambia, Madagascar, Uganda, and three residual entities: the "Rest of Southeast Asia", the "Rest of South Asia" and the "Rest of Sub-Saharan Africa". The proxy for ACPs, was designed to be mutually exclusive with respect to the LDCs, and thus only includes those countries which are not classified as LDCs.

[6] This finding may cast some doubts about the (real) reasons for joining the club: there is some evidence, indeed, that countries belonging to the GATT/WTO do not show very different trade patterns than outsiders (Rose, 2004).

TABLE 2
MTRI bilateral uniform tariffs and trade weighted averages

	total MTRI	Agriculture	Trade-weighted average (agriculture)	Manufacture	Services
Brazil	22.36	47.93	17.16	1.1	26.08
ACPs (non LDCs)	8.85	49.41	22.78	0.28	19.29
Argentina	9.92	12.3	10.91	1.58	17.43
ASEAN	7.47	15.76	12.03	2.92	25.01
Canada	9.88	8.9	6.44	1.27	22.17
EU candidates	1.26	10.03	9.88	0.28	20.44
Chile	3.77	9.58	10.23	0.17	19.26
India	14.43	45.33	10.93	3.95	27.04
Japan	6.49	12.13	7.90	3.31	26.51
non-WTO members	3.03	7.1	11.00	0.99	22.15
LDCs	3.32	11.54	6.10	0.19	20.54
Middle East and North Africa	4.76	35.84	10.30	0.04	18.75
China	7.63	27.19	16.51	3.72	25.73
USA	7.29	13.31	9.38	1.78	21.97
Rest of America	15.58	42	23.56	0.02	17.21
Mexico	6.82	13.56	5.72	0.17	20.14
Turkey	3.85	23.14	3.80	0.5	20.59
Rest of South-Asia	9.76	9.89	4.52	7.66	22.72
Oceania	10.79	19.3	9.39	0.95	20.17
Rest of Europe	2.00	9.83	5.94	0.03	22.18

Source: Simulation results.

To shed some light on these apparently puzzling results, the MTRI uniform tariffs at the sectoral level were computed and the results are reported in the second, the fourth and fifth columns of Table 2. As expected, the protection for services, which were introduced into the model through the estimate of the ad valorem equivalents, appear quite high. Agricultural liberalization appears to lag behind manufactures and other secondary activities. Since the EU tariff profile is heavily biased against agricultural imports, notwithstanding the many preferential schemes, developing countries still face an overall level of protection higher than MFN-countries such as the US or Canada.

Focusing on the assessment of agricultural protection, both Brazil and India rank quite high, with uniform tariffs above 45 percent. Both of these countries are among the founder members of the so-called G-20 group. The LDCs do not seem to enjoy a large degree of preference in the agricultural sector: their MTRI uniform tariff is higher than those faced by Chile and even by Canada. In principle, this implies that agricultural exports will reap the most benefit from the EBA initiative, once this is fully implemented.

The second and the third columns of Table 2 compare the MTRI results with a more traditional import-weighted average tariff in the case of agricultural products. The two indexes appear to move together on average - the correlation coefficient is 0.72. This result is in line with the findings of Anderson and Neary (2003) and Bach and Martin (2001), who show that the trade-weighted average tariff is a linear

approximation to the tariff aggregator based on the expenditure function. Anderson and Neary (2003) also prove that the MTRI uniform tariff is more likely to be higher than the trade-weighted average the more elastic the demand for the tariff-constrained imports. Indeed, the trade-weighted average tariff under-predicts the MTRI uniform tariff in all but two of the twenty cases. The difference between the two measures is significant: it exceeds 100 percent on average, reaching over 500 percent in the case of Turkey.

The most unexpected result reported in Table 2 is the figure for the ACP countries which are not classified as LDCs (49 percent). ACPs benefit from one of the most generous preferential schemes granted by the EU, but despite the number of beneficiaries increasing over time, the share of EU imports from the ACP in total EU imports decreased from 6.7 percent in 1976 to 3.1 percent in 2002 (Manchin, 2005). The European Commission itself expressed serious doubts as to the benefits of the ACP preferential regime during the design of the Cotonou agreement (Bureau and Matthews, 2005). More insights on the reasons as to why these countries have been unsuccessful in taking advantage of their preferential status, can be gained by considering the contributions of individual agricultural products to the aggregated MTRI (Table 3). [7]

TABLE 3
Percentage contribution of each primary product to the agricultural MTRI

	paddy rice	vegetables	sugar	oils&fats	meat	beverages & tobacco	other food	dairy	pocessd rice
Brazil	0	0	8	0	83	0	7	0	0
ACPs (non LDCs)	0	5	71	0	21	1	2	0	0
Argentina	0	15	3	0	32	1	41	1	0
ASEAN	10	1	2	5	36	1	19	0	23
Canada	2	1	0	0	15	1	34	37	0
Eu candidates	0	5	1	3	27	10	15	9	0
Chile	0	52	0	0	14	13	19	1	0
India	14	0	6	0	62	0	2	0	13
Japan	10	1	3	2	13	3	27	5	31
non-WTO members	12	8	11	2	12	1	22	19	4
LDCs	9	9	78	0	0	0	0	0	3
Middle East and North Africa	0	7	1	44	44	0	1	0	3
China	2	30	1	0	2	1	9	0	52
USA	10	3	1	1	18	4	26	5	13
Rest of America	1	37	52	0	8	0	1	0	1
Mexico	0	7	71	0	6	1	12	1	0
Turkey	0	2	8	20	56	0	1	11	1
Rest of Asia	53	2	1	0	0	1	7	0	12
Oceania	4	4	1	0	5	2	2	81	1
Rest of Europe	0	0	2	0	17	7	20	51	0

Source: Simulation results.

In the case of Brazil, most of the restrictiveness lies in the meat sector, while dairy is responsible for most of the protection imposed on New Zealand and Australia agricultural exports ("Oceania"), and "vegetable oils & fats" (particularly olive oil) raises the highest barriers for the Middle East and North Africa region. As far

[7] This is done by weighting the tariff of individual products by their contribution in GDP.

as developing countries are concerned, the most restricted sector is sugar, which accounts for roughly two thirds of the EU protection both for least developed and ACP countries. These countries are subject to tariff rate quotas granting preferential access up to a given volume of imports. However, as recalled in the previous section, when a quota is binding, the level of protection reported in the database is the out-of-quota tariff rate. Accordingly, the high level of protection calculated by the MTRI indicates that the sugar regime "at the margin" is constraining the ACP exporters which are not LDCs, and that these countries may benefit from further liberalization in this sector. This result, which may be credible for the aggregated country group included in this analysis, needs to be detailed further by (i) considering individual ACP countries, whose situation varies considerably depending on the production costs and production scale, (ii) considering the overlap between the ACPs and the LDCs which will be involved in the EBA initiative, and (iii) modelling more explicitly the Tariff Rate Quotas available to each country.

4. Preferences and their erosion: the case of sugar

The recent reform of the EU's sugar Common Market Organisation (CMO) includes, among other measures, the abolition of the intervention mechanism and its substitution with a private storage scheme, to be triggered when the domestic price reaches the "reference price", an administered price to be gradually set to a level 36 percent lower than the current intervention price within two years, starting in 2006 (EU Commission, 2005). Due to preferential trade conditions established by the Cotonou framework, the reduction in the EU sugar support price directly affects the price paid for the exports of the sugar producing ACP countries. Therefore, the domestic reform of the EU is expected to erode the value of trade preferences, measured as export revenue, granted to these countries in a sector which is of high relative importance. In addition, the EBA initiative implies further preference value erosion with the gradual abolition of the Special Preferential Sugar (SPS), whilst at the same time the value of preferences to the LDCs themselves is eroded due to the EU sugar policy reform.

The analysis in the previous section highlighted the importance of sugar in determining the degree of trade restrictiveness faced by developing countries, the position of the ACPs as a group, and the need for more detailed investigation on individual countries, on the overlap among ACPs and LDCs, and on the functioning of the various Tariff Rate Quotas available for exporting to the EU. This section addresses these issues, and attempts to resolve the apparent inconsistency between the high trade restrictiveness shown by the ACPs as a group, and the unquestionable importance of the preferential agreement for these countries.

A number of studies have focused on the potential impact of the EBA on both the EU, and the beneficiary countries' sugar sectors (Stevens and Kennan, 2001; Witzke and Kuhn, 2003; UNCTAD, 2005; van Berkum *et al*, 2005; Garside *et al*, 2005). More specifically, Witzke and Kuhn (2003) consider a policy scenario which is analogous to the reform agreed by the Council of Ministers. Their results indicate

that imports from the LDCs may reach 2 million tonnes by 2011, however, they do not formally analyse the erosion of preferences for the SP signatories and the LDCs themselves, brought about by the reform. van Berkum *et al*, (2005) utilize a general equilibrium model to investigate the impact of the EU sugar policy reform on the world prices and conduct case studies on the impact of the reform on the SP signatories (Mauritius), the LDCs (Ethiopia) and the DCs (Brazil). Although informative, these studies do not formally cover important issues, such as the erosion of preferences, or the impact of differences in technology across countries, or the role played by infrastructure in influencing trade costs that in turn will determine, in conjunction with the relative prices, the volume of imports from the LDCs to the EU under the EBA initiative. Garside *et al.* (2005) collect detailed country specific value chain information through surveys and personal interviews. They conclude that countries with the following characteristics are more likely to be winners: lower dependence on preferential exports to the EU, potential for industry diversification, membership of regional trade blocks; higher competitiveness, in terms lower cost of production, consolidated corporate ownership of milling/refining, and the scope for expanding production to take advantage of unlimited access to EU sugar markets under the reformed regime. Their study, however, does not rely on a formal economic model.

4.1. Modelling approach

The impact of the EU sugar policy reform, as well as that of the EBA initiative, on the ACP countries that enjoy preferential access to the EU market and on selected LDCs is assessed by utilising a model structure based on Conforti and Rapsomanikis (2005). The structure consists of a global partial equilibrium model for the sugar market and a gravity model to replicate LDCs' bilateral trade with Europe. The sugar partial equilibrium model is a standard non-spatial model with rich policy specification, where the EU sugar policy reform can be effectively modelled, as compared to the skeletal policy specifications included in CGEs. The gravity model is used to quantify the maximum potential export flows from LDCs to the EU under the EBA initiative on the basis of both tariff and natural barriers, such as trade costs that arise from distance and infrastructure. The rationale behind gravity is intuitive: decreasing tariffs and decreasing transport costs lead to higher trade flows between two countries.[8] Transport costs determined by the level of infrastructure may restrict LDCs' ability to export to the EU in spite of the progressive reduction in import tariffs and the gradual increase in the EBA TRQ starting from 2005 and the complete removal of border restrictions from the year 2009 onwards.

The COSIMO-AGLINK model, a partial equilibrium recursive dynamic model for the sugar market, developed by the Organisation for Economic Cooperation and Development (OECD) and the Food and Agriculture Organization (FAO) is used for the analysis. In addition to OECD Member States and the main developing

[8] Recent years have experienced a surge in the use of the gravity model in analyzing bilateral trade, the impact of regional trade agreements, as well as in estimating trade costs (for a review see Piermartini and Teh, 2005). For recent surveys on the theories behind gravity see Harrigan (2002) and Feenstra (2002, 2003).

producing countries, 22 ACP countries and LDCs are included in the model, amounting to a total of 56 countries and regions. Two types of traded sugar are considered, refined and raw, and two sugar inputs, cane and beet[9]. The model is calibrated on the year 2003 and is utilised to generate a set of recursive dynamic solutions up to 2013. Both trade and domestic policies are explicitly included in most of the countries. World and domestic prices are determined endogenously by clearing the world market, as well as domestic markets of countries such as the EU 25, Mexico, the United States and China, which are insulated in terms of world market price effects.

In the ACP countries, the marginal economic incentive is calculated as a weighted pool (or blend) price of the price received for sugar exported under the Sugar Protocol (SP) and the Special Preferential Sugar (SPS), the price received for exports within the US tariff rate quota (TRQ) and of the world price for production exported to the world market. Thus, ACP countries are modelled as price-takers, with an imperfect transmission of world price signals. For those ACP countries which are also classified as LDCs, where the EBA initiative implies a TRQ that increases by 15 percent per year between 2002 and 2008 and duty free unlimited access after year 2009, the price determination described above is applied until 2008 on the basis of the corresponding TRQ established under the EBA initiative. From 2009 onwards, ACP-LDCs will benefit from the EU reference price, but the maximum amount of exports from each country will be limited according to the gravity equation results. Export flows to the EU, in turn, determine the domestic price in the exporting LDCs, thus affecting the incentive to produce sugar.

The empirical specification of the gravity model is as follows:

$$(8) \qquad x_{ie,t} = c + \alpha x_{ie,t-1} + \beta \left(\frac{y_i}{y_e} \right)_t + \sum_0^n \delta_n tar_{ie,t-n} + \sum_k \zeta_k z_{ie,t}^k + \left(\eta_{ie} + \varepsilon_{ie,t} \right)$$

where xie,t, denotes exports from country i to the EU in year t, yi,t the GDP of the exporting country and ye,t the EU in the same year. The variable tariff denotes the level of the ad valorem tariff faced by the exporting country in time t, whilst the k variables zij refer to several variables relating to natural tariff barriers. εie,t is a error term, whilst ηie is an unobserved country-specific and time-invariant effect that can be thought of as an additional determinant of exports on the basis of characteristics that are idiosyncratic to each country. The lagged dependent variable and the lagged tariff terms capture the adjustment process to the new environment.

The gravity model utilises a panel data set for food and tobacco exports to the EU from 47 LDCs during the period 1988-2004. Data on the value of food and tobacco exports to the EU and the relevant weighted tariff levels is from COMTRADE. Food and tobacco exports are used instead of sugar exports because sugar exports data are limited, as only a few LDCs exported sugar to the EU during the period 1988-2004,

[9] In some major producing regions, such as Brazil and the US, the model also includes sweetener substitutes on the demand side, ethanol and the joint product aspect of sugar and molasses.

and because data on food and tobacco exports contains information on the impact of the EBA initiative on trade, since the initiative applied to these products from 2001 with the exceptions of sugar and rice. There are some advantages in applying gravity to panel data, as they allow the estimation of dynamic models and the investigation of the adjustment process, which may imply significant costs both for increasing production and to administer exports under the EBA. Moreover, panel data allow more variation in the sample.

The gravity equation is estimated using the Generalised Method of Moments (GMM), a standard procedure for dynamic panel data models.[10] The estimated parameters are presented in Table 4.

TABLE 4
Dynamic gravity equation estimates

$x_{ie,t-1}$	$tar_{ie,t-1}$	$tar_{ie,t-2}$	$\left(\frac{y_i}{y_e}\right)_{ie,t-1}$	$z_{ie,t}^{transport}$
0.3643	-0.0529	-0.0796	0.1283	-0.0859
(0.0052)	(0.0096)	(0.0068)	(0.0472)	(0.0156)
J-Statistic	51.26			
Instrument rank	55			
Sargan test p-value	0.42			
Sample	1990-2004			
Number of observations	539			

Different natural barrier variables, such as the length of paved roads, the number of telephone lines per thousand inhabitants, were experimented with but estimates were not statistically significant due to the lack of variation of the series, thus resulting in a parsimonious final specification. The parameter estimates are statistically significant and highlight the importance of tariff barriers in determining trade flows in the medium run. The estimated parameter for transport costs also confirms the importance of well functioning and efficient transport infrastructure.

The model is calibrated to sugar exports to the EU in 2003 for the LDCs that have exported to the EU during the period 1988-2004.[11] Both the partial equilibrium model and the gravity equations are calibrated using data on sugar for the year 2003. In the simulation, the gravity is utilized to determine the share of sugar exports from the selected LDCs to the EU. These exports are subject to tariffs that are determined by the EBA in-quota and out-of-the-quota tariffs, the corresponding GDPs and transport costs.

[10] A detailed description of the estimation method is beyond the scope of this paper. For details on GMM and its application on panel data see Arellano and Bond (1991). Surveys on GMM are provided by Blundell, Bond and Windmeijer (2000) and Arellano and Honore (2001). An intuitive review is provided by Bond (2002).

[11] Ethiopia, Sudan, Mozambique, Mali, Mauritania, Chad and Sierra Leone.

FIGURE 1
The gravity model and the COSIMO sugar model

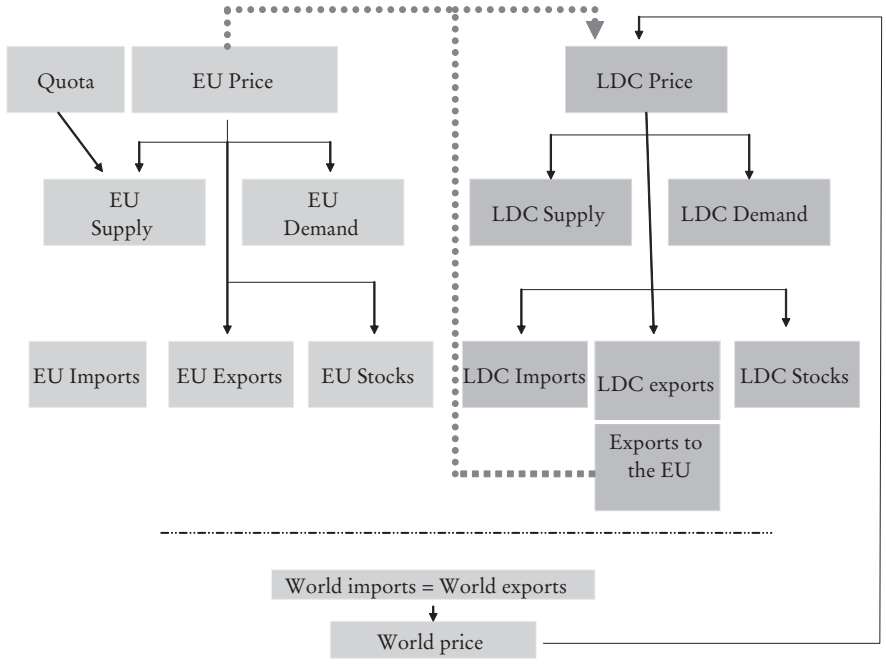


Figure 1 illustrates how the gravity model and the COSIMO-AGLINK were employed together, the price transmission and the mechanism that balances supply and demand. An initial price level determines supply and demand in both net exporting and net importing countries (EU). These in turn determine exports and imports at domestic and world level.

The gravity equation determines the level of exports to the EU on the basis of the level of tariffs, transport costs and GDP. Subsequently, the level of exports to the EU shapes economic incentive for production in the EBA country on the basis of a blend, or pool-weighted, of the world and the EU price. In these terms, the model reflects both the allocation of trade and the allocation of production and consumption at the same time.

4.2 Results of the simulation exercise

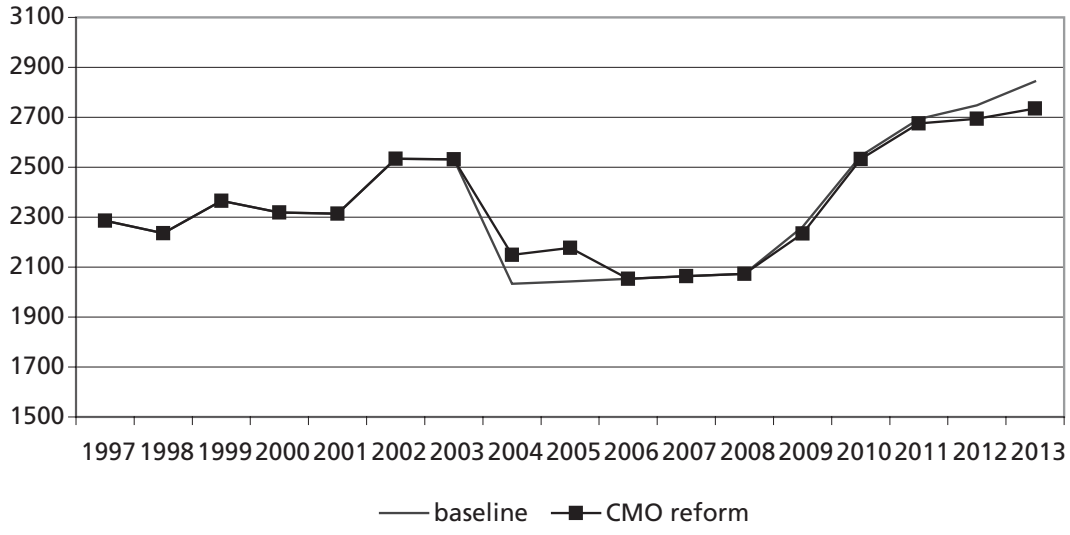
A policy scenario was simulated based on the reform agreed by the European Union agricultural ministers in late November 2005, which included the abolition of the intervention mechanism and its substitution with a private storage scheme, to be triggered at a level 36 percent lower than the current intervention price, the merging of the present A and B quotas, and the establishment of an additional quota of one million tonnes. The model does not allow meaningful simulation of the other changes brought about by the EU reform.

The results of the simulation exercise suggest that the reform of the EU sugar CMO has a significant impact on the European market and a relatively more limited impact on the rest of the world. Concerning the EU's trade partners, the

exercise suggests that trade is diverted away from countries which currently enjoy preferential access to the EU market. In particular, higher cost ACP producing countries that export within the Sugar Protocol are expected to be displaced by more efficient LDCs, some of which are also ACP and enjoy duty-free unlimited-quota access to the EU market within the EBA initiative.

Total sugar imports by the EU are simulated to increase following the policy reform, albeit by a lower rate than that indicated by the baseline, particularly after 2009 (see Figure 1). In general, under both the baseline and the reform scenario, the EBA initiative results in an increase in imports by almost 700 thousand tonnes in three years. Towards the end of the simulation horizon, the effect of the EU reform causes imports to slow down due to the reduction in the price paid to ACP countries under the Sugar Protocol and to the LDCs under the EBA initiative.
In addition to the impact on aggregate imports by the EU, policy reform is expected

FIGURE 2
Sugar imports by the EU 25 (000 tonnes)



to alter their composition as LDCs' exports are diverted towards the EU due to the EBA initiative, whilst imports under the Sugar Protocol, in the case of high-cost ACP countries, decrease. Three country groups can be identified among those enjoying preferential access to the EU market. ACP developing countries, which currently enjoy preferential access under the SP and the SPS are expected to be affected by both the abolition of the SPS, as well as by the reduction in the EU price. The EBA will have a significant impact on high cost producers, such as Barbados, where both total exports and exports to the EU fall dramatically (see Table 5), whilst the elimination of SPS will affect those relatively low cost ACP producing countries such as Swaziland, Mauritius, Jamaica, Guyana, Fiji and Côte d'Ivoire.

TABLE 5

Raw sugar exports of ACP countries and LDCs

Destination	EU under Sugar Protocol				EU under SPS protocol, then EBA				Rest of the World				Total			
	1995-97	2001-03	2011-13b	2011-13s	1995-97	2001-03	2011-13b	2011-13s	1995-97	2001-03	2011-13b	2011-13s	1995-97	2001-03	2011-13b	2011-13s
Belize	40.3	40.3	40.3	40.3	9.6	5.2	0.0	0.0	57.4	57.0	70.6	78.8	107.4	102.5	110.9	119.1
Trinidad and Tobago	45.7	45.7	45.0	45.7	10.4	5.5	0.0	0.0	3.4	0.6	0.0	0.0	59.5	51.7	45.0	45.7
Swaziland	123.0	123.0	123.0	123.0	56.8	32.4	0.0	0.0	215.4	282.9	353.0	434.7	395.1	438.3	476.0	557.7
Mauritius	512.4	512.4	493.5	499.7	39.2	27.0	0.0	0.0	76.0	22.2	0.0	0.0	627.6	561.6	493.5	499.7
Jamaica	123.9	123.9	123.9	123.9	28.5	17.4	0.0	0.0	21.0	0.0	21.1	12.6	173.3	141.3	145.0	136.5
Guyana	166.3	166.3	166.3	166.3	37.3	17.8	0.0	0.0	39.8	114.9	130.9	120.3	243.4	299.0	297.2	286.6
Fiji	172.5	172.5	172.5	172.5	35.1	19.3	-	-	153.1	83.0	84.1	76.4	360.8	274.9	256.6	248.9
Dominincan Rep.	-	-	-	-	-	-	-	-	314.8	173.5	183.5	121.8	314.8	173.5	183.5	121.8
Côte d'Ivoire	10.6	10.6	10.6	10.6	12.0	9.1	-	-	26.5	42.0	33.5	30.7	49.1	61.8	44.2	41.3
Barbados	52.5	41.3	6.1	5.4	2.4	-	-	-	0.1	-	-	-	55.0	41.3	6.1	5.4
Kenya	-	-	-	-	-	4.1	-	-	0.0	-	0.3	0.3	0.0	4.1	0.3	0.3
Zimbabwe	31.5	31.5	31.5	31.5	32.4	23.4	-	-	113.4	69.7	56.8	56.4	177.3	124.6	88.4	87.9
Mozambique#	-	-	-	-	-	0.8	53.7	54.7	73.8	107.5	93.6	92.7	73.8	108.3	147.4	147.4
Ethiopia#	-	-	-	-	-	15.0	113.6	113.6	43.7	74.2	-	-	43.7	89.2	113.6	113.6
Burkina Faso#	-	-	-	-	-	0.7	1.7	1.7	-	11.8	-	-	-	12.6	1.7	1.7
Tanzania*	3.1	10.6	10.6	10.6	1.5	2.2	39.6	39.6	0.0	7.1	-	-	4.6	19.9	50.2	50.2
Sudan#	-	-	-	-	-	18.4	97.8	93.6	81.5	223.3	118.5	125.7	81.5	241.7	216.3	219.3
Malawi*	21.7	21.7	21.7	21.7	13.9	9.3	88.7	83.0	23.4	58.8	-	-	59.0	89.8	110.4	104.7
Zambia*	-	-	-	-	11.6	12.0	39.7	43.7	-	27.2	-	-	11.6	39.2	39.7	43.7
Madagascar*	11.2	11.2	-	-	12.2	9.9	20.8	27.0	0.0	0.0	-	0.2	23.4	21.1	20.8	27.2
Total ACPs	1,314.8	1,311.2	1,245.2	1,251.3	302.9	229.6	455.6	456.9	1,243.1	1,355.8	1,146.0	1,150.6	2,860.8	2,896.5	2,846.8	2,858.8
Bangladesh	-	-	-	-	-	-	2.3	2.3	-	31.0	12.8	12.8	-	31.0	15.0	15.0
Other LDCs	-	-	-	-	-	2.4	6.0	6.0	30.2	39.2	49.9	50.9	30.2	41.6	55.9	56.9
Total LDCs	36.1	43.6	32.4	32.4	39.1	70.7	463.8	465.1	252.5	580.2	274.8	282.2	327.7	694.5	771.0	779.7

* ACP sugar exporters classified also as LDCs

EBA only

2011-13b denotes baseline, 2011-13s denotes reform

Secondly, for least developed ACP countries that export to the EU under the SP and SPS, the EBA initiative leads to unlimited duty-free access to the EU market. As a consequence, Malawi and Tanzania are expected to increase their exports to the EU significantly. Trade costs are assumed not to pose significant barriers to exports, as these countries have been exporting to the EU for quite a long time.

Finally, a third group comprises those LDCs which are not SP and SPS signatories and, therefore, will obtain significant benefits from the EBA initiative. Some of these LDCs are important sugar producers, such as Ethiopia, Mozambique and Sudan. Exports from Ethiopia to the EU (see Figure 3) are predicted to reach 113 thousand tonnes by 2013, whilst those from Mozambique will increase from 10 to 55 thousand tonnes during the same period (Figure 4), although the exceptional results of Ethiopia and Mozambique derive from their very low starting points. In a similar manner, Sudan is simulated to increase its exports to the EU about fivefold. The EU policy reform is not expected to alter these export trends as they are predominantly determined by the EBA initiative.

Other LDCs that are not significant sugar exporters, but have been exporting small amounts of sugar regularly to the EU in the recent years are Mali, Mauritania, Chad and Sierra Leone, included in the simulation under the heading "other LDCs", and Bangladesh. For these countries, the baseline indicates that exports may increase due to the EBA (Table 5), but to a moderate level mainly due to the constraints imposed by transport costs, while the reform of the EU policy does not imply significant changes.

FIGURE 3
Ethiopia's sugar exports to the EU (000 tonnes)

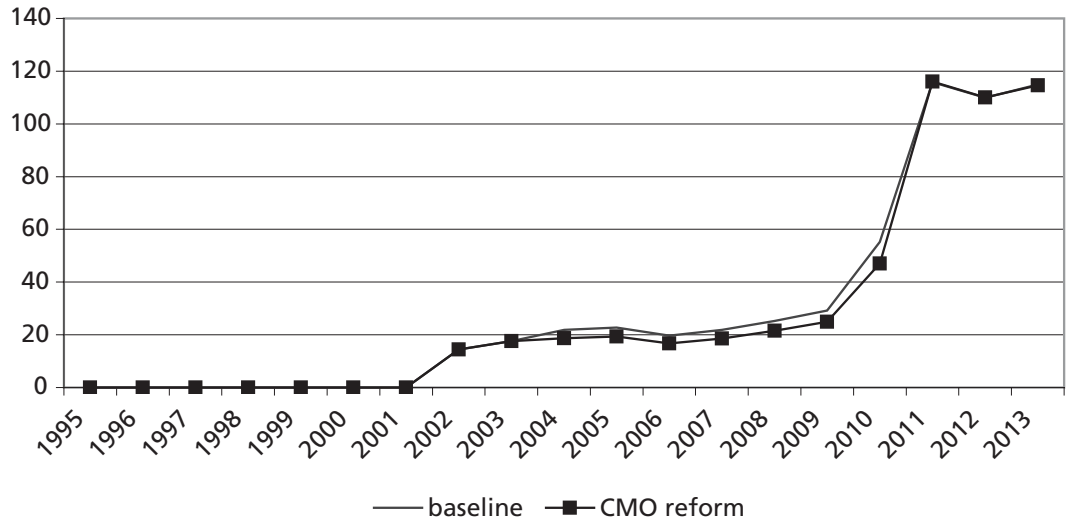
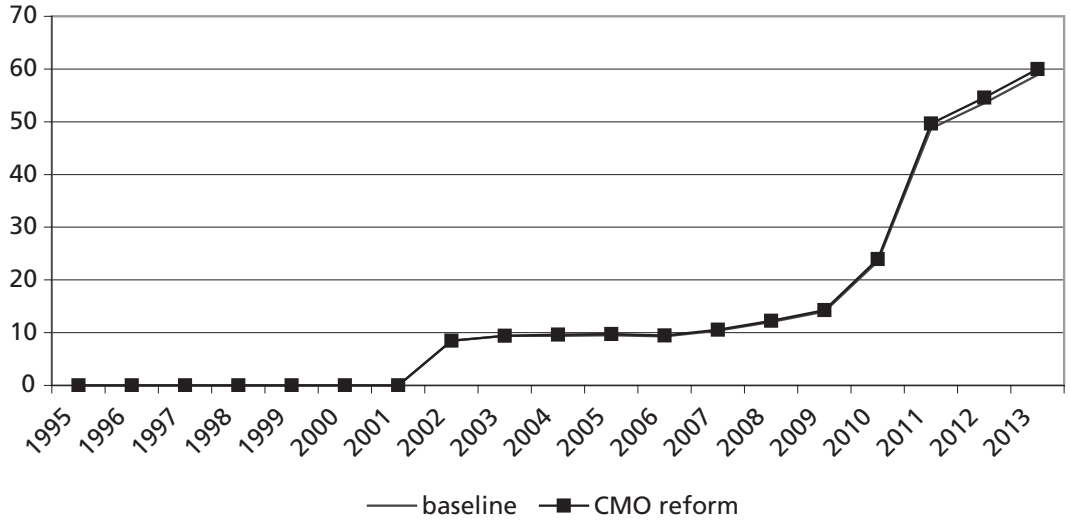


FIGURE 4
Mozambique's sugar exports to the EU (000 tonnes)



In total, sugar exports of the ACP countries to the EU are projected to increase to 1.7 million tonnes in 2011-13, while those of the LDCs would increase threefold, reaching 498 thousand tonnes. Export of the ACPs toward non-EU destinations are projected to decrease by some 15 percent in the same period, while those of the LDCs would be reduced by over 50 percent.

Finally, it is worth considering the effect on the developing ACP countries that are signatories of the SP and SPS and the LDCs in terms of export revenues, given that significant changes take place both in terms of the price received and in the volumes traded. The EU sugar policy reform will decrease export revenues for these countries due to a reduction in the price received. However, for the LDCs as a group, the reform will lead to a total export revenue almost 150 percent higher than that of the 2001-03 period. ACP countries-signatories to the SP would also gain as a group, but solely due to countries that are classified as Least Developed and will export to the EU under the EBA initiative. Other ACP countries will experience substantial losses, such as Barbados, Zimbabwe and Côte d'Ivoire. In the same vein, wide potential gains arise for some of the LDCs, particularly Sudan, Tanzania, Malawi, Zambia and the "other LDCs".

5. Concluding remarks

Large exporting developing countries appear to be substantially restricted in their trade with the EU, including for agricultural products, to a greater degree than countries which are treated on a purely MFN basis, like the US, or Australia and New Zealand. This is the result for countries like Brazil, India, and Argentina, when

protection is measured in terms of the MTRI, a theoretically-consistent aggregated index of protection. LDCs do not seem to enjoy a large degree of preferences, extending unlimited duty free access to these countries, as the EBA initiative should do, may not therefore be a particularly significant event.

Sugar appears important in shaping the degree of trade restrictiveness in agriculture for most developing countries. However, the existence of a quantitative limitation on the total amount of duty-free sugar that ACP countries can export to the EU appears to undermine the value of this preferential trade flow in terms of the MTRI.

The results of the detailed assessment on the sugar sector based on the COSIMO-AGLINK model and the gravity equations indicate that the change in the volume of sugar imports to the EU from the SP signatories and from the LDCs under the EBA initiative would be limited to about 500 thousand tonnes, based on the combined effect of the natural trade costs and the price changes. At the same time, the reform of the EU domestic regime does not seem to make a particularly significant difference in terms of export volumes from the LDCs and for most of the ACP countries. However, their export revenues are significantly affected by the reduction of the EU domestic price, even if the effect of the reform on the world price is too small to determine any significant trade creation and diversion outside SP and EBA countries. On the other hand, the EU domestic price still remains far higher than the world market price. This implies that preferences remain valuable to exporters.

The expected policy developments are likely to affect significantly a number of ACP developing countries, both the high cost producers, such as Barbados and a number of Caribbean Island States, mainly due to the reduction in the EU price, and the relatively low cost producers which are not in the LDC group, such as Trinidad, Swaziland, Mauritius, Jamaica, Guyana, Fiji and Côte d'Ivoire, mainly due to the abolition of the SPS. Therefore, if it is true that the ACPs as a group have been facing a constraint in the volume of their sugar exports to the EU arising from the presence of individual quotas, as captured by the calculation of the MTRI, it is also true that within the ACPs there are a number of countries which are going to be seriously displaced both by the price reduction in the EU, and by the abolition of the SPS quota brought about by the implementation of the EBA initiative.

Looking beyond these results, there are at least two critical questions which must be addressed. First, what might be better and more useful alternatives to preferences to achieve the goals of increased development and greater participation in global trade? The response to this question might be labelled the "Beyond Preferences Option". Secondly, how might preferential schemes be modified to increase the value of preferences to beneficiary developing countries, to enable these countries to benefit more from the existence of these preferences, and to reduce the negative impacts that the existence of preferences might have on the goals of realizing increased trade liberalization. The response to this second group of questions might be labelled the "Within Preferences Option".

On alternatives to preferences, two possible options are export promotion and diversification. In both options investment for increased efficiency and competitiveness is at the core, but in the context of the promotion option the emphasis is much more

on the demand side in the initial stages than is the case under the diversification option. Obviously, these options are not mutually exclusive, and the response of the representatives of the small banana countries in the light of the outcome of the Hong Kong Ministerial and EU's change to its banana regime from the current tariff rate quota (TRQ) to a tariff only system is instructive. Concerning promotion, the idea is to enact a set of policy measures and to devote resources to enable production, processing and marketing activities which have been so far focused on the products currently traded under preferences, to continue trading their output and to expand it in non-preferential markets. This could take the form of vertical or horizontal alliances among producers and traders, aimed at increasing market penetration of traditional markets. Investment in the production of higher-valued products and more sustainable branding targeted at specific market segments, such as the health, fair trade, and ethnic based markets. The spokesman for the Windward Islands of the Caribbean indicated in January 2006 that henceforth the intention is to move toward having all their bananas sold under the Fair trade label.[12]

Concerning diversification, the idea is to devise a set of policies and to devote resources to support, over a transition period, the production, processing and marketing of products which are currently not traded, but for which there is a potential national, regional and/or international market. The point of departure of this approach is moving out of what may be inefficient and uncompetitive product areas into different products that have greater potential for competitiveness. This approach recognizes the need for policy changes in both developed and developing countries in the establishment of new sustainable trading processes. It links policy changes in developed countries, such as reduced domestic subsidies and reduced tariff escalation, to availability of resource assistance to enable the formation of strategic alliances for the production and trading of new crops. In this vein, another component of the plan announced by the Windward Islands banana dependent countries is to explore the production of mangoes given the changes in the banana trade regime.

Concerning the "Within Preferences Option", the EU is presently negotiating the Economic Partnership Arrangements with the ACP countries, learning from the lessons of the previous Lomé regime. Among the most important of these lessons are that unilateral preferences are not enough, that the trade relationship should go beyond market access, that synergies should be promoted between trade and aid, that trade should be mainstreamed in development support, that domestic reforms are needed, and perhaps most importantly and running through all of these lessons, that the domestic supply capacities must be greatly increased.[13] The US on the basis of a conclusion that AGOA is helpful to the 37 countries in Africa, has recently extended these preferences to 2015. Against this backdrop, a number of options for improving the benefits of preferences should be explored. Setting more transparent trading regulations, facilitating the meeting of standards, and longer transition periods would be useful means to enhance the value of preferences. At the same

[12] www.bbc.co.uk/Caribbean/news/story/2006/01/060110.

[13] Claude Maerten, European Commission, Head of Unit TRADE C 2, TRALAC's Annual International Trade Law Conference, 11 November 2004.

time, actions aimed at improving the domestic supply-side capacity, and at building commodity institutions would increase the benefits from the actual preferences.

Moreover, a number of actions may be pursued with the aim of reducing the negative impact of the erosion of preferences. The sugar sector constitutes a pertinent example. For this product, the strategies of product differentiation and value addition appear to have a limited potential in the long run. While some consumers in developed countries' markets may be willing to pay price premiums for differentiated products such as unrefined sugar, or for labels which promise the respect of social and environmental standards in production, the potential size of these markets appears small, and overall consumption appears to be decreasing. At the same time, on the production costs side there a number of major producers, such as Brazil and Thailand, which are likely to remain the most competitive at any cost level.

The LDCs have put forward a proposal envisaging the maintenance of a quota system up to the year 2019, and a far longer calendar for the tariff reductions (LDCs 2004), which has also been endorsed formally by the ACP group. This approach appears different from the logic followed by the European Commission in reforming its domestic market regime, which promotes market orientation while compensating the likely losses. However, the compensating measures proposed by the Commission, also appear inconsistent with the logic of the domestic reform. In this vein, compensating measures should be linked, in principle, to the compensation offered to the EU domestic producers expected to be forced out of the sector by the reform of the domestic regime. A simple calculation following this approach indicates that the amount of resource destined to restructuring aid should be more than tripled compared to what has been indicated so far, in order to compensate the same 60 percent of the likely loss provided to the European farmers, and to provide a deficiency payment scheme, decreasing through time, as a complementary tool to provide a safety net (Matthews and Chaplin, 2006).

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The United Nations Food and Agriculture Organization (FAO) estimated that about 100 million rural households were involved in cotton production worldwide in 2001 (Sarris, 2003). Among the countries in which cotton is an important contributor to rural livelihoods are China, India, and Pakistan - where 45, 10, and 7 million rural households, respectively were engaged in cotton production. In African cotton producing countries, including Nigeria, Benin, Togo, Mali, and Zimbabwe, the number of rural households depending on cotton totalled 6 million. The high dependence on cotton in these countries has important poverty ramifications, especially when large price changes take place.

The cotton market has been subject to considerable support, mainly in the US and to a lesser extent in the EU and China. During 2002 support by major players reached almost US$6 billion, more than one quarter of the global value of production. This support, which coincided with the lowest nominal cotton prices since 1972, brought numerous reactions. Brazil initiated a WTO consultation process claiming losses due to subsidies by the US (WTO, 2002). Four West African cotton producing countries-Benin, Burkina Faso, Chad, and Mali-pressed for removal of support to the cotton sector through the WTO and asked for financial compensation for cotton producing low income countries to offset the injury caused by support (WTO, 2003).

This paper reviews the recent market and policy developments in the global cotton market with particular emphasis on the implications of the 6th WTO ministerial in Hong Kong. To that end, the next section briefly discusses the structure of the global cotton market while section 3 takes a brief look at the cotton sectors of the WCA countries. Section 4 summarizes the cotton policies of major players while section 5 discusses the implications of such policies. Section 6 analyzes the cotton-related part of the Hong Kong declaration. Key conclusions of this paper are that the export subsidy part of the cotton-related text of the declaration is, to some extent, superfluous, since the only export subsidies applicable, the US Step-2 payments and export credit guarantees, had already been declared illegal by the WTO Panel on the Brazil/US cotton dispute case. Similarly, the market access pillar does not add anything new. With respect to domestic support, considering market conditions and subsidy levels of 1999-2002, the US must undertake an almost 40 percent reduction to comply with the Panel's ruling. To that, if one adds the commitments to be agreed under the general reduction formula to be agreed for domestic support and any additional cuts due to "ambitiousness", a substantial reduction of US cotton subsidies should take place. The ultimate outcome will depend, among other factors, on the 2007 US Farm Bill.

2. The global market structure

About three quarters of cotton is produced by developing countries. During the last four decades cotton production has grown at an annual rate of 1.8 percent to reach 24 million tonnes in 2005 from 10.2 million tonnes in 1960 (for the remainder of this paper, cotton refers to cotton lint). Most of this growth came from China and India, which tripled and doubled their production. Other countries that

significantly increased their shares were Greece, Pakistan, and Turkey (see table 2). Some "new entrants" also contributed to this growth. Australia, for example, which produced only 2 000 tonnes of cotton in 1960, currently averages 0.5 million tonnes. Francophone Africa produced less than 100 000 tonnes in the 1960s and now produces ten times as much. The United States and the Central Asian republics, two of the four dominant cotton producers during the 1960s, have maintained their output levels at about the same levels, effectively halving their market shares. A number of Central American countries that accounted for 250 000 tonnes during the 1970s now produce virtually no cotton at all.

TABLE 2
Global balance of the cotton market (thousand tonnes)

	1960	1970	1980	1990	2000	2002	2004	2005
PRODUCTION								
China	1 372	1 995	2 707	4 508	4 417	4 916	6 320	5 769
US	3 147	2 219	2 422	3 376	3 818	3 747	5 062	4 946
India	1 012	909	1 322	1 989	2 380	2 312	4 080	4 250
Pakistan	306	543	714	1 638	1 816	1 736	2 482	2 309
Central Asia	1 491	2 342	2 661	2 593	1 412	1 509	1 737	1 724
Brazil	425	549	623	717	939	848	1 318	1 207
Franc Zone	63	140	224	562	728	952	1 135	1 071
Turkey	192	400	500	655	880	900	900	805
Australia	2	19	99	433	804	386	624	497
Greece	63	110	115	213	421	375	390	380
World	**10 201**	**11 740**	**13 831**	**18 970**	**19 437**	**19 437**	**26 193**	**24 958**
EXPORTS								
US	1 444	848	1 290	1 697	1 472	2 591	3 000	3 215
Central Asia	381	553	876	1 835	1 203	1 172	1 251	1 316
Franc Zone	48	137	185	498	767	833	952	1 092
Australia	0	4	53	329	849	575	420	561
Brazil	152	220	21	167	68	170	360	425
Greece	33	0	13	86	244	275	263	283
India	53	34	140	255	24	17	175	275
Syria	97	134	71	91	212	120	152	150
Egypt	346	304	162	18	79	150	140	125
Tanzania	34	66	36	40	39	41	88	99
World	**3 667**	**3 875**	**4 414**	**5 081**	**5 857**	**6 618**	**7 542**	**8 270**

Notes: Bangladesh is included in Pakistan prior to (and including) 1970. Franc Zone includes Benin, Burkina Faso, Cameroon, Central Africa Republic, Chad, Côte d'Ivoire, Guinea, Madagascar, Mali, Niger, Senegal, and Togo. Central Asia includes Uzbekistan, Turkmenistan, Tajikistan, Kazakhstan, Azerbaijan, and Kyrgyzstan.

Source: International Cotton Advisory Committee, Cotton: Review of the World Situation, various issues.

More than one quarter of the area allocated to cotton is currently under genetically modified (GM) varieties, accounting for almost 40 percent of world production. GM cotton in the US-where it was first introduced in 1996-currently accounts for about 80 percent of the area allocated to cotton. Other major GM cotton producers are Argentina (70 percent of cotton area), Australia (80 percent), China (60 percent), Colombia (35 percent), India (10 percent), Mexico (40 percent), and South Africa (90 percent). Countries that are at a trial stage include Brazil, Burkina Faso (the only SSA country), Israel, Pakistan, and Turkey (Cotton Outlook, 2005).

Although the last decade has witnessed the expansion of organic products, cotton has not enjoyed much success. For example, global organic cotton production during 2004/05 was 25 400 tonnes, about 0.1 percent of world cotton production (Chaudhry and Wakelyn, 2006). Organic cotton production was introduced in the US in 1990/91, when 330 tonnes of organic cotton was produced. Following a peak of 7 425 tonnes in 1995/96, the US now produces less than 2 000 tonnes. Currently, the world's two major organic cotton producers are India and Turkey, which together account for two thirds of global organic cotton production.

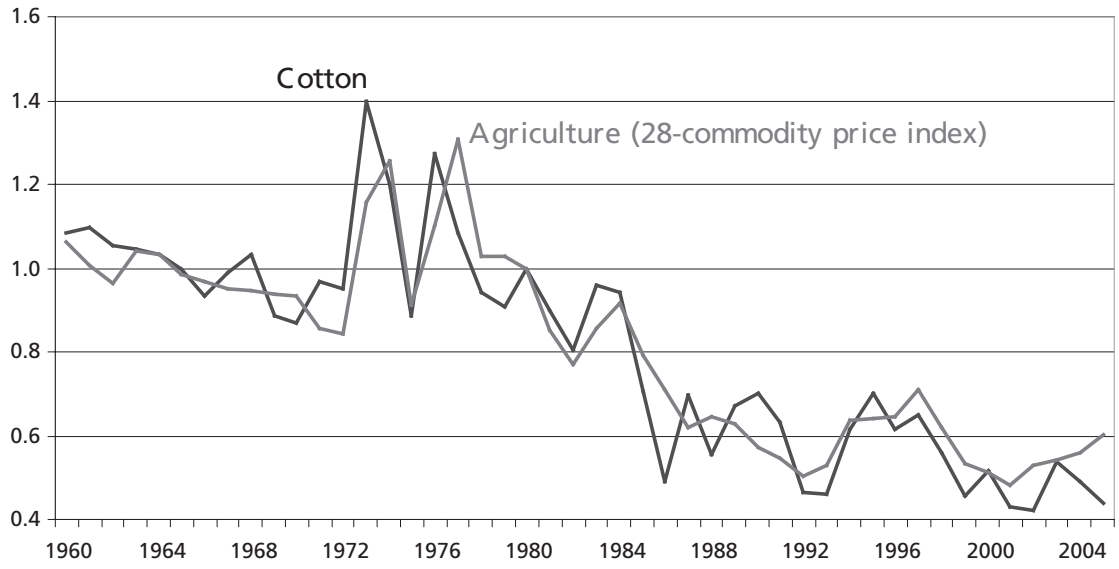
The consumption pattern of cotton is determined by the size of the textile industries of the dominant cotton consumers. China, the leading textile producer, currently consumes more than one-third of global cotton output. Other major textile producers are India, Pakistan, Turkey, and the United States, which together with China account for more than three-quarters of global cotton consumption. Several East Asian countries have emerged as important cotton consumers. For example, Indonesia, the Republic of Korea, Taiwan, and Thailand, which together consumed 130 000 tonnes in 1960 (1.2 percent of world consumption), absorbed more than 1.5 million tonnes in 2005 (6.5 percent of world consumption).

Between 1960 and 2005, global cotton demand has grown at the same rate as population (about 1.8 percent per annum) implying that per capita cotton consumption has remained almost stagnant at about 3.5 kilograms. By contrast, consumption of chemical fibres, which compete with cotton, has increased consistently over the last 50 years by 2.2 percent per annum, causing cotton's share in total fibre consumption to decline from 60 percent in 1960 to 40 percent in 2002.[1] One-third of cotton production is traded internationally. The three dominant exporters-the United States, Central Asia, and Francophone Africa-account for more than two-thirds of global trade exports. Currently, the 10 largest importers account for more than 70 percent of global cotton trade. Three major producers-China, Turkey and Pakistan - also import cotton to supply their textile industries. The four East Asian textile producers-Indonesia, Thailand, Taiwan, and the Republic of Korea - accounted for 22 percent of world cotton imports in 2002, compared to just 3 percent in 1960. To summarize, there has been an increased concentration of cotton use in (and hence trade flows to) Asian countries, not surprisingly since this is the region with the highest concentration of chemical fibre and garment industries.

[1] More detailed statistics along with methods of deriving them can be found in Baffes (2004).

Real cotton prices have declined over the last two centuries, although with temporary spikes. The reasons for the long-term decline are similar to those characterizing most primary commodities: on the supply side reduced production costs due to technological improvements and on the demand side stagnant per capita consumption and competition from synthetic products. Between 1960–64 and 1999–2003 real cotton prices fell by 55 percent, remarkably similar to the 50 percent decline in the broad agriculture price index of 28 commodities (figure 1). Reductions in the costs of production have been associated primarily with yields increases from 300 kilograms per hectare in the early 1960s to 700 kilograms per hectare in 2005 (a 1.8 percent annual increase).[2] The phenomenal growth in yield has been aided primarily by the introduction of improved cotton varieties, expansion of irrigation and use of chemicals and fertilizers. Additional diffusion of GM technology along with precision farming introduced during the 1990s, are expected to further reduce the costs of production. Technological improvements have also taken place in the textile industry, so that the same quality of fabric can now be produced with lower quality cotton, a trend that has taken place in many other industries whose main input is a primary commodity.

FIGURE 1
Real Price Indices (1960-2005, 1980=1.0)



Source: World Bank, Commodity Price Data

[2] It is worth elaborating on one interesting statistic. During the last 50 years, cotton production (and consumption), yields, and population have grown at approximately the same annual rate: 1.8 percent, which implies that, roughly speaking, the cotton-related clothing needs of the earth's increasing population are met by yield increases alone.

In addition to their declining pattern, cotton prices have been volatile, a phenomenon very common among most primary commodities (Deaton 1999, Cashin and McDermott, 2001). The degree of volatility, however, has changed considerably during the last 40 years. Various measures of price volatility calculated by Baffes (2005a) consistently show that cotton prices during 1985-2002 were at least twice as volatile compared to 1960-72, but half as volatile compared to 1973-84. This conclusion is similar to findings by Valdès and Foster (2003) who looked at price variability of corn, rice, sugar, and wheat as well as findings by Sarris (2000) who examined intra- and inter-year price variability of wheat and maize. Real cotton prices during these three periods have experienced an annual decline of 1.5, 3.2, and 1.5 percent respectively. Therefore, not only prices have been twice as volatile in 1985-2002 compared to 1973-84, but also they have declined twice as fast. In a more recent study, Pan and Valderrama (2005) compared the price variability of 22 primary commodities and concluded that during the past four years, 17 commodities exhibited more price variability than cotton. Similarly, Gilbert (2006) ranked 21 commodities according to their volatility and found cotton to be somewhere in the middle. Therefore, from a global market perspective, the cotton market is not that different from other agricultural commodities.

3. Cotton in Francophone Africa

The cotton industry in Francophone Africa was pioneered by the French state-owned Compagnie Française de Développement des Fibres Textiles (CFDT), along with various national cotton companies. These companies had a legal monopsony in cotton, and most had a monopoly on primary processing, marketing, and supplying inputs. They would announce a base buying price before planting, sometimes supplementing that price with a second payment (payable the following season) based on the company's financial health. Cotton growing expanded rapidly, from 225 000 tonnes in 1980 to one million tonnes two decades later (see Table 3). Growers used inputs well adapted to local conditions to produce high yields of cotton of consistent quality (Lele *et al.* 1989).

TABLE 3
Cotton production in WCA countries (thousand tonnes)

	1970	1980	1990	2000	2002	2004	2005
Burkina Faso	8	23	77	116	170	263	275
Mali	20	41	115	102	182	175	250
Benin	14	6	59	141	143	175	140
Côte d'Ivoire	12	56	116	125	172	145	119
Cameroon	14	32	47	79	95	124	112
Chad	35	31	60	58	77	80	72
Togo	2	10	41	56	77	75	70
Senegal	-	7	18	9	16	18	20
Franc Zone	**140**	**224**	**562**	**728**	**954**	**1 135**	**1 071**
WORLD	**11 740**	**13 831**	**18 970**	**19 437**	**19 294**	**26 204**	**24 110**
% of World	**1.2**	**1.6**	**3.0**	**3.7**	**4.9**	**4.3**	**4.4**

Notes: The total for Franc Zone includes small quantities of cotton produced by Central Africa Republic, Guinea, Madagascar, and Niger.

Source: International Cotton Advisory Committee, *Cotton: Review of the World Situation*, various issues.

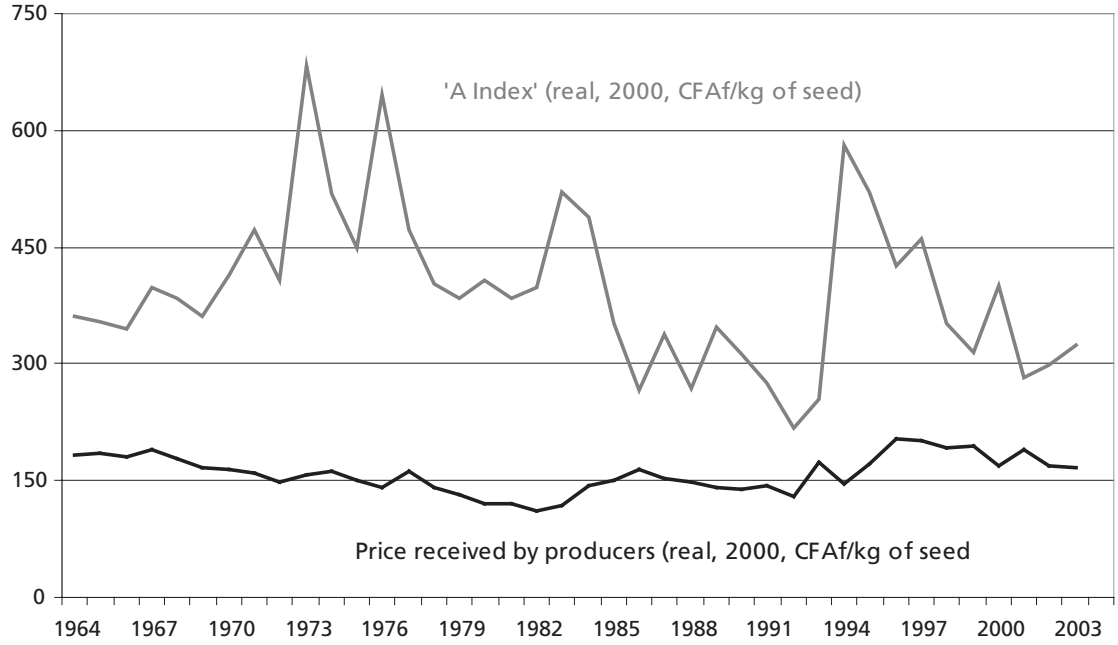
Despite apparent successes, the system exhibited several weaknesses. Prices to producers were very low, often less than 50 percent of border prices (see Table 4). Furthermore, the correlation between domestic and world prices is practically non-existent, indicating that in addition to the high implicit taxation, there was no transmission of world price signals to the domestic markets as shown by a number of regression models (not reported here). As an example, Figure 2 depicts the domestic and world price of cotton for Burkina Faso.

TABLE 4
Prices received by WCA cotton growers (Percent of the 'A Index')

	1980-84	1985-89	1990-94	1995-99	2000-04
Burkina Faso	28	49	50	49	58
Mali	31	46	49	45	61
Benin	35	53	51	54	60
Chad	30	50	46	49	48
Côte d'Ivoire	38	58	53	52	57
Cameroon	43	68	53	47	53
Togo	30	51	53	52	55
Senegal	29	50	55	49	54
Average	**33**	**53**	**51**	**50**	**56**

Notes: The share is calculated as the ratio of the price received by cotton growers over the 'A Index' converted into domestic currency by using the IMF (International Financial Statistics) annual average CFAf/$ exchange rate and adjusted to cotton seed equivalent by using 0.42 ginning ratio (except Mali where the ginning ration was the actual one). The resulting figures were averaged over the periods reported in this table; the average reported in the last raw is the arithmetic average over the 8 countries.

FIGURE 2
Burkina Faso-domestic and world price



The absence of competition in domestic markets and the involvement of the state cotton companies in the provision of services allowed costly operating inefficiencies to develop, absorbing a large share of export prices. Uniform pricing of cotton and farm inputs across all areas of a country meant that transport costs were not properly taken into account in decisions about where to grow cotton. Finally, the system did not respond flexibly to changes in world market conditions. For example, in the mid-1980s and early 1990s low world prices and an overvalued currency led to the de facto bankruptcy of a number of state cotton companies. The companies had to be supported by injections of funds from national governments and the donor community.

During the past several years, in conjunction with the Agence Française de Développement (AFD), the donor community has held intensive discussions with the governments and other stakeholders in West and Central Africa, including state cotton enterprises, CFDT, and input suppliers (Baffes, 2000). Some recent reforms in Francophone Africa point to the future direction of institutional changes in the region's cotton sector (Badiane *et al.* 2002; Goreux, 2004). In Burkina Faso the reform process has advanced relatively well. Producers acquired one third of SOFITEX's (the cotton company) shares in 1999; more recently a private company acquired another third, while the remaining third remains with the state. In Côte d'Ivoire, the state cotton company was split into three private companies of comparable size in 1998; following a two-year transition period, the two new private companies began operating independently. However, the direction of the reform process in Côte d'Ivoire is less clear due to the civil conflict.

The cotton sector in Benin is currently passing through a transitional phase to liberalization. In the 1990s, the government licensed several private ginners who now make up about 48 percent of the country's ginning capacity. SONAPRA, the cotton parastatal owns the remaining 52 percent capacity. While the system has proven to be workable (with the highest cotton production in Benin's history, 415 000 tonnes of seed cotton, obtained when the system was in its second year), serious aberrations have come up over the last two years. Some actors have not been respecting the rules as laid down when the producer organizations were created. These aberrations threaten the success of the reform programme if no action is taken.

Some noticeable efforts are being made to reform the cotton sector in Mali, following the near-bankruptcy of the state cotton company a few years ago. The government, however, has stepped back form its commitment to implement the sector reform programme and, as it currently appears, not much progress is expected to take place until 2007.

Progress on cotton reforms in Chad has been somewhat limited by the fiscal difficulties of Cotontchad, the publicly-owned company that handles all cotton-related activities, and the lack of ownership of reform by the government. Although the government of Chad had decided to disengage from the cotton sector in 1999, so far it has failed to take the necessary steps to move in this direction. Furthermore, the decision by the government of Chad to breach a loan agreement with the World Bank-which, in turn, has temporarily suspended all loan activities to Chad-adds further uncertainty to direction of the cotton sector.

4. Cotton policies by major players

Cotton has been subject to various interventions that mostly take the form of domestic support (taxpayer-financed support). In contrast, two thirds of the support given to OECD commodity producers takes the form of border measures (i.e. consumer-financed support). During 2004/05, government assistance to US cotton producers reached US$4.2 billion, China's totaled US$1.1 billion, and the EU provided almost US$1 billion (Table 5).[3]

TABLE 5
Estimated assistance to cotton growers (million US$)

	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05
US	1 132	1 882	3 809	1 868	3 307	2 889	1 372	4 245
China	2 013	2 648	1 534	1 900	1 217	800	1 303	1 145
EU	870	864	795	706	980	957	994	1 066

Source: International Cotton Advisory Committee; US Department of Agriculture; European Union.

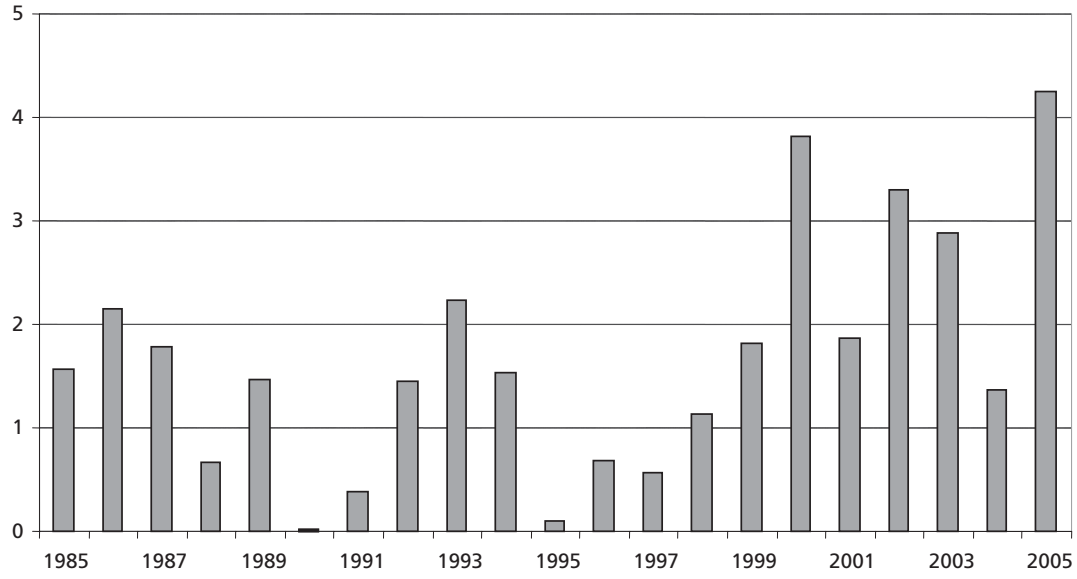
[3] A commonly used source of data on agricultural support is OECD's annual monitoring report of agricultural policies; however, the OECD monitor does not report government assistance to the cotton sectors as a separate entity. The data on cotton subsidies reported in this paper (and elsewhere) originate either from ICAC or from country sources.

4.1 United States

Cotton subsidies in the United States have a long history dating from the commodity programs of the Great Depression. The specific provisions of these programmes, including the one for cotton, change with each "Farm Bill" passed by the Congress (Farm Bills are introduced approximately every 4 to 5 years), but their chief objective has remained largely unchanged: to transfer income from taxpayers (and to some extent consumers) to producers. The main channels of support to US cotton producers are price-based payments, decoupled payments, crop insurance, and countercyclical payments. US cotton users and exporters also receive some support.

- *Price-based payments* (also known as loan rate payments) are designed to compensate cotton growers for the difference between the market price and the target price when the latter exceeds the former.
- *Decoupled payments* (renamed direct payments in the 2002 Farm Bill) are predetermined annual payments calculated on the basis of area historically used for cotton production. Direct payments were introduced with the 1996 Farm Bill to compensate producers for "losses" following the elimination of deficiency payments.
- *Crop insurance* is subsidy to weather-related crop failures.
- *Countercyclical payments* were introduced in 1998 (as "emergency payments") to compensate producers for income "lost" due to low commodity prices. They were made permanent under the 2002 Farm Bill.
- *Step2- payments* (also referred to as export subsidies) made to cotton exporters and domestic end-users when domestic prices exceed world prices, so that U.S. exporters maintain their competitiveness.
- *Export credit guarantees* which insure importers of US cotton against potential defaults.

FIGURE 3
Assistance to US cotton growers (FY85-05), $ billion)



Source: United States Department of Agriculture.

In addition to these transfers there are other publicly funded programme - among them research and extension services and subsidized irrigation. The US cotton programme, which has been subject to review by the US General Accounting Office twice (1990 and 1995), was (and still is) very complex and expensive. Perhaps the best summary of the programme's complexity and costs was given by the 1995 GAO audit report (p. 3):

> *The cotton program has evolved over the past 60 years into a costly, complex maze of domestic and international price supports that benefit producers at great cost to the government and society. From 1986 through 1993, the cotton program's costs totaled US$12 billion, an average of US$1.5 billion a year. Moreover, the program is very complex, with dozens of key factors that interact and counteract to determine price, acreage, and payments and to restrict imports. The severe economic conditions and many of the motivations that led to the cotton program in the 1930s no longer exist … The [U.S.] Congress could, for example, reduce or phase out payments over a number of years, perhaps over the life of the next [1996] farm bill.*

4.2 European Union

During the 1960s and 1970s Greece and Spain together were producing 130 000 tonnes of cotton. Following their accession to the European Union, cotton growers in these two countries became eligible for Common Agricultural Policy funds causing cotton production to grow by an annual average of 7.3 percent, to exceed 400 000 tonnes during the 1990s. Support to cotton producers was based on the difference between the market price and a support price. The policy also influenced the quantity produced by specifying a maximum for which assistance will be provided-the equivalent of 255 000 tonnes for Greece and 82 000 tonnes for Spain.

During the past 10 years, the budgetary expenditure on the cotton sector ranged between US$0.7 and US$1.0 billion, implying that, on average, EU cotton producers received more than twice the world price of cotton. EU cotton producers receive support even in periods of high prices, since the budgetary allocation to the cotton sector must be disbursed. For example, EU cotton producers received approximately the same level of support in 1995 and 2002, although cotton prices in 1995 were twice the level of 2002.

The EU has implemented a number of adjustments to its cotton programme including the 1999 reform which effectively imposed a cap on the budgetary expenditures allocated to the industry (European Commission, 2000) A major reinstrumentation of the EU cotton programme was undertaken under the Luxembourg Council's decision of April 22, 2004, which was based on the September 2003 proposal. Under the new programme, an estimated €700 million will fund two support measures, with 65 percent of the support taking the form of a single decoupled payment and the remaining 35 percent taking the form of an area payment (European Commission, 2003). Eligibility for the decoupled payment is limited to growers who produced cotton during the 3-year period 1999-2001. The area payment will be given for a maximum area of 380 000 hectares in Greece, 85 000 hectares in Spain, and 360 hectares in Portugal and will be proportionately reduced if claims exceed the maximum area allocated to each country. To receive decoupled payments, cotton growers must keep the land in good agricultural use. To receive area payments they must plant (not necessarily produce) cotton. Karagiannis (2004) estimated that the recent decoupling is likely to reduce EU cotton production by 10 to 25 percent (depending on the elasticity assumption.)

4.3 China

China's cotton sector became fully government controlled in 1953 following the introduction of the first five-year plan (Zhong and Fang, 2003). The central planning policies adopted then were similar to those of the Soviet Union and remained in place for the next 35 years. The central government set production targets and procurement quotas (all primary processing facilities were owned by cooperatives). Some changes took place in 1978 when the government substantially raised the price of cotton and supplied more fertilizer. Market-oriented reforms were introduced in 1980 when the communal production system was partially abolished and individual farmers were given land use rights. Cotton production increased considerably in response to both the 1978 and the 1980 policy changes.

Currently, China intervenes in its cotton sector through price support measures (a reference price typically set above world prices), subsidies to transportation and marketing, and public stockholding. China also imposes a one percent tariff on cotton imports up to 0.894 million tonnes while the bound tariff outside the TRQ is 40 percent. (for a detailed discussion of China's TRQ system see Gruère and Guitchounts (2005). In reality, however, China applied the same one percent tariff on all cotton imports exceeding the TRQ during 2004 (Ke 2006). The International Cotton Advisory Committee estimates that support to the cotton sector from 1997 to

2004 ranged from US$0.8 billion to US$2.0 billion. Huang, Rozelle, and Chang (2004) estimate that in 2001 the nominal rate of protection for cotton averaged 17 percent.[4]

In 1999 the government announced reform measures that included creating a cotton exchange to facilitate domestic trading, reducing prices paid to producers, and lowering stocks. In September 2001 further reforms were announced. First, the internal cotton market was open to cross-regional trade. Second, various enterprises were allowed to buy cotton directly from producers with the approval of the provincial government. Third, primary processing operations were separated from marketing cooperatives, in effect making them commercial enterprises.

To some extent the reform efforts have achieved their stated objectives. China currently operates a cotton exchange that trades future contracts (Shuhua, 2003). Its publicly held stocks declined from 3.5 million tonnes in the two-year period 1998–99 to 1.25 million tonnes in 2004–05. According to ICAC figures, estimated support to the cotton sector declined from US$2.1 billion to US$1.2 billion between the two periods-cotton prices during these two periods averaged US$1.31 and US$1.29 a kilogram.) Furthermore, as mentioned earlier, the import quota has been extended when necessary in order to meet domestic demand requirements.

5. Implications of cotton policies

Numerous models have evaluated the impact of cotton policies on the cotton market with considerable variation in the results. The International Cotton Advisory Committee, for example, concluded that in the absence of direct subsidies, average cotton prices during the 2000/01 season would have been 30 percent higher than what they actually were (ICAC 2002). The study, which was based on a short run partial equilibrium model, did acknowledge that while removal of subsidies would result in lower production in the countries which receive them (and hence higher prices in the short term), such impact would be partially offset by shifting production to non-subsidizing countries in the medium to longer terms. Goreux (2004), who extended the ICAC model by replacing the base year with 1998-2002 average subsidies, estimated that in the absence of support the world price of cotton would have been between 3 and 13 percent higher in these five years, depending on the value of demand and supply elasticities. Gilson *et al.* (2004) using subsidy data for 1999 and a model similar to that of Goreux (2004), estimated that removal of subsidies by the US, EU, and China would increase the world price of cotton by 18 percent.

[4] However, it should be noted that not all researchers and analysts agree that China subsidizes its cotton. Fang and Beghin (2003), for example, estimated that between 1997 and 2000 the nominal protection coefficient for cotton averaged 0.80, implying that China taxes its cotton sector. More recently, Shui (2005, p. 2) wrote that "… results suggested clearly that after 1999 all agents along the cotton supply chain [in China] received no financial assistance from the government but rather paid taxes and fees to the government." The different views on the nature and degree of intervention reflect the complexities of China's agricultural policies as well as the unreliability of the data.

Reeves *et al.* (2001) used a Computable General Equilibrium model and found that removal of production and export subsidies by the US and the EU will induce a 20 percent reduction in US cotton production, a 50 percent reduction in US cotton exports, with much higher figures for the EU. They also estimated that if support was not in place, world cotton prices would be 10.7 percent higher compared to their 2001/02 levels. Simulations from a model developed by the Food and Agriculture Policy Research Institute (FAPRI, 2002) found that under global liberalization (i.e., removal of trade barriers and domestic support of all commodity sectors including cotton), the world cotton price would increase over the baseline scenario by an average of 12.7 percent over a 10-year period. Based largely on FAPRI's data and assumptions, Sumner (2003) estimated that had all US cotton subsidies not been in place during the marketing years 1999-2002, the world price of cotton would have been almost 13 percent higher (see Figure 3 for nominal cotton prices during the past two decades). Anderson and Valenzuela (2006) also estimated that, in the absence of all cotton subsidies world prices would have been 12.9 percent higher.

Based on a partial equilibrium model, Tokarick (2003) finds that multilateral trade liberalization in all agricultural markets (including cotton) would induce a 2.8 percent increase in the world price of cotton and a US$95 million annual increase in welfare. Poonyth *et al.* (2004) and others estimate that removal of cotton subsidies-as reported in the WTO notifications-would increase the world price of cotton between 3.1 percent and 4.8 percent, depending on assumptions about demand and supply elasticities. In contrast, Shepherd (2004) and Pan *et al.* (2004) and others find a negligible impact of subsidies on the world price of cotton.

The highly divergent results for these models reflect in part the structure of the models and the assumed elasticities. Several other factors also influence the results. The reasons behind the highly divergent results of cotton models were the subject of an FAO experts' consultation (FAO, 2004). First, there are differences in the level and structure of support. For example, some models incorporate China's support to its cotton sector and model its removal; others do not. Second, there are differences in the underlying scenarios. Some models assume liberalization in all commodity markets while others assume liberalization only in the cotton sector. Third, the models use different base years and hence different levels of subsidies. For example, support in the US was three times as high in 1999 as in 1997. Setting all the differences aside, however a simple average over all models shows that world cotton prices would have been about 10 percent higher without support. Applying a simple average to the Francophone Africa cotton producing countries shows that these countries lost approximately US$150 million annually in export earnings due to the subsidies.

Not all models report results on the gainers and losers from the removal of cotton subsidies. In that respect the most complete analysis is offered by the FAPRI model, which finds the largest gains in trade for Africa, with an expected average increase in exports of 12.6 percent. Exports increase by 6.0 percent for Uzbekistan and by 2.7 percent for Australia, while exports from the United States decline by 3.5 percent. The most dramatic impact is on the production side. The European Union's cotton

output would decline by more than 70 percent-not a complete surprise considering that the European Union's cotton output during the late 1990s was three times higher than it was before Greece and Spain joined.

Two important WTO-related developments have take place in response to the high cotton subsidies: The Brazil *vs.* US cotton case (case DS 267) and the request by four WCA cotton producing countries-the so-called cotton-4-that cotton subsidies should be removed and until such removal takes place, the cotton-4 should be compensated accordingly. The remaining of this section elaborates on these developments.

5.1 Brazil vs the United States

On September 27, 2002, Brazil requested consultation with the United States regarding U.S. subsidies to cotton producers. On March 18, 2003, the Dispute Settlement Body of the WTO established a panel to examine the issues, and on April 26, 2004, the WTO issued an interim ruling in favor of Brazil. The final ruling (issued on September 8, 2004) concluded that "the United States is under the obligation to take appropriate steps to remove the adverse effects or … withdraw the subsidy" (WTO, 2004a).

Brazil argued that U.S. cotton subsidies were inconsistent with provisions of the Agreement on Subsidies and Countervailing Measures, the Agreement on Agriculture, and the General Agreement on Tariffs and Trade 1994 and were causing "serious prejudice to the interests of Brazil" because of a "significant price depression and price suppression" (WTO, 2002). Brazil's main claims along with the Panels' findings can be summarized as follows (Schnepf, 2004):

- The United States provided domestic support to its cotton sector during 1999–2002 in excess of the support decided during the 1992 marketing year under the peace clause (article 13) of the Agreement on Agriculture. The Panel found that indeed, the US exceeded WTO commitments during the 1992 marketing year.
- Export subsidies (the so-called step-2 payments) violated the Agreement on Agriculture. The Panel considered the domestic part of the step-2 separate from its export component and found that the former is prohibited import substitution subsidy while the latter prohibited export subsidy.
- The export credit guarantees function as export subsidies. The Panel found that indeed, they act as subsidies since the financial benefits do not cover the cost of the programme.
- The direct payments should have been placed under the WTO's *Amber Box* category (disciplined support) instead of the *Green Box* category (undisciplined support). The Panel found that these payments should have been placed in the *Amber Box* because of the prohibition on planting fruits and vegetables.
- Subsidies have caused "serious prejudice." The Panel found that because the domestic support measures are contingent on market prices have cause serious prejudice in terms market price suppression during 1999-2002.

Using the econometric model developed by FAPRI, Brazil claimed that the U.S. subsidies induced a 41 percent increase in US cotton exports, reducing the world price of cotton by 12.6 percent and causing an estimated injury to Brazil of more than US$600 million for 2001 alone. The United States appealed the case but the original ruling remained by and large intact. In February 2006, the US announced that it would eliminate the export subsidies. However, it remains unclear what, if any, steps it will take regarding containing the overall level of subsidies and declaring direct payments in the Amber Box.

The ruling was issued against the background of the ongoing critical agricultural negotiations, the expiration of the peace clause, the more assertive stance taken by the G-20, and the West African sectoral initiative on cotton. The ruling has numerous implications for the WTO and the Doha Development Agenda as well as for developing countries and international institutions (Baffes 2005b):

- As the first case of a developing country challenging an OECD farm subsidy programme in the WTO, it may set a precedent. If further cases follow, there may be a shift in the focus of WTO activities from negotiation to litigation.
- The way to avoid a significant increase in such disputes is to make significant progress in the Doha Development Agenda. Hence, the ruling may help agencies such as the EU Commission and the US Trade Representative's Office confront domestic protectionist lobbies.
- The ruling strengthens the claims of many developing countries that OECD subsidies distort global commodity markets and depress world prices.
- This dispute spotlights the importance of models analyzing the effects of subsidies on world prices and export shares, making model developers more accountable for the analysis. The ruling reveals the importance and weaknesses of current measures of support and the differences in WTO, US, and EU definitions of "decoupled support."

5.2 West African cotton sector initiative

On May 16, 2003, four West African cotton producing countries (Benin, Burkina Faso, Chad, and Mali) submitted a joint proposal to the WTO demanding removal of support to the cotton sector by the United States, China, and the European Union and compensation for damages until full removal of support. The West African countries were aided in this move, often referred to as the "cotton initiative," by IDEAS, a Geneva-based NGO funded by the Swiss government.

The four countries argued that subsidies cost them an estimated US$250 million in export earnings during the 2001/02 marketing season-US$1 billion when the indirect effects of these subsidies were considered (cotton prices averaged US$0.82 a kilogram in October 2001, the lowest since November 1972 with the exception of August 1986). Because the standard WTO remedies (compensation through supplementary concessions or imposition of countervailing duties) were not feasible, the proposal called for "transitional…financial compensation…to offset the injury caused by support of production and export." The compensation would be proportional to the subsidies, declining and ending as the subsidies were reduced

and abolished. The proposal argued that the direct and indirect effects of support for cotton production should be taken into account when determining compensation and that "the unit amount and the total amount of subsidies should be taken into account when dividing the compensation among countries which subsidize production" (WTO, 2003).

The cotton initiative received considerable attention during the Cancùn Ministerial. The Director General of WTO urged ministers to consider the proposal "seriously." While numerous countries were sympathetic, there were doubts whether it would benefit the Doha Development Agenda to treat one commodity differently from others. Furthermore, it soon became apparent that direct compensation was unlikely. The inability to deal effectively with the initiative was one reason for the failure to reach agreement in Cancun.

It was finally determined that while the trade part of the initiative (subsidies) fell within WTO's mandate, the development part (compensation) should be handled by the multilateral institutions in coordination with the concerned governments. To that end, at a WTO-sponsored conference on March 23–24, 2004, in Cotonou, Benin, both bilateral and multilateral donors reaffirmed their willingness to deal with the development part of the cotton initiative (see Table 6 for a detailed timetable of all events related to the cotton initiative).

TABLE 6
Timeline of the "Initiative in Favour of Cotton"

DATE	EVENT	COMMENTS/OUTCOME
July 8-9, 2002 [1]	The ICAC and the World Bank sponsor the conference "Cotton and Global Trade Negotiations" in Washington, D.C.	Cotton policy-related issues were debated by a highly diverse group of participants including representatives from cotton producing countries (both government officials and private sector), civil society organizations, embassies, and international organizations. It is believed that this conference raised awareness regarding the global cotton trade distortions, in turn triggering the so-called "cotton problem".
September 27, 2002 [2]	OXFAM publishes the report "Cultivating Poverty: The Impact of US Cotton Subsidies"	The report was influential because it contrasted poor West African cotton producers with their counterparts in the US. It noted that "US cotton farmers receive more in subsidies than the entire GDP of Burkina Faso … and … three times more in subsidies than the entire USAID budget for Africa's 500 million people."
May 16, 2003 [3]	Benin, Burkina Faso, Chad, and Mali (the 'cotton-4') launch the "Initiative in Favour of Cotton"	The initiative demanded that countries discontinue subsidizing their cotton sectors and until subsidies are removed, nonsubsidizing countries should be compensated accordingly. The initiative was aided by the Geneva-based NGO IDEAS.
September 10-13, 2003 [4]	The cotton initiative becomes an intensely debated and highly controversial topic during the 5th WTO Ministerial in Cancun	The initiative was facilitated by the director general of the WTO who "urged ministers to consider the proposal seriously." Many countries were sympathetic to the initiative. By some accounts, the inability to make progress on the initiative was partially responsible for the failure to reach agreement in Cancun.
March 23-24, 2004 [5]	The WTO sponsors the "African Regional Workshop on Cotton" in Cotonou, Benin	Because of numerous practical difficulties it was decided that the initiative would be dealt with at two levels: development (compensation) and trade (subsidies). The development component was the subject of the Cotonou workshop.
May 31-June 1, 2004 [6]	FAO holds cotton expert consultations in Rome	Key experts from international organizations and the academic community discussed the chief reasons behind the diverse conclusions reached by models that examined the effects of subsidies on the global cotton market.
July 5-6, 2004 [7]	The European Union sponsors the EU-Africa Cotton Forum in Paris	The forum endorsed the EU-Africa Cotton Partnership within the trade and development perspective.

DATE	EVENT	COMMENTS/OUTCOME
August 1, 2004 [8]	The WTO General Council reaches a decision on the frameworks of trade negotiations	According to the decision, all trade-related aspects of cotton will be dealt within the context of agricultural negotiations. The decision also emphasized that the theme should be addressed "ambitiously, expeditiously, and specifically."
November 19, 2004 [9]	The WTO establishes the Sub-Committee on Cotton	The Sub-Committee facilitates exchange of information on "how development assistance could best be used to help recipient countries adjust while also working on reducing trade distortions through the agriculture negotiations." Since then, the sub-Committee has been meeting on a regular basis.
January 28, 2005 [10]	The Development Assistance Committee (DAC) of OECD convenes a Briefing on cotton in Paris	DAC's briefing, "The Development Dimensions of African Cotton," was a follow up of the Cotonou Workshop; it assessed the progress on the development assistance aspects of the cotton initiative. Cotton-4 representatives tabled a specific proposal demanding direct compensation. The proposal did not find support by the donor community.
May 18, 2005 [11]	The IMF and the government of Benin cosponsor a cotton conference in Cotonou	IMF's managing director proposed a four-pronged approach which would include, preserving macroeconomic stability, enhancing cotton production efficiency, eliminating developed countries' cotton subsidies, and protecting the poor during adjustment.
December 13-18, 2005 [12]	WTO holds its 6th Ministerial meeting in Hong Kong	It was agreed that export subsidies will be eliminated by developed countries in 2006 and developed countries will give duty and quota free access for cotton exports from LDCs. Moreover, "trade distorting domestic subsidies for cotton production should be reduced more ambitiously than under whatever general formula …"

Source: Compiled by the author from the following sources:

[1] www.icac.org/meetings/cgtn_conf/documents/english.html

[2] www.oxfam.org/eng/policy_pape.htm

[3] www.wto.org/english/tratop_e/agric_e/negs_bkgrnd20_cotton_e.htm#origins

[4] www.wto.org/english/tratop_e/agric_e/negs_bkgrnd20_cotton_e.htm#origins

[5] www.wto.org/english/news_e/spsp_e/spsp24_e.htm

[6] www.fao.org/es/esc/en/20953/22215/highlight_47647en.html

[7] www.cotton-forum.org/indexflash.html

[8] www.wto.org/english/tratop_e/agric_e/negs_bkgrnd20_cotton_e.htm#origins

[9] www.wto.org/english/tratop_e/agric_e/cotton_subcommittee_e.htm

[10] www.oecd.org/document/26/0,2340,en_2649_37413_34352154_1_1_1_37413,00.html

[11] www.imf.org/external/np/sec/pr/2005/pr05121.htm

[12] www.wto.org/english/thewto_e/minist_e/min05_e/final_text_e.htm.

On August 1, 2004, the WTO General Council reached a decision to proceed with multilateral trade negotiations, emphasizing that the theme should be addressed "ambitiously, expeditiously, and specifically" (WTO, 2004b). The Director General was instructed to consult with international organizations, including the Bretton Woods institutions, the Food and Agriculture Organization, and the International Trade Centre, to direct existing programmes and any additional resources toward development of the economies where cotton is of vital importance. Progress on the "cotton initiative" is being monitored regularly at WTO meetings following the establishment of the sub-committee on cotton (WTO, 2004c).

6. Cotton and the 6th WTO Ministerial in Hong Kong

Cotton received considerable attention during the 6th WTO Ministerial in Hong Kong. Widespread fears that the cotton initiative may contribute to another Cancun-type collapse did not materialize. Consistent with the convention established at the WTO-sponsored Cotonou workshop, the text deals separately with the issue of trade (i.e. subsidies) in paragraph 11 and development (compensation) in paragraph 12 (see Appendix A for cotton text of the declaration). The next two sections elaborate on these two issues.

6.1 Trade (subsidies)

On export subsides, the declaration says that "all forms of export subsidies for cotton will be eliminated by developed countries in 2006". Since the EU does not give any export subsidies, the text is relevant only to the US. As discussed earlier, the two types of exports subsidies given by the US are the export credit guarantees and the Step-2 payment, both of which were found illegal export subsidies by the WTO's Panel. In order to comply with the Panel's ruling, in February 2006 the US announced that it will eliminate export subsidies. Hence, the declaration on export subsidies adds no new commitment. Note that export subsidies represented about 12 percent of total cotton support during 1995-2002.

On market access, the declaration indicates that "developed countries will give duty and quota free access for cotton exports from least-developed countries from the commencement of the implementation period." Again, this text is relevant only to the US since the EU does not impose any border restriction on cotton imports-it would have been relevant to China if it were considered a developed country by the WTO. Although the US applies TRQs on cotton imports, they are largely irrelevant since the US is (and has been always) a net cotton exporter. Therefore, any increase in US cotton imports due to the removal of TRQs is likely to cause minor trade diversion rather than altering the landscape of existing cotton trade patterns. For example, some US textiles may use imported instead of domestically produced cotton while the US cotton they would have used will be exported. Again, as was the case with export subsidies, the market access part of the declaration is unlikely to make any difference in the cotton market.

Finally, on domestic support, the declaration indicates that "… trade distorting subsidies for cotton production should be reduced more ambitiously than under whatever general formula is agreed and that it should be implemented over a shorter period of time than generally applicable." The EU has already reformed its cotton programme - its three key elements are: (i) 65 percent/35 percent decoupled/area payments; (ii) €700 million cap per annum; (iii) duration until 2013-and it appears than none of these elements are likely to change as a result of the declaration.[5] Therefore, the domestic support pillar (as was the case with the other two pillars) is applicable to the US only.

The key issue is whether direct payments are trade distorting support. While the US has placed them in the green box, the WTO Panel ruled that they should have been placed in the amber box because of the prohibition of planting fruits and vegetables on the eligible land. If direct payments are placed in the amber box, then, with the exception of crop insurance, the entire cotton programme should be placed in the amber box and any ambitious reduction has to be calculated over the full outlays of the programme.

However, regardless of the box status of direct payments, the US is under the obligation to reduce its cotton support to levels not exceeding the 1992 outlays. According to the WTO's Panel, the US disbursed US$2.01 billion to its cotton sector during the 1992 marketing year while the average disbursements during the dispute period, 1999-2002, were US$3.22 billion.[6] Therefore, taking as a base the market conditions and subsidy levels experienced during 1999-2002, the U.S. must undertake an almost 40 percent reduction in order to comply with the Panel's ruling. To that, if one adds the commitments to be agreed under the general reduction formula as well as any additional cuts due to "ambitiousness", one would expect a substantial reduction of US cotton subsidies. To what extent this will be the case depends, among other factors, on the 2007 Farm Bill, discussions of which should be well under way during the summer of 2007.

6.2 Development (compensation)

With respect to the development assistance aspects of cotton, the Hong Kong declaration urges the Director-General *"… to further intensify his consultative efforts with bilateral donors and with multilateral and regional institutions, with emphasis on improved coherence, coordination and enhanced implementation and to explore the possibility of establishing through such institutions a mechanism to deal with income declines in the cotton sector … urge Members to promote and support South-South cooperation, including transfer of technology … invite the Director-General to furnish a third Periodic Report to our next Session with updates, … and to set up an appropriate follow-up and monitoring mechanism."* This part of the declaration is consistent with the outcome of the OECD's DAC committee briefing as well as the work of the sub-Committee on Cotton.

[5] It appears that there is (unconfirmed) discussion within the EU to fully decouple cotton support.

One unclear aspect of the declaration, however, is its reference to the possibility of establishing a mechanism (through donor institutions) to deal with income declines in the cotton sector. One of the key points of the Cotonou workshop-unanimously accepted by all donors and later echoed at the DAC briefing-was that no new channels of support will be created. Furthermore, the proposal advanced by the cotton-4 countries during the DAC briefing asking for the creation of a compensation fund was overwhelmingly rejected.

7. Concluding remarks

In some respects, cotton shares similar characteristics with other commodity markets, namely volatile and declining nature of prices and competition from synthetic products. In other respects, however, it differs markedly. For example, despite its low share in world trade-estimated at about 0.12 percent of global merchandize trade-as many as 100 million households depend on that commodity, therefore, the price fluctuations imply that millions of poor households get in or out of poverty.

Policies have certainly affected cotton prices to the detriment of non-subsidized cotton growers. Hence, for good reasons cotton became a central theme during the Doha Development Agenda negotiations. To what extent the Hong Kong Ministerial is a success or a failure is still open to question. However, it is worth mentioning the progress that has taken place of the policy aspects of the cotton market during the last four years (ignoring, for convenience, the actual events that triggered such progress):

- The views of developing countries have indeed been heard in the WTO.
- The EU moved from a price support mechanism based on current production to one which is based on historical production (65 percent) and area (35 percent).
- The US announced that it will remove the export subsidy component of its cotton programme.
- There has been considerable awareness outside the "cotton community" regarding the effects of cotton subsidies. Consider that the leading article of the December 2005 issue of the Business 2.0 magazine (entitled "100 percent Rotten") dealt with cotton, which, in reference to the Step-2 programme, noted "*… [textile firms in the US] could probably import foreign cotton cheaply enough that it might not need the subsidy, just as Apple Computer buys foreign-made memory chips and none worse off*" (Zachary 2005). Such awareness is likely to exert pressure for more reforms, regardless of the Doha outcome.

At this stage, however, it appears that two other aspects of the "cotton problem"-policy reforms in cotton-dependent countries and technology adoption-have received disproportionately less attention. In many developing countries (especially in sub-Saharan Africa but also Central Asia) where cotton is an important source

[6] Figure 4 depicts the US cotton support for the past two decades showing a 1991/92 level of support of US$1.5 billion, US$0.5 billion less than the Panel's figure. The discrepancy may be due to the definition of the period (marketing versus calendar year).

of rural incomes, reform programmes for restructuring the cotton sector to increase its efficiency remain largely incomplete. Fully implementing reforms should be the immediate focus of the policymakers. After all, even if cotton prices increase either as a result of elimination of subsidies or as a result of market forces, it will do no good to poor producers if such increase is absorbed by bankrupt parastatals, debt-ridden cooperatives, or corrupt public officials unwilling to engage in serious reform efforts. Furthermore, serious reform efforts will signal the willingness of these countries to participate in the creation of a conducive global trading environment.

Finally, cotton producers in many developing countries face the challenge of adopting genetically modified seed technology in order to compete effectively with their competitors who are using such technologies and enjoy the cost advantages and yield gains. That, however, would entail extensive field trials to develop varieties suitable to local growing conditions as well as putting in place the appropriate legal and regulatory framework-challenging and time consuming processes requiring attention at a policymaking level.

Appendix A

Cotton Text of the 6th WTO Ministerial Declaration (WT/MIN(05)/W/3/Rev.2)

A1. Main Text (paragraphs 11 and 12, emphasis added)

11. We recall the mandate given by the Members in the Decision adopted by the General Council on 1 August 2004 to address cotton ambitiously, expeditiously and specifically, within the agriculture negotiations in relation to all trade-distorting policies affecting the sector in all three pillars of market access, domestic support and export competition, as specified in the Doha text and the July 2004 Framework text. We note the work already undertaken in the Sub-Committee on Cotton and the proposals made with regard to this matter. Without prejudice to Members' current WTO rights and obligations, including those flowing from actions taken by the Dispute Settlement Body, we reaffirm our commitment to ensure having an explicit decision on cotton within the agriculture negotiations and through the Sub-Committee on Cotton ambitiously, expeditiously and specifically as follows:

- All forms of export subsidies for cotton will be eliminated by developed countries in 2006.
- On **market access**, developed countries will give duty and quota free access for cotton exports from least-developed countries (LDCs) from the commencement of the implementation period.
- [It is recognized that the objective is that, as an outcome for the negotiations, **trade distorting domestic subsidies** for cotton production should be reduced more ambitiously than under whatever general formula is agreed and that it should be implemented over a shorter period of time than generally applicable. We will commit ourselves to give priority in the negotiations to reach such an outcome.]

12. With regard to the development assistance aspects of cotton, we welcome the Consultative Framework process initiated by the Director-General to implement the decisions on these aspects pursuant to paragraph 1.b of the Decision adopted by the General Council on 1 August 2004. We take note of his Periodic Reports and the positive evolution of development assistance noted therein. We urge the Director-General to further intensify his consultative efforts with bilateral donors and with multilateral and regional institutions, with emphasis on improved coherence, coordination and enhanced implementation **and to explore the possibility of establishing through such institutions a mechanism to deal with income declines in the cotton sector**. Noting the importance of achieving enhanced efficiency and competitiveness in the cotton producing process, we urge the development

community to further scale up its cotton-specific assistance and to support the efforts of the Director-General. In this context, we urge Members to promote and support South-South cooperation, including transfer of technology. We welcome the domestic reform efforts by African cotton producers aimed at enhancing productivity and efficiency, and encourage them to deepen this process. We reaffirm the complementarity of the trade policy and development assistance aspects of cotton. We invite the Director-General to furnish a third Periodic Report to our next Session with updates, at appropriate intervals in the meantime, to the General Council, while keeping the Sub-Committee on Cotton fully informed of progress. Finally, as regards follow up and monitoring, we request the Director-General to set up an appropriate follow-up and monitoring mechanism.

A2 Annex A (paragraph 21, emphasis added)

21. While there is genuine recognition of the problem to be addressed and concrete proposals have been made, Members remain at this point short of concrete and specific achievement that would be needed to meet the July Framework direction to address this matter ambitiously, expeditiously and specifically. There is no disagreement with the view that all forms of export subsidies are to be eliminated for cotton although the timing and speed remains to be specified. Proposals to eliminate them immediately or from day one of the implementation period are not at this point shared by all Members. In the case of trade distorting support, proponents seek full elimination with "front-loaded" implementation.* There is a view that the extent to which this can occur, and its timing, can only be determined in the context of an overall agreement. Another view is that there could be at least substantial and front-loaded reduction on cotton specifically from day one of implementation, with the major implementation achieved within twelve months, and the remainder to be completed within a period shorter than the overall implementation period for agriculture.**

* Concrete proposals have been made, with a three-step approach: 80 percent on day one, an additional 10 percent after 12 months and the last 10 percent a year later.

** A Member has indicated that it is prepared to implement all its commitments from day one and, in any case, to autonomously ensure that its commitments on eliminating the most trade-distorting domestic support, eliminating all forms of export subsidies and providing mfn duty- and quota-free access for cotton will take place from 2006.

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9

Cotton developments in West and Central Africa: domestic and trade policy issues and the WTO

John Baffes

1. Introduction

Cotton is an important cash crop to a number of developing countries at both household and national levels. It accounts for more than one quarter of total merchandize exports in many low income countries, especially in West and Central Africa (WCA). For example, it contributes about 50 percent to total merchandize exports in Burkina Faso and about 25 percent in Chad, Benin, and Mali. Moreover, the per capita GDP in most of these "cotton-dependent" countries is well below US$500 (see Table 1).

TABLE 1
Cotton's Importance to WCA Economies (2001-03 averages)

	Cotton Exports				
	Value (US$ millions)	Share of merchandize exports (%)	Share of GDP (%)	Merchandise exports (US$ millions)	Per capita GDP (2000 US$)
Burkina Faso	105	44.6	3.3	235	245
Chad	53	29.4	2.4	182	381
Benin	126	27.7	4.5	455	289
Mali	193	22.7	6.1	849	203
Togo	42	8.9	2.7	467	251
Cameroon	100	4.9	0.9	2,042	619
Côte d'Ivoire	145	2.9	1.2	4,971	632
Senegal	17	1.7	0.3	1,035	475

Source: Food and Agriculture Organization (FAOSTAT) and World Bank (World Development Indicators).

The United Nations Food and Agriculture Organization (FAO) estimated that about 100 million rural households were involved in cotton production worldwide in 2001 (Sarris, 2003). Among the countries in which cotton is an important contributor to rural livelihoods are China, India, and Pakistan - where 45, 10, and 7 million rural households, respectively were engaged in cotton production. In African cotton producing countries, including Nigeria, Benin, Togo, Mali, and Zimbabwe, the number of rural households depending on cotton totalled 6 million. The high dependence on cotton in these countries has important poverty ramifications, especially when large price changes take place.

The cotton market has been subject to considerable support, mainly in the US and to a lesser extent in the EU and China. During 2002 support by major players reached almost US$6 billion, more than one quarter of the global value of production. This support, which coincided with the lowest nominal cotton prices since 1972, brought numerous reactions. Brazil initiated a WTO consultation process claiming losses due to subsidies by the US (WTO, 2002). Four West African cotton producing countries-Benin, Burkina Faso, Chad, and Mali-pressed for removal of support to the cotton sector through the WTO and asked for financial compensation for cotton producing low income countries to offset the injury caused by support (WTO, 2003).

This paper reviews the recent market and policy developments in the global cotton market with particular emphasis on the implications of the 6th WTO ministerial in Hong Kong. To that end, the next section briefly discusses the structure of the global cotton market while section 3 takes a brief look at the cotton sectors of the WCA countries. Section 4 summarizes the cotton policies of major players while section 5 discusses the implications of such policies. Section 6 analyzes the cotton-related part of the Hong Kong declaration. Key conclusions of this paper are that the export subsidy part of the cotton-related text of the declaration is, to some extent, superfluous, since the only export subsidies applicable, the US Step-2 payments and export credit guarantees, had already been declared illegal by the WTO Panel on the Brazil/US cotton dispute case. Similarly, the market access pillar does not add anything new. With respect to domestic support, considering market conditions and subsidy levels of 1999-2002, the US must undertake an almost 40 percent reduction to comply with the Panel's ruling. To that, if one adds the commitments to be agreed under the general reduction formula to be agreed for domestic support and any additional cuts due to "ambitiousness", a substantial reduction of US cotton subsidies should take place. The ultimate outcome will depend, among other factors, on the 2007 US Farm Bill.

2. The global market structure

About three quarters of cotton is produced by developing countries. During the last four decades cotton production has grown at an annual rate of 1.8 percent to reach 24 million tonnes in 2005 from 10.2 million tonnes in 1960 (for the remainder of this paper, cotton refers to cotton lint). Most of this growth came from China and India, which tripled and doubled their production. Other countries that

significantly increased their shares were Greece, Pakistan, and Turkey (see table 2). Some "new entrants" also contributed to this growth. Australia, for example, which produced only 2 000 tonnes of cotton in 1960, currently averages 0.5 million tonnes. Francophone Africa produced less than 100 000 tonnes in the 1960s and now produces ten times as much. The United States and the Central Asian republics, two of the four dominant cotton producers during the 1960s, have maintained their output levels at about the same levels, effectively halving their market shares. A number of Central American countries that accounted for 250 000 tonnes during the 1970s now produce virtually no cotton at all.

TABLE 2
Global balance of the cotton market (thousand tonnes)

	1960	1970	1980	1990	2000	2002	2004	2005
PRODUCTION								
China	1 372	1 995	2 707	4 508	4 417	4 916	6 320	5 769
US	3 147	2 219	2 422	3 376	3 818	3 747	5 062	4 946
India	1 012	909	1 322	1 989	2 380	2 312	4 080	4 250
Pakistan	306	543	714	1 638	1 816	1 736	2 482	2 309
Central Asia	1 491	2 342	2 661	2 593	1 412	1 509	1 737	1 724
Brazil	425	549	623	717	939	848	1 318	1 207
Franc Zone	63	140	224	562	728	952	1 135	1 071
Turkey	192	400	500	655	880	900	900	805
Australia	2	19	99	433	804	386	624	497
Greece	63	110	115	213	421	375	390	380
World	**10 201**	**11 740**	**13 831**	**18 970**	**19 437**	**19 437**	**26 193**	**24 958**
EXPORTS								
US	1 444	848	1 290	1 697	1 472	2 591	3 000	3 215
Central Asia	381	553	876	1 835	1 203	1 172	1 251	1 316
Franc Zone	48	137	185	498	767	833	952	1 092
Australia	0	4	53	329	849	575	420	561
Brazil	152	220	21	167	68	170	360	425
Greece	33	0	13	86	244	275	263	283
India	53	34	140	255	24	17	175	275
Syria	97	134	71	91	212	120	152	150
Egypt	346	304	162	18	79	150	140	125
Tanzania	34	66	36	40	39	41	88	99
World	**3 667**	**3 875**	**4 414**	**5 081**	**5 857**	**6 618**	**7 542**	**8 270**

Notes: Bangladesh is included in Pakistan prior to (and including) 1970. Franc Zone includes Benin, Burkina Faso, Cameroon, Central Africa Republic, Chad, Côte d'Ivoire, Guinea, Madagascar, Mali, Niger, Senegal, and Togo. Central Asia includes Uzbekistan, Turkmenistan, Tajikistan, Kazakhstan, Azerbaijan, and Kyrgyzstan.

Source: International Cotton Advisory Committee, Cotton: Review of the World Situation, various issues.

More than one quarter of the area allocated to cotton is currently under genetically modified (GM) varieties, accounting for almost 40 percent of world production. GM cotton in the US-where it was first introduced in 1996-currently accounts for about 80 percent of the area allocated to cotton. Other major GM cotton producers are Argentina (70 percent of cotton area), Australia (80 percent), China (60 percent), Colombia (35 percent), India (10 percent), Mexico (40 percent), and South Africa (90 percent). Countries that are at a trial stage include Brazil, Burkina Faso (the only SSA country), Israel, Pakistan, and Turkey (Cotton Outlook, 2005).

Although the last decade has witnessed the expansion of organic products, cotton has not enjoyed much success. For example, global organic cotton production during 2004/05 was 25 400 tonnes, about 0.1 percent of world cotton production (Chaudhry and Wakelyn, 2006). Organic cotton production was introduced in the US in 1990/91, when 330 tonnes of organic cotton was produced. Following a peak of 7 425 tonnes in 1995/96, the US now produces less than 2 000 tonnes. Currently, the world's two major organic cotton producers are India and Turkey, which together account for two thirds of global organic cotton production.

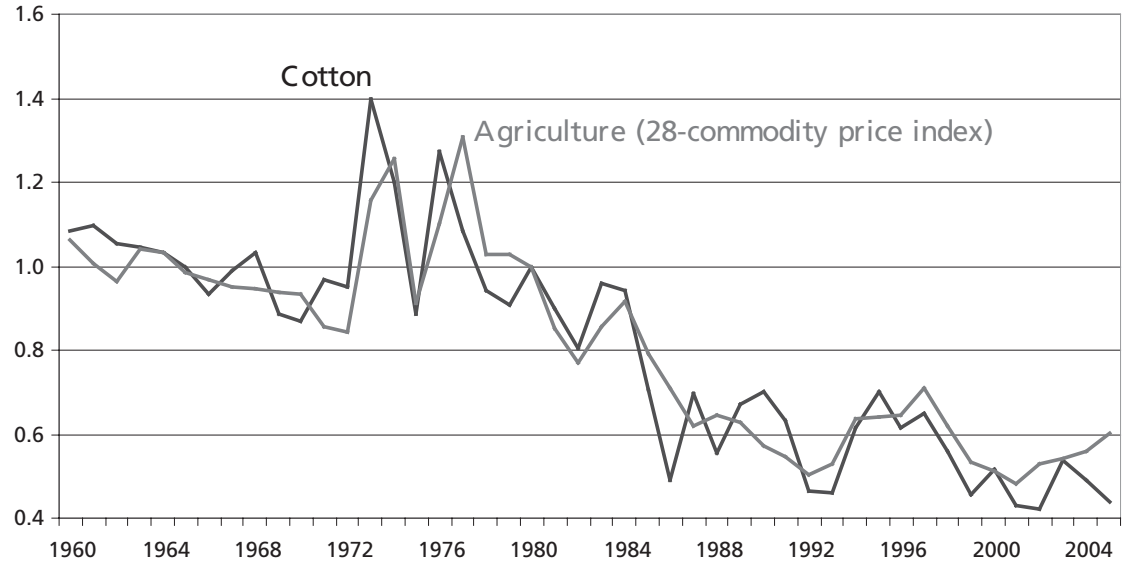
The consumption pattern of cotton is determined by the size of the textile industries of the dominant cotton consumers. China, the leading textile producer, currently consumes more than one-third of global cotton output. Other major textile producers are India, Pakistan, Turkey, and the United States, which together with China account for more than three-quarters of global cotton consumption. Several East Asian countries have emerged as important cotton consumers. For example, Indonesia, the Republic of Korea, Taiwan, and Thailand, which together consumed 130 000 tonnes in 1960 (1.2 percent of world consumption), absorbed more than 1.5 million tonnes in 2005 (6.5 percent of world consumption).

Between 1960 and 2005, global cotton demand has grown at the same rate as population (about 1.8 percent per annum) implying that per capita cotton consumption has remained almost stagnant at about 3.5 kilograms. By contrast, consumption of chemical fibres, which compete with cotton, has increased consistently over the last 50 years by 2.2 percent per annum, causing cotton's share in total fibre consumption to decline from 60 percent in 1960 to 40 percent in 2002.[1] One-third of cotton production is traded internationally. The three dominant exporters-the United States, Central Asia, and Francophone Africa-account for more than two-thirds of global trade exports. Currently, the 10 largest importers account for more than 70 percent of global cotton trade. Three major producers-China, Turkey and Pakistan - also import cotton to supply their textile industries. The four East Asian textile producers-Indonesia, Thailand, Taiwan, and the Republic of Korea - accounted for 22 percent of world cotton imports in 2002, compared to just 3 percent in 1960. To summarize, there has been an increased concentration of cotton use in (and hence trade flows to) Asian countries, not surprisingly since this is the region with the highest concentration of chemical fibre and garment industries.

[1] More detailed statistics along with methods of deriving them can be found in Baffes (2004).

Real cotton prices have declined over the last two centuries, although with temporary spikes. The reasons for the long-term decline are similar to those characterizing most primary commodities: on the supply side reduced production costs due to technological improvements and on the demand side stagnant per capita consumption and competition from synthetic products. Between 1960–64 and 1999–2003 real cotton prices fell by 55 percent, remarkably similar to the 50 percent decline in the broad agriculture price index of 28 commodities (figure 1). Reductions in the costs of production have been associated primarily with yields increases from 300 kilograms per hectare in the early 1960s to 700 kilograms per hectare in 2005 (a 1.8 percent annual increase).[2] The phenomenal growth in yield has been aided primarily by the introduction of improved cotton varieties, expansion of irrigation and use of chemicals and fertilizers. Additional diffusion of GM technology along with precision farming introduced during the 1990s, are expected to further reduce the costs of production. Technological improvements have also taken place in the textile industry, so that the same quality of fabric can now be produced with lower quality cotton, a trend that has taken place in many other industries whose main input is a primary commodity.

FIGURE 1
Real Price Indices (1960-2005, 1980=1.0)



Source: World Bank, Commodity Price Data

[2] It is worth elaborating on one interesting statistic. During the last 50 years, cotton production (and consumption), yields, and population have grown at approximately the same annual rate: 1.8 percent, which implies that, roughly speaking, the cotton-related clothing needs of the earth's increasing population are met by yield increases alone.

In addition to their declining pattern, cotton prices have been volatile, a phenomenon very common among most primary commodities (Deaton 1999, Cashin and McDermott, 2001). The degree of volatility, however, has changed considerably during the last 40 years. Various measures of price volatility calculated by Baffes (2005a) consistently show that cotton prices during 1985-2002 were at least twice as volatile compared to 1960-72, but half as volatile compared to 1973-84. This conclusion is similar to findings by Valdès and Foster (2003) who looked at price variability of corn, rice, sugar, and wheat as well as findings by Sarris (2000) who examined intra- and inter-year price variability of wheat and maize. Real cotton prices during these three periods have experienced an annual decline of 1.5, 3.2, and 1.5 percent respectively. Therefore, not only prices have been twice as volatile in 1985-2002 compared to 1973-84, but also they have declined twice as fast. In a more recent study, Pan and Valderrama (2005) compared the price variability of 22 primary commodities and concluded that during the past four years, 17 commodities exhibited more price variability than cotton. Similarly, Gilbert (2006) ranked 21 commodities according to their volatility and found cotton to be somewhere in the middle. Therefore, from a global market perspective, the cotton market is not that different from other agricultural commodities.

3. Cotton in Francophone Africa

The cotton industry in Francophone Africa was pioneered by the French state-owned Compagnie Française de Développement des Fibres Textiles (CFDT), along with various national cotton companies. These companies had a legal monopsony in cotton, and most had a monopoly on primary processing, marketing, and supplying inputs. They would announce a base buying price before planting, sometimes supplementing that price with a second payment (payable the following season) based on the company's financial health. Cotton growing expanded rapidly, from 225 000 tonnes in 1980 to one million tonnes two decades later (see Table 3). Growers used inputs well adapted to local conditions to produce high yields of cotton of consistent quality (Lele *et al.* 1989).

TABLE 3
Cotton production in WCA countries (thousand tonnes)

	1970	1980	1990	2000	2002	2004	2005
Burkina Faso	8	23	77	116	170	263	275
Mali	20	41	115	102	182	175	250
Benin	14	6	59	141	143	175	140
Côte d'Ivoire	12	56	116	125	172	145	119
Cameroon	14	32	47	79	95	124	112
Chad	35	31	60	58	77	80	72
Togo	2	10	41	56	77	75	70
Senegal	-	7	18	9	16	18	20
Franc Zone	**140**	**224**	**562**	**728**	**954**	**1 135**	**1 071**
WORLD	**11 740**	**13 831**	**18 970**	**19 437**	**19 294**	**26 204**	**24 110**
% of World	**1.2**	**1.6**	**3.0**	**3.7**	**4.9**	**4.3**	**4.4**

Notes: The total for Franc Zone includes small quantities of cotton produced by Central Africa Republic, Guinea, Madagascar, and Niger.

Source: International Cotton Advisory Committee, *Cotton: Review of the World Situation*, various issues.

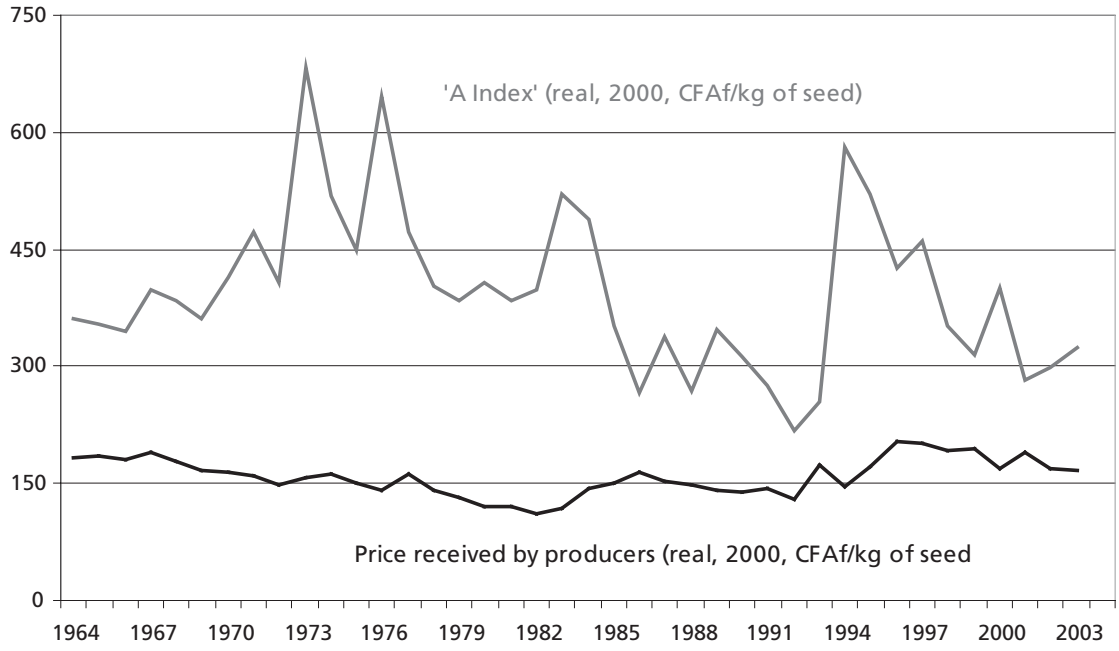
Despite apparent successes, the system exhibited several weaknesses. Prices to producers were very low, often less than 50 percent of border prices (see Table 4). Furthermore, the correlation between domestic and world prices is practically non-existent, indicating that in addition to the high implicit taxation, there was no transmission of world price signals to the domestic markets as shown by a number of regression models (not reported here). As an example, Figure 2 depicts the domestic and world price of cotton for Burkina Faso.

TABLE 4
Prices received by WCA cotton growers (Percent of the 'A Index')

	1980-84	1985-89	1990-94	1995-99	2000-04
Burkina Faso	28	49	50	49	58
Mali	31	46	49	45	61
Benin	35	53	51	54	60
Chad	30	50	46	49	48
Côte d'Ivoire	38	58	53	52	57
Cameroon	43	68	53	47	53
Togo	30	51	53	52	55
Senegal	29	50	55	49	54
Average	**33**	**53**	**51**	**50**	**56**

Notes: The share is calculated as the ratio of the price received by cotton growers over the 'A Index' converted into domestic currency by using the IMF (International Financial Statistics) annual average CFAf/$ exchange rate and adjusted to cotton seed equivalent by using 0.42 ginning ratio (except Mali where the ginning ration was the actual one). The resulting figures were averaged over the periods reported in this table; the average reported in the last raw is the arithmetic average over the 8 countries.

FIGURE 2
Burkina Faso-domestic and world price



The absence of competition in domestic markets and the involvement of the state cotton companies in the provision of services allowed costly operating inefficiencies to develop, absorbing a large share of export prices. Uniform pricing of cotton and farm inputs across all areas of a country meant that transport costs were not properly taken into account in decisions about where to grow cotton. Finally, the system did not respond flexibly to changes in world market conditions. For example, in the mid-1980s and early 1990s low world prices and an overvalued currency led to the de facto bankruptcy of a number of state cotton companies. The companies had to be supported by injections of funds from national governments and the donor community.

During the past several years, in conjunction with the Agence Française de Développement (AFD), the donor community has held intensive discussions with the governments and other stakeholders in West and Central Africa, including state cotton enterprises, CFDT, and input suppliers (Baffes, 2000). Some recent reforms in Francophone Africa point to the future direction of institutional changes in the region's cotton sector (Badiane *et al.* 2002; Goreux, 2004). In Burkina Faso the reform process has advanced relatively well. Producers acquired one third of SOFITEX's (the cotton company) shares in 1999; more recently a private company acquired another third, while the remaining third remains with the state. In Côte d'Ivoire, the state cotton company was split into three private companies of comparable size in 1998; following a two-year transition period, the two new private companies began operating independently. However, the direction of the reform process in Côte d'Ivoire is less clear due to the civil conflict.

The cotton sector in Benin is currently passing through a transitional phase to liberalization. In the 1990s, the government licensed several private ginners who now make up about 48 percent of the country's ginning capacity. SONAPRA, the cotton parastatal owns the remaining 52 percent capacity. While the system has proven to be workable (with the highest cotton production in Benin's history, 415 000 tonnes of seed cotton, obtained when the system was in its second year), serious aberrations have come up over the last two years. Some actors have not been respecting the rules as laid down when the producer organizations were created. These aberrations threaten the success of the reform programme if no action is taken.

Some noticeable efforts are being made to reform the cotton sector in Mali, following the near-bankruptcy of the state cotton company a few years ago. The government, however, has stepped back form its commitment to implement the sector reform programme and, as it currently appears, not much progress is expected to take place until 2007.

Progress on cotton reforms in Chad has been somewhat limited by the fiscal difficulties of Cotontchad, the publicly-owned company that handles all cotton-related activities, and the lack of ownership of reform by the government. Although the government of Chad had decided to disengage from the cotton sector in 1999, so far it has failed to take the necessary steps to move in this direction. Furthermore, the decision by the government of Chad to breach a loan agreement with the World Bank-which, in turn, has temporarily suspended all loan activities to Chad-adds further uncertainty to direction of the cotton sector.

4. Cotton policies by major players

Cotton has been subject to various interventions that mostly take the form of domestic support (taxpayer-financed support). In contrast, two thirds of the support given to OECD commodity producers takes the form of border measures (i.e. consumer-financed support). During 2004/05, government assistance to US cotton producers reached US$4.2 billion, China's totaled US$1.1 billion, and the EU provided almost US$1 billion (Table 5).[3]

TABLE 5
Estimated assistance to cotton growers (million US$)

	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05
US	1 132	1 882	3 809	1 868	3 307	2 889	1 372	4 245
China	2 013	2 648	1 534	1 900	1 217	800	1 303	1 145
EU	870	864	795	706	980	957	994	1 066

Source: International Cotton Advisory Committee; US Department of Agriculture; European Union.

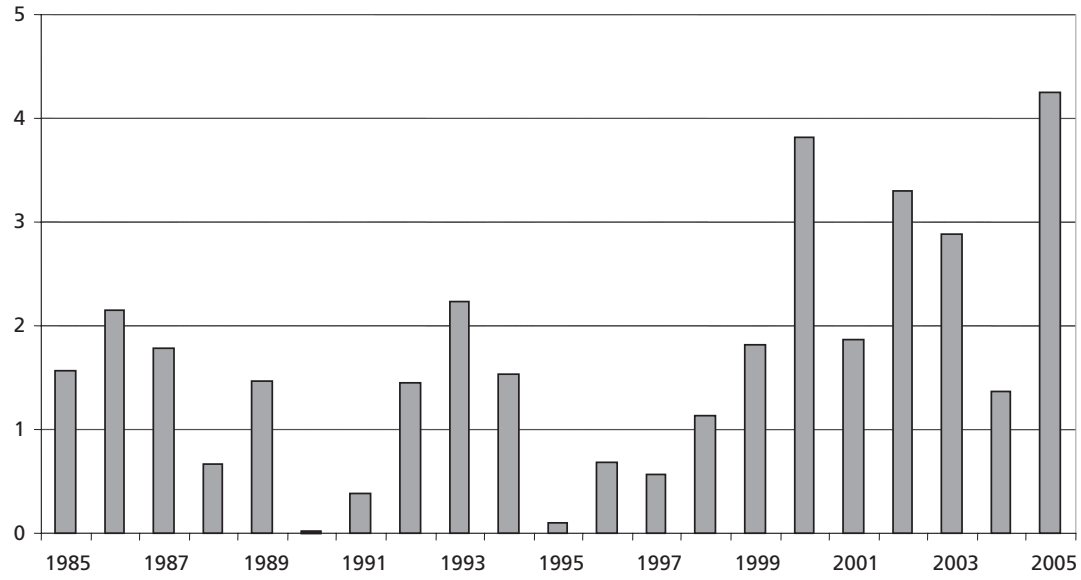
[3] A commonly used source of data on agricultural support is OECD's annual monitoring report of agricultural policies; however, the OECD monitor does not report government assistance to the cotton sectors as a separate entity. The data on cotton subsidies reported in this paper (and elsewhere) originate either from ICAC or from country sources.

4.1 United States

Cotton subsidies in the United States have a long history dating from the commodity programs of the Great Depression. The specific provisions of these programmes, including the one for cotton, change with each "Farm Bill" passed by the Congress (Farm Bills are introduced approximately every 4 to 5 years), but their chief objective has remained largely unchanged: to transfer income from taxpayers (and to some extent consumers) to producers. The main channels of support to US cotton producers are price-based payments, decoupled payments, crop insurance, and countercyclical payments. US cotton users and exporters also receive some support.

- *Price-based payments* (also known as loan rate payments) are designed to compensate cotton growers for the difference between the market price and the target price when the latter exceeds the former.
- *Decoupled payments* (renamed direct payments in the 2002 Farm Bill) are predetermined annual payments calculated on the basis of area historically used for cotton production. Direct payments were introduced with the 1996 Farm Bill to compensate producers for "losses" following the elimination of deficiency payments.
- *Crop insurance* is subsidy to weather-related crop failures.
- *Countercyclical payments* were introduced in 1998 (as "emergency payments") to compensate producers for income "lost" due to low commodity prices. They were made permanent under the 2002 Farm Bill.
- *Step2- payments* (also referred to as export subsidies) made to cotton exporters and domestic end-users when domestic prices exceed world prices, so that U.S. exporters maintain their competitiveness.
- *Export credit guarantees* which insure importers of US cotton against potential defaults.

FIGURE 3
Assistance to US cotton growers (FY85-05), $ billion)



Source: United States Department of Agriculture.

In addition to these transfers there are other publicly funded programme - among them research and extension services and subsidized irrigation. The US cotton programme, which has been subject to review by the US General Accounting Office twice (1990 and 1995), was (and still is) very complex and expensive. Perhaps the best summary of the programme's complexity and costs was given by the 1995 GAO audit report (p. 3):

> *The cotton program has evolved over the past 60 years into a costly, complex maze of domestic and international price supports that benefit producers at great cost to the government and society. From 1986 through 1993, the cotton program's costs totaled US$12 billion, an average of US$1.5 billion a year. Moreover, the program is very complex, with dozens of key factors that interact and counteract to determine price, acreage, and payments and to restrict imports. The severe economic conditions and many of the motivations that led to the cotton program in the 1930s no longer exist … The [U.S.] Congress could, for example, reduce or phase out payments over a number of years, perhaps over the life of the next [1996] farm bill.*

4.2 European Union

During the 1960s and 1970s Greece and Spain together were producing 130 000 tonnes of cotton. Following their accession to the European Union, cotton growers in these two countries became eligible for Common Agricultural Policy funds causing cotton production to grow by an annual average of 7.3 percent, to exceed 400 000 tonnes during the 1990s. Support to cotton producers was based on the difference between the market price and a support price. The policy also influenced the quantity produced by specifying a maximum for which assistance will be provided-the equivalent of 255 000 tonnes for Greece and 82 000 tonnes for Spain.

During the past 10 years, the budgetary expenditure on the cotton sector ranged between US$0.7 and US$1.0 billion, implying that, on average, EU cotton producers received more than twice the world price of cotton. EU cotton producers receive support even in periods of high prices, since the budgetary allocation to the cotton sector must be disbursed. For example, EU cotton producers received approximately the same level of support in 1995 and 2002, although cotton prices in 1995 were twice the level of 2002.

The EU has implemented a number of adjustments to its cotton programme including the 1999 reform which effectively imposed a cap on the budgetary expenditures allocated to the industry (European Commission, 2000) A major reinstrumentation of the EU cotton programme was undertaken under the Luxembourg Council's decision of April 22, 2004, which was based on the September 2003 proposal. Under the new programme, an estimated €700 million will fund two support measures, with 65 percent of the support taking the form of a single decoupled payment and the remaining 35 percent taking the form of an area payment (European Commission, 2003). Eligibility for the decoupled payment is limited to growers who produced cotton during the 3-year period 1999-2001. The area payment will be given for a maximum area of 380 000 hectares in Greece, 85 000 hectares in Spain, and 360 hectares in Portugal and will be proportionately reduced if claims exceed the maximum area allocated to each country. To receive decoupled payments, cotton growers must keep the land in good agricultural use. To receive area payments they must plant (not necessarily produce) cotton. Karagiannis (2004) estimated that the recent decoupling is likely to reduce EU cotton production by 10 to 25 percent (depending on the elasticity assumption.)

4.3 China

China's cotton sector became fully government controlled in 1953 following the introduction of the first five-year plan (Zhong and Fang, 2003). The central planning policies adopted then were similar to those of the Soviet Union and remained in place for the next 35 years. The central government set production targets and procurement quotas (all primary processing facilities were owned by cooperatives). Some changes took place in 1978 when the government substantially raised the price of cotton and supplied more fertilizer. Market-oriented reforms were introduced in 1980 when the communal production system was partially abolished and individual farmers were given land use rights. Cotton production increased considerably in response to both the 1978 and the 1980 policy changes.

Currently, China intervenes in its cotton sector through price support measures (a reference price typically set above world prices), subsidies to transportation and marketing, and public stockholding. China also imposes a one percent tariff on cotton imports up to 0.894 million tonnes while the bound tariff outside the TRQ is 40 percent. (for a detailed discussion of China's TRQ system see Gruère and Guitchounts (2005). In reality, however, China applied the same one percent tariff on all cotton imports exceeding the TRQ during 2004 (Ke 2006). The International Cotton Advisory Committee estimates that support to the cotton sector from 1997 to

2004 ranged from US$0.8 billion to US$2.0 billion. Huang, Rozelle, and Chang (2004) estimate that in 2001 the nominal rate of protection for cotton averaged 17 percent.[4]

In 1999 the government announced reform measures that included creating a cotton exchange to facilitate domestic trading, reducing prices paid to producers, and lowering stocks. In September 2001 further reforms were announced. First, the internal cotton market was open to cross-regional trade. Second, various enterprises were allowed to buy cotton directly from producers with the approval of the provincial government. Third, primary processing operations were separated from marketing cooperatives, in effect making them commercial enterprises.

To some extent the reform efforts have achieved their stated objectives. China currently operates a cotton exchange that trades future contracts (Shuhua, 2003). Its publicly held stocks declined from 3.5 million tonnes in the two-year period 1998–99 to 1.25 million tonnes in 2004–05. According to ICAC figures, estimated support to the cotton sector declined from US$2.1 billion to US$1.2 billion between the two periods-cotton prices during these two periods averaged US$1.31 and US$1.29 a kilogram.) Furthermore, as mentioned earlier, the import quota has been extended when necessary in order to meet domestic demand requirements.

5. Implications of cotton policies

Numerous models have evaluated the impact of cotton policies on the cotton market with considerable variation in the results. The International Cotton Advisory Committee, for example, concluded that in the absence of direct subsidies, average cotton prices during the 2000/01 season would have been 30 percent higher than what they actually were (ICAC 2002). The study, which was based on a short run partial equilibrium model, did acknowledge that while removal of subsidies would result in lower production in the countries which receive them (and hence higher prices in the short term), such impact would be partially offset by shifting production to non-subsidizing countries in the medium to longer terms. Goreux (2004), who extended the ICAC model by replacing the base year with 1998-2002 average subsidies, estimated that in the absence of support the world price of cotton would have been between 3 and 13 percent higher in these five years, depending on the value of demand and supply elasticities. Gilson *et al.* (2004) using subsidy data for 1999 and a model similar to that of Goreux (2004), estimated that removal of subsidies by the US, EU, and China would increase the world price of cotton by 18 percent.

[4] However, it should be noted that not all researchers and analysts agree that China subsidizes its cotton. Fang and Beghin (2003), for example, estimated that between 1997 and 2000 the nominal protection coefficient for cotton averaged 0.80, implying that China taxes its cotton sector. More recently, Shui (2005, p. 2) wrote that "… results suggested clearly that after 1999 all agents along the cotton supply chain [in China] received no financial assistance from the government but rather paid taxes and fees to the government." The different views on the nature and degree of intervention reflect the complexities of China's agricultural policies as well as the unreliability of the data.

Reeves *et al.* (2001) used a Computable General Equilibrium model and found that removal of production and export subsidies by the US and the EU will induce a 20 percent reduction in US cotton production, a 50 percent reduction in US cotton exports, with much higher figures for the EU. They also estimated that if support was not in place, world cotton prices would be 10.7 percent higher compared to their 2001/02 levels. Simulations from a model developed by the Food and Agriculture Policy Research Institute (FAPRI, 2002) found that under global liberalization (i.e., removal of trade barriers and domestic support of all commodity sectors including cotton), the world cotton price would increase over the baseline scenario by an average of 12.7 percent over a 10-year period. Based largely on FAPRI's data and assumptions, Sumner (2003) estimated that had all US cotton subsidies not been in place during the marketing years 1999-2002, the world price of cotton would have been almost 13 percent higher (see Figure 3 for nominal cotton prices during the past two decades). Anderson and Valenzuela (2006) also estimated that, in the absence of all cotton subsidies world prices would have been 12.9 percent higher.

Based on a partial equilibrium model, Tokarick (2003) finds that multilateral trade liberalization in all agricultural markets (including cotton) would induce a 2.8 percent increase in the world price of cotton and a US$95 million annual increase in welfare. Poonyth *et al.* (2004) and others estimate that removal of cotton subsidies-as reported in the WTO notifications-would increase the world price of cotton between 3.1 percent and 4.8 percent, depending on assumptions about demand and supply elasticities. In contrast, Shepherd (2004) and Pan *et al.* (2004) and others find a negligible impact of subsidies on the world price of cotton.

The highly divergent results for these models reflect in part the structure of the models and the assumed elasticities. Several other factors also influence the results. The reasons behind the highly divergent results of cotton models were the subject of an FAO experts' consultation (FAO, 2004). First, there are differences in the level and structure of support. For example, some models incorporate China's support to its cotton sector and model its removal; others do not. Second, there are differences in the underlying scenarios. Some models assume liberalization in all commodity markets while others assume liberalization only in the cotton sector. Third, the models use different base years and hence different levels of subsidies. For example, support in the US was three times as high in 1999 as in 1997. Setting all the differences aside, however a simple average over all models shows that world cotton prices would have been about 10 percent higher without support. Applying a simple average to the Francophone Africa cotton producing countries shows that these countries lost approximately US$150 million annually in export earnings due to the subsidies.

Not all models report results on the gainers and losers from the removal of cotton subsidies. In that respect the most complete analysis is offered by the FAPRI model, which finds the largest gains in trade for Africa, with an expected average increase in exports of 12.6 percent. Exports increase by 6.0 percent for Uzbekistan and by 2.7 percent for Australia, while exports from the United States decline by 3.5 percent. The most dramatic impact is on the production side. The European Union's cotton

output would decline by more than 70 percent-not a complete surprise considering that the European Union's cotton output during the late 1990s was three times higher than it was before Greece and Spain joined.

Two important WTO-related developments have take place in response to the high cotton subsidies: The Brazil *vs.* US cotton case (case DS 267) and the request by four WCA cotton producing countries-the so-called cotton-4-that cotton subsidies should be removed and until such removal takes place, the cotton-4 should be compensated accordingly. The remaining of this section elaborates on these developments.

5.1 Brazil vs the United States

On September 27, 2002, Brazil requested consultation with the United States regarding U.S. subsidies to cotton producers. On March 18, 2003, the Dispute Settlement Body of the WTO established a panel to examine the issues, and on April 26, 2004, the WTO issued an interim ruling in favor of Brazil. The final ruling (issued on September 8, 2004) concluded that "the United States is under the obligation to take appropriate steps to remove the adverse effects or … withdraw the subsidy" (WTO, 2004a).

Brazil argued that U.S. cotton subsidies were inconsistent with provisions of the Agreement on Subsidies and Countervailing Measures, the Agreement on Agriculture, and the General Agreement on Tariffs and Trade 1994 and were causing "serious prejudice to the interests of Brazil" because of a "significant price depression and price suppression" (WTO, 2002). Brazil's main claims along with the Panels' findings can be summarized as follows (Schnepf, 2004):

- The United States provided domestic support to its cotton sector during 1999–2002 in excess of the support decided during the 1992 marketing year under the peace clause (article 13) of the Agreement on Agriculture. The Panel found that indeed, the US exceeded WTO commitments during the 1992 marketing year.
- Export subsidies (the so-called step-2 payments) violated the Agreement on Agriculture. The Panel considered the domestic part of the step-2 separate from its export component and found that the former is prohibited import substitution subsidy while the latter prohibited export subsidy.
- The export credit guarantees function as export subsidies. The Panel found that indeed, they act as subsidies since the financial benefits do not cover the cost of the programme.
- The direct payments should have been placed under the WTO's *Amber Box* category (disciplined support) instead of the *Green Box* category (undisciplined support). The Panel found that these payments should have been placed in the *Amber Box* because of the prohibition on planting fruits and vegetables.
- Subsidies have caused "serious prejudice." The Panel found that because the domestic support measures are contingent on market prices have cause serious prejudice in terms market price suppression during 1999-2002.

Using the econometric model developed by FAPRI, Brazil claimed that the U.S. subsidies induced a 41 percent increase in US cotton exports, reducing the world price of cotton by 12.6 percent and causing an estimated injury to Brazil of more than US$600 million for 2001 alone. The United States appealed the case but the original ruling remained by and large intact. In February 2006, the US announced that it would eliminate the export subsidies. However, it remains unclear what, if any, steps it will take regarding containing the overall level of subsidies and declaring direct payments in the Amber Box.

The ruling was issued against the background of the ongoing critical agricultural negotiations, the expiration of the peace clause, the more assertive stance taken by the G-20, and the West African sectoral initiative on cotton. The ruling has numerous implications for the WTO and the Doha Development Agenda as well as for developing countries and international institutions (Baffes 2005b):

- As the first case of a developing country challenging an OECD farm subsidy programme in the WTO, it may set a precedent. If further cases follow, there may be a shift in the focus of WTO activities from negotiation to litigation.
- The way to avoid a significant increase in such disputes is to make significant progress in the Doha Development Agenda. Hence, the ruling may help agencies such as the EU Commission and the US Trade Representative's Office confront domestic protectionist lobbies.
- The ruling strengthens the claims of many developing countries that OECD subsidies distort global commodity markets and depress world prices.
- This dispute spotlights the importance of models analyzing the effects of subsidies on world prices and export shares, making model developers more accountable for the analysis. The ruling reveals the importance and weaknesses of current measures of support and the differences in WTO, US, and EU definitions of "decoupled support."

5.2 West African cotton sector initiative

On May 16, 2003, four West African cotton producing countries (Benin, Burkina Faso, Chad, and Mali) submitted a joint proposal to the WTO demanding removal of support to the cotton sector by the United States, China, and the European Union and compensation for damages until full removal of support. The West African countries were aided in this move, often referred to as the "cotton initiative," by IDEAS, a Geneva-based NGO funded by the Swiss government.

The four countries argued that subsidies cost them an estimated US$250 million in export earnings during the 2001/02 marketing season-US$1 billion when the indirect effects of these subsidies were considered (cotton prices averaged US$0.82 a kilogram in October 2001, the lowest since November 1972 with the exception of August 1986). Because the standard WTO remedies (compensation through supplementary concessions or imposition of countervailing duties) were not feasible, the proposal called for "transitional…financial compensation…to offset the injury caused by support of production and export." The compensation would be proportional to the subsidies, declining and ending as the subsidies were reduced

and abolished. The proposal argued that the direct and indirect effects of support for cotton production should be taken into account when determining compensation and that "the unit amount and the total amount of subsidies should be taken into account when dividing the compensation among countries which subsidize production" (WTO, 2003).

The cotton initiative received considerable attention during the Cancùn Ministerial. The Director General of WTO urged ministers to consider the proposal "seriously." While numerous countries were sympathetic, there were doubts whether it would benefit the Doha Development Agenda to treat one commodity differently from others. Furthermore, it soon became apparent that direct compensation was unlikely. The inability to deal effectively with the initiative was one reason for the failure to reach agreement in Cancun.

It was finally determined that while the trade part of the initiative (subsidies) fell within WTO's mandate, the development part (compensation) should be handled by the multilateral institutions in coordination with the concerned governments. To that end, at a WTO-sponsored conference on March 23–24, 2004, in Cotonou, Benin, both bilateral and multilateral donors reaffirmed their willingness to deal with the development part of the cotton initiative (see Table 6 for a detailed timetable of all events related to the cotton initiative).

TABLE 6
Timeline of the "Initiative in Favour of Cotton"

DATE	EVENT	COMMENTS/OUTCOME
July 8-9, 2002 [1]	The ICAC and the World Bank sponsor the conference "Cotton and Global Trade Negotiations" in Washington, D.C.	Cotton policy-related issues were debated by a highly diverse group of participants including representatives from cotton producing countries (both government officials and private sector), civil society organizations, embassies, and international organizations. It is believed that this conference raised awareness regarding the global cotton trade distortions, in turn triggering the so-called "cotton problem".
September 27, 2002 [2]	OXFAM publishes the report "Cultivating Poverty: The Impact of US Cotton Subsidies"	The report was influential because it contrasted poor West African cotton producers with their counterparts in the US. It noted that "US cotton farmers receive more in subsidies than the entire GDP of Burkina Faso … and … three times more in subsidies than the entire USAID budget for Africa's 500 million people."
May 16, 2003 [3]	Benin, Burkina Faso, Chad, and Mali (the 'cotton-4') launch the "Initiative in Favour of Cotton"	The initiative demanded that countries discontinue subsidizing their cotton sectors and until subsidies are removed, nonsubsidizing countries should be compensated accordingly. The initiative was aided by the Geneva-based NGO IDEAS.
September 10-13, 2003 [4]	The cotton initiative becomes an intensely debated and highly controversial topic during the 5th WTO Ministerial in Cancun	The initiative was facilitated by the director general of the WTO who "urged ministers to consider the proposal seriously." Many countries were sympathetic to the initiative. By some accounts, the inability to make progress on the initiative was partially responsible for the failure to reach agreement in Cancun.
March 23-24, 2004 [5]	The WTO sponsors the "African Regional Workshop on Cotton" in Cotonou, Benin	Because of numerous practical difficulties it was decided that the initiative would be dealt with at two levels: development (compensation) and trade (subsidies). The development component was the subject of the Cotonou workshop.
May 31-June 1, 2004 [6]	FAO holds cotton expert consultations in Rome	Key experts from international organizations and the academic community discussed the chief reasons behind the diverse conclusions reached by models that examined the effects of subsidies on the global cotton market.
July 5-6, 2004 [7]	The European Union sponsors the EU-Africa Cotton Forum in Paris	The forum endorsed the EU-Africa Cotton Partnership within the trade and development perspective.

DATE	EVENT	COMMENTS/OUTCOME
August 1, 2004 [8]	The WTO General Council reaches a decision on the frameworks of trade negotiations	According to the decision, all trade-related aspects of cotton will be dealt within the context of agricultural negotiations. The decision also emphasized that the theme should be addressed "ambitiously, expeditiously, and specifically."
November 19, 2004 [9]	The WTO establishes the Sub-Committee on Cotton	The Sub-Committee facilitates exchange of information on "how development assistance could best be used to help recipient countries adjust while also working on reducing trade distortions through the agriculture negotiations." Since then, the sub-Committee has been meeting on a regular basis.
January 28, 2005 [10]	The Development Assistance Committee (DAC) of OECD convenes a Briefing on cotton in Paris	DAC's briefing, "The Development Dimensions of African Cotton," was a follow up of the Cotonou Workshop; it assessed the progress on the development assistance aspects of the cotton initiative. Cotton-4 representatives tabled a specific proposal demanding direct compensation. The proposal did not find support by the donor community.
May 18, 2005 [11]	The IMF and the government of Benin cosponsor a cotton conference in Cotonou	IMF's managing director proposed a four-pronged approach which would include, preserving macroeconomic stability, enhancing cotton production efficiency, eliminating developed countries' cotton subsidies, and protecting the poor during adjustment.
December 13-18, 2005 [12]	WTO holds its 6th Ministerial meeting in Hong Kong	It was agreed that export subsidies will be eliminated by developed countries in 2006 and developed countries will give duty and quota free access for cotton exports from LDCs. Moreover, "trade distorting domestic subsidies for cotton production should be reduced more ambitiously than under whatever general formula …"

Source: Compiled by the author from the following sources:

[1] www.icac.org/meetings/cgtn_conf/documents/english.html

[2] www.oxfam.org/eng/policy_pape.htm

[3] www.wto.org/english/tratop_e/agric_e/negs_bkgrnd20_cotton_e.htm#origins

[4] www.wto.org/english/tratop_e/agric_e/negs_bkgrnd20_cotton_e.htm#origins

[5] www.wto.org/english/news_e/spsp_e/spsp24_e.htm

[6] www.fao.org/es/esc/en/20953/22215/highlight_47647en.html

[7] www.cotton-forum.org/indexflash.html

[8] www.wto.org/english/tratop_e/agric_e/negs_bkgrnd20_cotton_e.htm#origins

[9] www.wto.org/english/tratop_e/agric_e/cotton_subcommittee_e.htm

[10] www.oecd.org/document/26/0,2340,en_2649_37413_34352154_1_1_1_37413,00.html

[11] www.imf.org/external/np/sec/pr/2005/pr05121.htm

[12] www.wto.org/english/thewto_e/minist_e/min05_e/final_text_e.htm.

On August 1, 2004, the WTO General Council reached a decision to proceed with multilateral trade negotiations, emphasizing that the theme should be addressed "ambitiously, expeditiously, and specifically" (WTO, 2004b). The Director General was instructed to consult with international organizations, including the Bretton Woods institutions, the Food and Agriculture Organization, and the International Trade Centre, to direct existing programmes and any additional resources toward development of the economies where cotton is of vital importance. Progress on the "cotton initiative" is being monitored regularly at WTO meetings following the establishment of the sub-committee on cotton (WTO, 2004c).

6. Cotton and the 6th WTO Ministerial in Hong Kong

Cotton received considerable attention during the 6th WTO Ministerial in Hong Kong. Widespread fears that the cotton initiative may contribute to another Cancun-type collapse did not materialize. Consistent with the convention established at the WTO-sponsored Cotonou workshop, the text deals separately with the issue of trade (i.e. subsidies) in paragraph 11 and development (compensation) in paragraph 12 (see Appendix A for cotton text of the declaration). The next two sections elaborate on these two issues.

6.1 Trade (subsidies)

On export subsides, the declaration says that "all forms of export subsidies for cotton will be eliminated by developed countries in 2006". Since the EU does not give any export subsidies, the text is relevant only to the US. As discussed earlier, the two types of exports subsidies given by the US are the export credit guarantees and the Step-2 payment, both of which were found illegal export subsidies by the WTO's Panel. In order to comply with the Panel's ruling, in February 2006 the US announced that it will eliminate export subsidies. Hence, the declaration on export subsidies adds no new commitment. Note that export subsidies represented about 12 percent of total cotton support during 1995-2002.

On market access, the declaration indicates that "developed countries will give duty and quota free access for cotton exports from least-developed countries from the commencement of the implementation period." Again, this text is relevant only to the US since the EU does not impose any border restriction on cotton imports-it would have been relevant to China if it were considered a developed country by the WTO. Although the US applies TRQs on cotton imports, they are largely irrelevant since the US is (and has been always) a net cotton exporter. Therefore, any increase in US cotton imports due to the removal of TRQs is likely to cause minor trade diversion rather than altering the landscape of existing cotton trade patterns. For example, some US textiles may use imported instead of domestically produced cotton while the US cotton they would have used will be exported. Again, as was the case with export subsidies, the market access part of the declaration is unlikely to make any difference in the cotton market.

Finally, on domestic support, the declaration indicates that "… trade distorting subsidies for cotton production should be reduced more ambitiously than under whatever general formula is agreed and that it should be implemented over a shorter period of time than generally applicable." The EU has already reformed its cotton programme - its three key elements are: (i) 65 percent/35 percent decoupled/area payments; (ii) €700 million cap per annum; (iii) duration until 2013-and it appears than none of these elements are likely to change as a result of the declaration.[5] Therefore, the domestic support pillar (as was the case with the other two pillars) is applicable to the US only.

The key issue is whether direct payments are trade distorting support. While the US has placed them in the green box, the WTO Panel ruled that they should have been placed in the amber box because of the prohibition of planting fruits and vegetables on the eligible land. If direct payments are placed in the amber box, then, with the exception of crop insurance, the entire cotton programme should be placed in the amber box and any ambitious reduction has to be calculated over the full outlays of the programme.

However, regardless of the box status of direct payments, the US is under the obligation to reduce its cotton support to levels not exceeding the 1992 outlays. According to the WTO's Panel, the US disbursed US$2.01 billion to its cotton sector during the 1992 marketing year while the average disbursements during the dispute period, 1999-2002, were US$3.22 billion.[6] Therefore, taking as a base the market conditions and subsidy levels experienced during 1999-2002, the U.S. must undertake an almost 40 percent reduction in order to comply with the Panel's ruling. To that, if one adds the commitments to be agreed under the general reduction formula as well as any additional cuts due to "ambitiousness", one would expect a substantial reduction of US cotton subsidies. To what extent this will be the case depends, among other factors, on the 2007 Farm Bill, discussions of which should be well under way during the summer of 2007.

6.2 Development (compensation)

With respect to the development assistance aspects of cotton, the Hong Kong declaration urges the Director-General *"… to further intensify his consultative efforts with bilateral donors and with multilateral and regional institutions, with emphasis on improved coherence, coordination and enhanced implementation and to explore the possibility of establishing through such institutions a mechanism to deal with income declines in the cotton sector … urge Members to promote and support South-South cooperation, including transfer of technology … invite the Director-General to furnish a third Periodic Report to our next Session with updates, … and to set up an appropriate follow-up and monitoring mechanism."* This part of the declaration is consistent with the outcome of the OECD's DAC committee briefing as well as the work of the sub-Committee on Cotton.

[5] It appears that there is (unconfirmed) discussion within the EU to fully decouple cotton support.

One unclear aspect of the declaration, however, is its reference to the possibility of establishing a mechanism (through donor institutions) to deal with income declines in the cotton sector. One of the key points of the Cotonou workshop-unanimously accepted by all donors and later echoed at the DAC briefing-was that no new channels of support will be created. Furthermore, the proposal advanced by the cotton-4 countries during the DAC briefing asking for the creation of a compensation fund was overwhelmingly rejected.

7. Concluding remarks

In some respects, cotton shares similar characteristics with other commodity markets, namely volatile and declining nature of prices and competition from synthetic products. In other respects, however, it differs markedly. For example, despite its low share in world trade-estimated at about 0.12 percent of global merchandize trade-as many as 100 million households depend on that commodity, therefore, the price fluctuations imply that millions of poor households get in or out of poverty.

Policies have certainly affected cotton prices to the detriment of non-subsidized cotton growers. Hence, for good reasons cotton became a central theme during the Doha Development Agenda negotiations. To what extent the Hong Kong Ministerial is a success or a failure is still open to question. However, it is worth mentioning the progress that has taken place of the policy aspects of the cotton market during the last four years (ignoring, for convenience, the actual events that triggered such progress):

- The views of developing countries have indeed been heard in the WTO.
- The EU moved from a price support mechanism based on current production to one which is based on historical production (65 percent) and area (35 percent).
- The US announced that it will remove the export subsidy component of its cotton programme.
- There has been considerable awareness outside the "cotton community" regarding the effects of cotton subsidies. Consider that the leading article of the December 2005 issue of the Business 2.0 magazine (entitled "100 percent Rotten") dealt with cotton, which, in reference to the Step-2 programme, noted "*… [textile firms in the US] could probably import foreign cotton cheaply enough that it might not need the subsidy, just as Apple Computer buys foreign-made memory chips and none worse off*" (Zachary 2005). Such awareness is likely to exert pressure for more reforms, regardless of the Doha outcome.

At this stage, however, it appears that two other aspects of the "cotton problem"-policy reforms in cotton-dependent countries and technology adoption-have received disproportionately less attention. In many developing countries (especially in sub-Saharan Africa but also Central Asia) where cotton is an important source

[6] Figure 4 depicts the US cotton support for the past two decades showing a 1991/92 level of support of US$1.5 billion, US$0.5 billion less than the Panel's figure. The discrepancy may be due to the definition of the period (marketing versus calendar year).

of rural incomes, reform programmes for restructuring the cotton sector to increase its efficiency remain largely incomplete. Fully implementing reforms should be the immediate focus of the policymakers. After all, even if cotton prices increase either as a result of elimination of subsidies or as a result of market forces, it will do no good to poor producers if such increase is absorbed by bankrupt parastatals, debt-ridden cooperatives, or corrupt public officials unwilling to engage in serious reform efforts. Furthermore, serious reform efforts will signal the willingness of these countries to participate in the creation of a conducive global trading environment.

Finally, cotton producers in many developing countries face the challenge of adopting genetically modified seed technology in order to compete effectively with their competitors who are using such technologies and enjoy the cost advantages and yield gains. That, however, would entail extensive field trials to develop varieties suitable to local growing conditions as well as putting in place the appropriate legal and regulatory framework-challenging and time consuming processes requiring attention at a policymaking level.

Appendix A

Cotton Text of the 6th WTO Ministerial Declaration (WT/MIN(05)/W/3/Rev.2)

A1. Main Text (paragraphs 11 and 12, emphasis added)

11. We recall the mandate given by the Members in the Decision adopted by the General Council on 1 August 2004 to address cotton ambitiously, expeditiously and specifically, within the agriculture negotiations in relation to all trade-distorting policies affecting the sector in all three pillars of market access, domestic support and export competition, as specified in the Doha text and the July 2004 Framework text. We note the work already undertaken in the Sub-Committee on Cotton and the proposals made with regard to this matter. Without prejudice to Members' current WTO rights and obligations, including those flowing from actions taken by the Dispute Settlement Body, we reaffirm our commitment to ensure having an explicit decision on cotton within the agriculture negotiations and through the Sub-Committee on Cotton ambitiously, expeditiously and specifically as follows:

- All forms of export subsidies for cotton will be eliminated by developed countries in 2006.
- On **market access**, developed countries will give duty and quota free access for cotton exports from least-developed countries (LDCs) from the commencement of the implementation period.
- [It is recognized that the objective is that, as an outcome for the negotiations, **trade distorting domestic subsidies** for cotton production should be reduced more ambitiously than under whatever general formula is agreed and that it should be implemented over a shorter period of time than generally applicable. We will commit ourselves to give priority in the negotiations to reach such an outcome.]

12. With regard to the development assistance aspects of cotton, we welcome the Consultative Framework process initiated by the Director-General to implement the decisions on these aspects pursuant to paragraph 1.b of the Decision adopted by the General Council on 1 August 2004. We take note of his Periodic Reports and the positive evolution of development assistance noted therein. We urge the Director-General to further intensify his consultative efforts with bilateral donors and with multilateral and regional institutions, with emphasis on improved coherence, coordination and enhanced implementation **and to explore the possibility of establishing through such institutions a mechanism to deal with income declines in the cotton sector**. Noting the importance of achieving enhanced efficiency and competitiveness in the cotton producing process, we urge the development

community to further scale up its cotton-specific assistance and to support the efforts of the Director-General. In this context, we urge Members to promote and support South-South cooperation, including transfer of technology. We welcome the domestic reform efforts by African cotton producers aimed at enhancing productivity and efficiency, and encourage them to deepen this process. We reaffirm the complementarity of the trade policy and development assistance aspects of cotton. We invite the Director-General to furnish a third Periodic Report to our next Session with updates, at appropriate intervals in the meantime, to the General Council, while keeping the Sub-Committee on Cotton fully informed of progress. Finally, as regards follow up and monitoring, we request the Director-General to set up an appropriate follow-up and monitoring mechanism.

A2 Annex A (paragraph 21, emphasis added)

21. While there is genuine recognition of the problem to be addressed and concrete proposals have been made, Members remain at this point short of concrete and specific achievement that would be needed to meet the July Framework direction to address this matter ambitiously, expeditiously and specifically. There is no disagreement with the view that all forms of export subsidies are to be eliminated for cotton although the timing and speed remains to be specified. Proposals to eliminate them immediately or from day one of the implementation period are not at this point shared by all Members. In the case of trade distorting support, proponents seek full elimination with "front-loaded" implementation.* There is a view that the extent to which this can occur, and its timing, can only be determined in the context of an overall agreement. Another view is that there could be at least substantial and front-loaded reduction on cotton specifically from day one of implementation, with the major implementation achieved within twelve months, and the remainder to be completed within a period shorter than the overall implementation period for agriculture.**

* Concrete proposals have been made, with a three-step approach: 80 percent on day one, an additional 10 percent after 12 months and the last 10 percent a year later.

** A Member has indicated that it is prepared to implement all its commitments from day one and, in any case, to autonomously ensure that its commitments on eliminating the most trade-distorting domestic support, eliminating all forms of export subsidies and providing mfn duty- and quota-free access for cotton will take place from 2006.

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10

The potential benefits to developing countries from domestic support reductions in developed countries[1]

Harry de Gorter

1. Introduction

Domestic agricultural subsidies, concentrated mostly in high-income countries, have been a contentious issue both in the World Trade Organization (WTO) trade negotiations and in a number of recent trade disputes. Recent WTO Panel rulings on Canadian dairy, European Union sugar and United States cotton (WTO 1999; 2004a; 2004b) have several important implications for increased disciplines on domestic agricultural support. These Panel rulings have yet to affect URAA domestic support disciplines but many argue they will, highlighting the political importance of domestic support in both trade disputes and WTO negotiations.

The purpose of this paper is to put domestic support in perspective with regard to the potential impacts on trade distortion. The paper begins by highlighting the levels and trends in domestic support relative to border protection, followed by a discussion of the ways in which domestic support, including that in the Green and Blue boxes, can still distort trade significantly. The benefits to developing countries from domestic support reductions in rich countries can only be realized if there are meaningful disciplines in the WTO. Several problems associated with WTO measures and disciplines on domestic support are therefore outlined. An assessment of current proposals on domestic support reductions in the WTO negotiations shows that little trade liberalization will occur. The three key recent WTO Dispute panel rulings are evaluated as to their implications for domestic support disciplines in the WTO. The final section discusses the features of a truly non-distorting domestic support policy, and provides some options available to make rules and commitments more transparent and effective in reducing trade distortions.

[1] This paper benefited greatly from comments at the FAO Workshop on "WTO Rules for Agriculture Compatible with Development", 2-3 Feb 2006, especially from Ann Tutwiler and Alan Matthews.

2. Domestic support in perspective

The levels and trends in border versus domestic support[2] are given in Table 1. The total Producer Support Estimate (PSE) has increased moderately from the base period, 1986-88, by 5 percent but product specific domestic support has increased substantially by 81 percent (with border protection decreasing significantly by 17 percent). As a share of the PSE, domestic support now accounts for about 40 percent, up from 22 percent in 1986-88.

TABLE 1
Domestic support in perspective (OECD in billion US $)

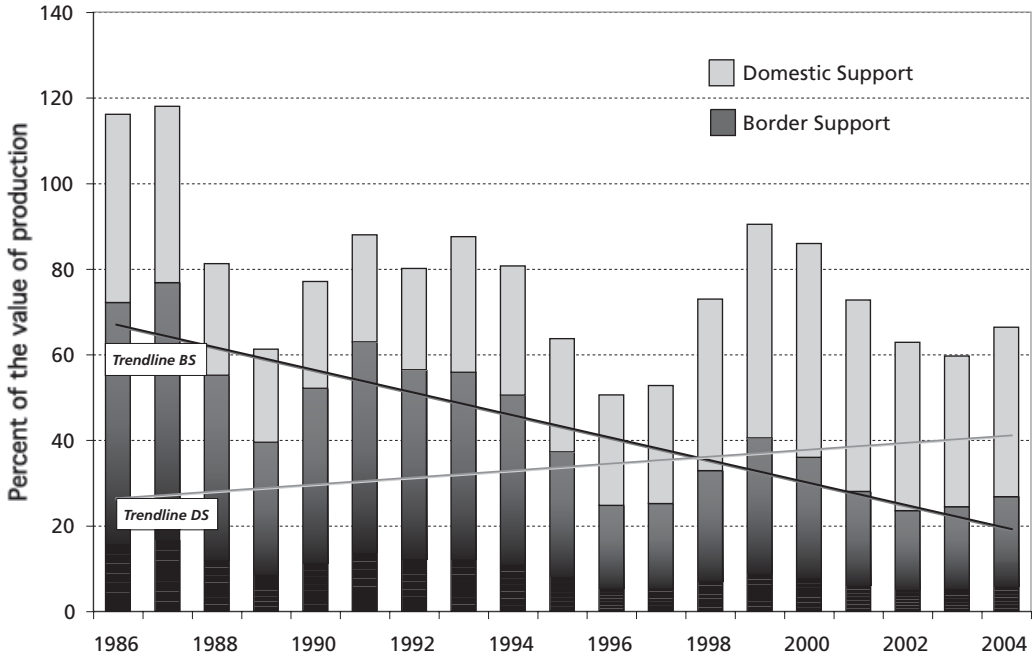
	1986-88	2002-04	% chge
Total PSE	242 867	254 244	5%
Domestic Support	54 388	98 408	81%
Border Support	188 479	155 836	-17%
Border as a % of Total PSE	78	61	
GSSE	40 946	61 269	50%

Source: Calculated from data in OECD (2005).

The levels and trends in domestic support are more concentrated in grains and oilseeds sectors compared with all other commodities in OECD countries (see Figure 1). Although the average level of protection is higher in the grains and oilseeds sectors, the decreasing trend in total support is greater for grains and oilseeds. Meanwhile, the trend in the level of domestic support is increasing more for grains and oilseeds. Domestic support averaged 44 percent of total support for grains and oilseeds, while only 22 percent for all other commodities. The concentration of domestic support in specific commodity sectors magnifies the economic distortion because of large changes in relative prices and also hurts specific countries specializing in these commodity sectors.

[2] Domestic support here is defined as product specific government subsidies to producers, including fully coupled input and output subsidies, and also payments based on input constraints, farm income and historical entitlements.

FIGURE 1
OECD Protection in Grains and Oilseeds



Domestic support defined here using OECD data excludes non-product specific government expenditures (listed under the category General Support and Services Expenditures - "GSSE" separate from the "PSE") on R&D, infrastructure and marketing. These expenditures are currently in the order of US$61 billion, about two-thirds the level of product specific taxpayer funded domestic producer support. Deemed as public good expenditures and so excluded from the PSE, these expenditures can, however, affect the relative advantage of agricultural production between developing and developed countries. If rich countries can afford more R&D, for example, then an advantage in world markets can be obtained. Infrastructure expenditures can likewise provide an advantage for rich countries. If the current negotiations are to be truly a development round and a level playing field is desired, then some attention should be paid to how balanced these public good expenditures are between developed and developing countries. Furthermore, some programmes under the GSSE category include payments that can be viewed as direct export subsidies (e.g. expenditures on inspection services and marketing, with the total averaging almost US$30 billion in 2002-04).

A breakdown of support that is infra-marginal (defined as support based on only part of current or historical production) is given in Table 2. Total infra-marginal support (both consumer and taxpayer financed) has increased 44 percent from the base period. Taxpayer or domestic infra-marginal support (not requiring border protection) skyrocketed by 171 percent while infra-marginal support from consumers requiring

border protection declined significantly by 22 percent. Infra-marginal support now constitutes 38 percent of the PSE and 63 percent of domestic support, up significantly from 29 and 43 percent, respectively, in 1986-88. The importance of distinguishing infra-marginal support will be explained later when discussing the implications of the WTO Panel rulings on Canadian dairy and European Union sugar policies.

TABLE 2
Importance of infra-marginal support (OECD in billion US$)

	1986-88	2002-04	% chge
Total Infra-marginal Support	67	96.3	44%
Domestic	23	62.3	171%
Border	43.8	34	-22%
Share of total PSE	29%	38%	
Share of Domestic Support	43%	63%	
Share of Border Suport	25%	22%	

Source: Calculated from data in OECD (2005).

3. The economic effects of domestic support on trade distortion

Many studies conclude that the trade liberalizing effects of eliminating domestic support pale in comparison to the effects of eliminating import barriers.[3] Meanwhile, many studies on individual policies in the Blue and Green Boxes argue that they are minimally trade distorting (e.g. USDA, 2004). However, the theory is limited and there is little empirical evidence because of the short time in which decoupled programmes have been in place. The purpose of this paper is not to dispute these findings but to highlight some of the characteristics and mechanisms of domestic support measures which can affect trade distortion. Keeping in mind that domestic support accounts for 40 percent of the PSE and is increasing (and that excludes US$61 billion of "public good" expenditures under the GSSE category that may directly provide advantages to farmers in developed countries), at the very least, careful attention should be given to the effects of domestic support in order to ensure the continuation of its minimally trade distorting effects and that it does not become a substitute to border protection in distorting trade. Meanwhile, there are several studies that show how domestic support can have very significant trade distorting effects, including those policies currently in the Blue and Green boxes (Sumner 2003; FAO 2004).

Taxpayer financed policies under the Amber Box (as opposed to consumer

[3] For example, studies by Anderson and Martin (2005), and Hoekmann, Ng and Olarreaga (2004) conclude that domestic support only contributes about 5 percent of the total gains to trade liberalization in agriculture.

financed transfers in the aggregate measurement of support (AMS) that require border protection - this anomaly or inconsistency is discussed later) account for about 34 percent of total domestic support as measured by the OECD (2005). Normally economists favour domestic subsidies over border protection. But in the case of agriculture, the difference between a production subsidy and an import tariff is minimal, given the very inelastic demand at the farm level and high supply elasticities (Stiglitz and Charlton, 2004). Furthermore, the trade distortions of a subsidy on purchased inputs can be very high if the subsidy is a large proportion of total costs, if its supply curve is very price elastic relative to other inputs (like land), and if the elasticity of substitution between the inputs is high (see analysis in OECD 2002a).These are indeed characteristics of much agricultural production. Hence, disciplines on domestic support, like those on border measures, may be very important.

Policies under the Blue Box have also been very ineffective in reducing trade distortions compared with a standard coupled production subsidy. Take the Blue Box policies of the European Union as an example. Although area payments for cereals are restricted to a base level of hectares, this programme is coupled in (i.e. influences) the farmer's decision on how much land to plant. This holds true not only because farmers are obligated to produce cereals on the base acres to receive the payments, but also because area payments in the European Union are made on an aggregate fixed area base that is set at the national or regional level. Individual farmers do not have a base area - just eligible acres for which they receive payments and have area set-asides. If the regional base area is exceeded, the per-unit subsidy is prorated downwards proportionately for all farmers. Because the prorating occurs on the total area planted *ex post,* farmers have an incentive to overplant in order to maximize their share of the fixed budget outlays, or to defend against share erosion due to overplanting by other producers. This means that the area payments are fully coupled in plantings because an individual farmer is not penalized for his own decision to overplant (de Gorter, Hranaiova, and Tsur 2005; OECD, 2003a). Area payments with a national base area are therefore not a limit on total acres planted.

Previous policies in the Blue Box for the United States have also been prone to overproduction, even though farmers were being paid not to produce. Payments made to farmers for not producing induced farmers to rent seek and plant more to increase their base so they can plant less more in the future and hence increase payments (de Gorter and Fisher, 1993). Joseph Heller in Catch-22 (1961, p.82) perhaps best articulates the central insight into the potential trade distorting effects of such policies:

> *He was a long-limbed farmer... His specialty was alfalfa, and he made a good thing of not growing any. The government paid him well for every bushel of alfalfa he did not grow. The more alfalfa he did not grow, the more money the government gave him, and he spent every penny he didn't earn on new land to increase the amount of alfalfa he did not produce... He invested in land wisely and soon was not growing more alfalfa than any other man in the country...*

Nevertheless, acreage set-asides in the United States and European Union, when evaluated in a static framework, are deemed to offset the output enhancing effects of output subsidies but perhaps do not when analysed in a dynamic framework of analysis.

Policies currently designated in the Blue and Green Boxes can also have trade distorting effects through several other mechanisms, especially when large sums of money are involved (for a good survey, see Abler and Blandford, 2005). Several general categories of potential trade distortions from Green Box policies can be identified.

First, decoupled payments can reduce risk by reducing farm income variability (the insurance effect) or the increased wealth created by payments may make farmers less risk averse. Agricultural production is characterized by a high degree of uncertainty and so direct payments may affect a risk-averse farmer's production decision. Mullen, Chau, de Gorter and Gloy (2005) compare the contribution of the wealth, insurance and subsidy effects to the total change in output for three studies (Table 3). Although the three studies use different frameworks and analyse different policies and commodities, a comparison of the results can still be instructive. In each case, the risk effects are higher than the equivalent coupled subsidy effect. This shows that wealth and insurance effects are important both in terms of their relative (to the subsidy effect) and their absolute impacts on output. Recent studies by Anton and the OECD (2003b; 2004) confirm the importance of risk on trade distortion.

TABLE 3

Impact of risk *vs* subsidy with decoupled payments (share of total change in output, in percent)

	Wealth Effect	Insurance Effect	Subsidy Effect
Mullen *et al.*	12	57	31%
Hennessy	8.5-14	65-78	10-20%
de Gorter and Tsur	NA	75	25%

Source: Mullen *et al.*

A second mechanism for how decoupled payments affect trade distortion is through expectations about future policies and dynamic considerations. Producers will develop expectations of future assistance based on past government actions, thereby affecting current production decisions. This is highlighted by the updating of base acres and payment yields in the last United States Farm Bill.

A third mechanism is when constraints due to imperfect input markets are relaxed with decoupled subsidies. Direct payments can affect farmers' investment and exit decisions if there are constraints facing them in capital and labour markets. Direct payments allow banks to make loans that they otherwise would not and also allow farmers with specialized skills to stay in agriculture. Vercammen (2003), for example, finds that decoupled payments have the same impact on investment as fully coupled subsidies.

A fourth mechanism is cross-subsidization and exit decisions with subsidies that are infra-marginal or based on only part of your output. Rulings in the recent high profile trade disputes for Canadian dairy and European Union sugar policies concluded that infra-marginal support to farms constitutes an export subsidy. The argument was that farms receiving higher prices for part of their production sold on domestic markets implicitly financed losses on exports sold at lower world prices that are below average total cost of production. These case rulings on "cross-subsidization" may have implications for all types of infra-marginal support schemes in agriculture, including those that are taxpayer financed, and are equally applicable to an importer or exporter.

The economic underpinnings of cross-subsidization are given in Chau and de Gorter (2005), and Kropp, Just and de Gorter (2005). These studies show, however, that financing a loss in one market with the profits of another does not tell the whole story. Increasing returns enable producers to sell a portion of their output below their average total cost of production and thereby drives cross-subsidization. However, cross-subsidization is shown to occur even if profits at the infra-marginal level of production are negative and if world prices are below the average variable costs of production (situations not recognized by the WTO rulings). In addition, infra-marginal support entices some high cost farms to remain in business producing at the maximum level of output entitled to the payment. These high cost farms that remain in business only because of the infra-marginal support generate additional output distortions. The impact of this "exit deterrence" on output distortion is independent of cross-subsidization and was not recognized in the WTO rulings.

Kropp, Just and de Gorter (2005) show that for the same level of transfers, infra-marginal support can in theory be more trade distorting than coupled support. An empirical study of the United States dairy industry shows that infra-marginal subsidies distort production by 60 to 70 percent of an equivalent coupled subsidy; therefore infra-marginal schemes are potentially important for international trade agreements.

Although the analysis is based on farmers having to produce on their infra-marginal levels (e.g. base levels), the analysis has implications for many taxpayer financed subsidy programmes, including product specific subsidies currently in the Green Box for the United States. It can be argued that after the 1996 Farm Bill, farmers acted as if they had to produce to get payments because:

- land has to be kept in "good agricultural use" (fixed costs are therefore incurred as well as variable costs);
- base acres and payment yields were updated;
- new crops were added to the so-called decoupled programmes;
- new crops were added to the coupled subsidy programmes;
- decoupled payments were added to the same commodity;
- coupled payments were continued and added to the same commodity;
- Congress debated continually for adding coupled subsidies from 1998 to the 2002 Farm Bill (enacted emergency market loss assistance subsidies in the meantime);

- restrictions on what you can plant on the base acres (e.g. no fruits and vegetables);
- tenant gets the payment (not necessarily the landowner); and
- the WTO Panel on United States cotton subsidies concludes that direct payments are at least partially coupled.

Therefore, these policies currently under the Green Box for the United States policies perhaps should be subject to the same disciplines in the WTO (Sumner, 2005). This means trade distortions from cross-subsidization and exit-deterrence can arise from a wide array of policies, particularly any policies in which producers receive a higher per unit revenue on a limited amount of production (a significant and growing share of total support as shown in Table 2).

In conclusion, commonly noted but little analysed mechanisms that generate trade distortion from "decoupled" payments include cross-subsidization, exit deterrence, risk reduction and wealth effects, expectations for more support or a change in rules, and the relaxation of input constraints. In addition, distortions are accentuated because decoupled payments are given in tandem with coupled subsidies, each of which changes over time and hence the interaction effects generate even more distortions. More work has to be done to determine the extent of such distortion and analyse more types of programmes including environmental and GSSE type expenditures. Policy design and enforcement are also important issues to be addressed (FAO, 2004).

4. Problems with domestic support disciplines in the WTO's agreement on agriculture

This section examines the proposals by the United States, European Union and G-20 running up to Hong Kong concerning disciplines specific to domestic support. All proposals were similar in nature, being based on the provisions of the July 2004 Framework. The main issues under negotiation are discussed by examining the Framework agreement in general for a select number of countries. The three specific aforementioned proposals are then assessed as to their prospects for success.[4]

The July 2004 Framework retains many of the concepts of the URAA but adds new ideas of great significance. With respect to domestic support, the framework calls for a minimum 20 percent cut in "overall trade-distorting support" (OTDS), defined as the sum of the following components: the AMS bound ceiling and the allowed maximum of both Blue Box payments and *de minimis* support. In addition, it also caps each component of overall support - specifically AMS, *de minimis* support, and Blue Box subsidies. Reductions in support for each component are to count toward the country's commitment to reduce overall support. The overall commitment to reduce trade-distorting support may become binding when the ceilings are below actual overall support. Similarly, one or more of the individual

[4] This section borrows heavily from de Gorter and Cook (2005), Cook (2005), Baffes, Cook and de Gorter (2005) and Jales and Nassar (2005).

component reduction commitments may require reduction in actual support to be under the ceiling. Reduction commitments for individual categories are required even if together they exceed the required reduction in overall support. In addition, the framework calls for deeper cuts in OTDS and its individual components by countries that provide higher levels of support. This tiered approach to progressively reduce domestic support is designed to help harmonize support levels among countries. The specific details of the tiered formula were specified in the various proposals put forward leading up to Hong Kong, including that of the European Union, United States and G-20.

The Framework calls for an expansion of the Blue Box criteria to include payments on fixed acres and yields that are not linked to production constraints. Total Blue Box subsidies would be limited to 5 percent of an historical average value of production. The framework includes an exception for countries currently above the cap to gradually make reductions to the 5 percent cap during the implementation period. Green Box definitions are to be reviewed and clarified, but the Framework does not call for a numerical cap on this form of support. However, tighter scrutiny, along with implementation of the outcome of the WTO Cotton Panel, could yet cause some significant adjustments in Green Box criteria and policies.

4.1 The difference between baseline and current levels of domestic support for a sample of countries

Table 4 shows the actual level of OTDS is much lower than the ceilings for all countries. For example, the current level of OTDS in the European Union is US$62.73 billion, well under the ceiling of US$108.82 billion.[5] This begs the essential question of whether commitments to reduce support will affect current policies at all. As for the individual components of OTDS, current support is also below the ceiling except for Blue Box payments in the European Union. Also notable are several cases where the current level of support is close to the ceilings: AMS and non-product-specific support in the United States, AMS in Korea, and non-product-specific support in Canada. Note that product-specific and non-product-specific *de minimis* and Blue Box ceilings are each 5 percent of the value of production, except for European Union Blue Box payments, where actual levels exceed the 5 percent limit by US$8.74 billion.

[5] The data for the European Union is based on 1999-2001. WTO notifications on domestic support are notoriously lagged with the United States yet to notify what box counter-cyclical payments are to be designated as.

TABLE 4
Analysis of the 2004 framework agreement proposals on domestic support, selected countries (US $ million)

	EU [a]	USA	Japan	Korea	Mexico	Canada
Current ceilings						
Overall trade-distorting support (OTDS)	93 503	44 118	43 622	7 261	15 476	5 412
AMS	59 538	19 103	34 031	1 321	8 718	2 771
Product-specific *de minimis* [b]	1 428	5 773	1 497	2 132	2 703	692
Non-product-specific *de minimis*	11 900	9 621	4 047	2 539	2 703	974
Blue Box	20 637	9 621	4 047	1 269	1 352	974
Current levels						
OTDS	62 679	23 299	7 096	1 814	876	1 391
AMS	41 505	16 026	6 017	1 325	876	577
Product-specific *de minimis*	103	102	131	121	0	137
Non-product-specific *de minimis*	434	7 171	175	368	0	677
Blue Box	20 637	0	772	0	0	0
Potential "water" in the AMS due to price gap [c]	2 058	5 862	3 725	1 317	777	287

Note: The data in the table correspond to the average of the last three years of notified support for each region or country: European Union and United States = 1999-2001; Japan = 2000-02; Korea and Canada = 1998-2000; Mexico = 1996-98.

a. The European Union blue box ceiling here is the historical average of actual support (in grey), higher than the permitted 5 percent of value of production of US$11.9 billion.

b. Product-specific *de minimis* ceiling is less than 5 percent of the total value of production because support for some products are over five percent of the value of production and so is included in the AMS. The proportion varies by country, with the European Union having the highest share of *de minimis* in the AMS, whereas Mexico has none.

c. Assumes all countries eliminate official support prices without actually changing support, so the price-gap portion of the AMS simply evaporates.

Source: de Gorter and Cook.

Because of the wide gap between the permitted level of support and the actual level of support, a gap known as "water", a reduction in ceilings and permitted levels is likely to have little or no impact on actual policy, for several reasons. First, proposed reductions affect the bound AMS ceilings and the newly created maximum permitted levels for *de minimis* and Blue Box support - *not the actual levels of support*. This alone greatly dilutes the disciplines.The permitted level of *de minimis* support (10 percent of the value of production - 5 percent each for product- and non-product-specific) is a large number by itself. The maximum allowed *de minimis* would average one-third of the producer support estimate (PSE) for OECD countries in 2001 and 87 percent of the domestic-support component of the PSE (defined as total support less border support).[6] Current use of *de minimis* support is already quite significant for some countries. Current levels in Canada, for example, exceed notified total AMS support by more than 40 percent (see the last column in Table 4). United States *de minimis* support is almost 50 percent of total notified AMS.

[6] See de Gorter 2004, Baffes, Cook and de Gorter, and Cook.

But water has also accumulated because of an inflated baseline, shifting between boxes, and double counting of border support. Policy shifts occurring after the base period of the URAA but before the implementation period are exemplified by the European Union's conversion of approximately US$20 billion of Amber Box support to the Blue Box in 1992, which inflated the baseline that included Blue Box payments exempt from any reduction commitments. Another factor was the shift of payments from the Blue Box to the Green Box during the implementation period. Crop deficiency payments in the United States, for example, were in the Blue Box before the 1996 Farm Bill. But with decoupling in the 1996 Farm Bill, the programme was shifted into the Green Box. The change in policy was a positive step, but the baseline remained high and allowed water to accumulate in the Blue Box, as shown in the US column in Table 4.

Another source of water in domestic support ceilings is the peculiar manner in which the AMS is calculated. In addition to trade-distorting, taxpayer-funded domestic subsidies, the AMS includes "market price support", defined as production multiplied by the difference between the official domestic support price and a fixed world reference price: MPS = $Q^*(P_d^{off}-P_w^{ref})$ where Q is current production, P_d^{off} is the official domestic price support and P_w^{ref} is the fixed world reference price. The product of that operation does not depict "domestic support" per se. Instead, it is a faulty measure of support provided at the border through tariffs, import quotas or export subsidies. Actual world prices fluctuate above and below the world reference price, while domestic market prices do likewise relative to the domestic administered price. Measuring MPS in this way can cause a major discrepancy between actual MPS levels and the level notified to the WTO. So the MPS component of the AMS is a poor measure of border protection for a subset of commodities that have official domestic support prices.

This problem in measuring the AMS is highlighted by the fact that it sometimes is notified to the WTO as a negative number (when the support price is below the fixed world reference price) and thus may offset taxpayer-financed, trade-distorting subsidies. At the other extreme, support prices have been so far above world reference prices that the AMS has exceeded the OECD's total PSE for some countries in the past, even though the AMS is supposed to measure trade-distorting domestic support, which is just one component of the PSE. The majority of the AMS for the European Union, Japan, Korea and Mexico is the MPS while constituting 30-40 percent for Canada and the United States (Cook, 2005; Baffes, Cook and de Gorter, 2005). But most importantly, the MPS component of the AMS is very arbitrary because a country can simply reduce or eliminate the official price support without changing actual support. Indeed, the AMS has declined over time, while the PSE has increased (de Gorter, Ingco and Ignacio, 2003).

Japan is a case in point where the official support price for rice was eliminated in 1997, and Japan's total AMS, as notified to the WTO, dropped by US$20 billion, without altering border protection and so there was no market impact. So a substantial portion of the water in Japan's total AMS of approximately US$28 billion (Table 4) can be attributed to an adjustment made to an administered price in

order to "achieve" reduction commitments without actually reducing support. As discussed below, the redundancy of this "price-gap" component of the AMS must be recognized and circumvented by limiting support-reduction commitments to taxpayer-financed, trade-distorting subsidies.

Because of the ambiguity of the legal text of the URAA and the discretion given to governments in how they declare specific support programmes, there is evidence that support has been moved from box to box to meet domestic support disciplines. This is possible because there are no product-specific limits for the Amber Box - it is an aggregate sectorwide limit for all agricultural products and policies. This enables countries that reform policies in one sector to increase support in other sectors or introduce new support for the reformed sector.

Support can be shifted between, as well as within, boxes. Lax criteria have allowed countries to move support toward either undisciplined or less constrained categories (Oxfam, 2005). For example, the United States declared the new emergency crop subsidies of 1998-2001 as non-product-specific *de minimis* support even though they were based on specific product prices. The move allowed the United States to circumvent the ceiling on total AMS. In anticipation of ceilings becoming a constraint, the 2004 Framework now proposes to expand the definition of the Blue Box and its ceiling to 5 percent of an historical value of production for all of agriculture. With little change in the levels of emergency payments (except in name: they are now called countercyclical payments), the United States may be able to dramatically reduce its non-product-specific *de minimis* support by shifting it to the Blue Box. The United States and other countries may be able to do so simply because of a proposed change in the definition of what is "less trade distorting."

4.2 Assessing the October Zurich proposals

All proposals advanced by the United States, European Union and G-20 in October 2005 in Zurich are based on the July 2004 Framework and all involve tiered reductions with larger cuts in those economies with the largest absolute amount of domestic support.[7] The United States proposal called for a 75 percent reduction in OTDS for countries with over US$60 billion, a 53 percent reduction for OTDS between US$10 and US$60 billion, and a 41 percent reduction for lower levels of OTDS. The proposed reductions in the AMS tiers are slightly higher at 80-60-37 percent.[8] The European Union called for 70-60-50 percent cuts in each of OTDS and AMS. The European Union places itself in the highest band, the United States in the middle and all others except Japan in the lowest.

The United States calls for a 50 percent reduction in allowed *de minimis* (to 2.5 percent of the value of production) for each of product and non-product specific support. The European Union calls for an 80 percent reduction in allowed *de minimis* to one percent of the value of production while G-20 argues for reductions in *de minimis* as needed to meet overall OTDS reductions.

[7] All three proposals use the same three tiers of >US$60 billion, US$10-US$60 billion, and < US$10 billion.
[8] United States and G-20 proposals use tiers of >US$25 billion, US$12-25 billion, and < US$12 billion.

All three proposals agree with the expanded definition of the Blue Box as put forth in the July Framework to encompass payments with production-limiting requirements and payments that do not require production. However, the United States calls for the cap to be set at 2.5 percent of the value of production, instead of five percent as proposed in the July Framework.

Both the United States and the European Union propose product specific caps in the Amber Box but with differing base periods: the United States recommends a base period of 1999-2001 while the European Union argues that product specific caps should be based on the entire implementation period.

Several analysts are in common agreement that there will be very little probable effect of the proposals except for that of G-20 proposal (de Gorter and Cook, 2005; Jales and Nassar, 2005; Brink, 2005; Cook, 2005; Hart and Beghin, 2005; Jenson and Zobbe, 2005; International Food and Agricultural Trade Policy Council, 2005). For example, the overhang calculated by Jales and Nassar, highlighting the very large gaps between committed and actual support in recent years, and the consequent need for large reductions in ceilings before any real policy changes will be required. The European Union may be required to reduce the AMS. However, the European Union will be converting most of their trade distorting payments into Green Box payments after the 2003 CAP reforms. This combined with water due to the price-gap measure and the already large overhang due to the difference between actual support and the ceiling will require no policy adjustments for the European Union, regardless of what proposal is adopted.

The ceilings for OTDS show no significant reduction in support to be required under the European Union and United States proposals, but a significant reduction under the G-20 proposal. Assuming the water due to the price-gap is eliminated simply by taking official price supports off the book, the United States will be left with a required cut of only about US$2 billion, far less than the proposed 60 percent nominal reduction. The caps on overall support for the rest of the countries other than the European Union and United States are found to be well above actual levels and so will not be required to reduce support, regardless of what proposal is adopted (de Gorter and Cook, 2005; Jales and Nassar, 2005).

While the reductions in actual support required by even the most ambitious of these proposals would be modest, the potential value of such disciplines is perhaps greater than it seems in that it would rule out the possibility of countries' potentially reverting to much higher levels of support in the future.

5. Implications of the WTO panel rulings on United States cotton subsidies

Much has been written on the cotton case (Sumner, 2005; Baffes, 2004; Schnepf, 2004). The conclusion is that the United States will have to make dramatic changes not only to the cotton subsidy programmes but also to all other crop subsidies and maybe even those for the sugar and dairy sectors as well (Sumner, 2005). Step-2 payments and export credit guarantees are deemed prohibited, although representing a small share of total expenditures on cotton subsidies. Interestingly,

a subsidy on exports simultaneous with an identical subsidy on domestic sales is equivalent to a production subsidy, not an export subsidy but presumably the legal interpretation of how the payments were implemented overrules simple economics. Furthermore, export credit guarantees were deferred to the OECD in the URAA which concluded that such guarantees are not so trade distorting as one would believe (OECD, 2000b). Nevertheless, because these subsidies were not listed in the URAA, they are not allowed to be part of the export subsidy commitments in the URAA but rather are simply prohibited and hence need to be eliminated.

But the bulk of cotton (and other crops) subsidies are direct, countercyclical (formerly emergency) payments and fully coupled deficiency payments. Direct payments were deemed trade distorting and so fail the test of being Green Box because of the restriction that no fruit and vegetable crops be planted on base acres. To be decoupled, a payment cannot be conditional on what is or is not being planted. Presumably, the elimination of the fruit and vegetable planting restriction will put the United States into compliance with this large payment programs for cotton**.** This would mean no effective change in the levels of the bulk of United States cotton subsidies (and for that of all other crops as well) and so no benefits will be conferred on developing countries.

A question arises as to whether the United States is obligated to either revise the rules on their subsidy programmes or eliminate the subsidies for all other crops as well. Does the cotton ruling automatically apply to all other programs or would there need to be legal action taken in the future on each of the other crops as well? How does the ruling on one crop automatically extend to other crops? Presumably only the countries bringing the case to the WTO (Brazil and a couple of other parties in the case of cotton) can retaliate to encourage the United States into compliance. Can Brazil retaliate if other crop subsidy programmes are not brought into compliance with that determined for cotton? Or is the world relying on moral suasion for the United States to comply not only for cotton but for all other crops too?

What if the United States complies by putting the direct payment scheme into the Amber Box (which has plenty of water in it as shown earlier) and the countercyclical payments into the newly proposed expanded definition of the Blue Box? Under this scenario, no benefits to developing countries will be forthcoming again.

The WTO Panel ruled that direct payments were trade distorting (the implication being that they should not be in the Green Box) but did not cause price suppression. Does this give fewer obligations for the United States to eliminate these subsidies (assuming they refuse to eliminate the fruit and vegetable restriction)? The United States clearly violated the URAA by updating the base and payment yields (both on the basis of the law and economic theory) yet the Panel deferred saying that there was no need to rule on it because of the fruit and vegetable restriction. If the United States eliminates the fruit and vegetable restriction, does this mean no action is required even though updating is explicitly prohibited? Does it mean a new case has to be brought before the WTO Dispute Settlement Body or can the cotton case be revived to rule on the updating of base acres and payment yields?

Emergency payments were put in the Amber Box by the United States presumably because they are dependent on price but the URAA very clearly states:

> *Payments in any given year shall not be related to… prices… applying to any production undertaken in any year after the base period.*

Because no production is required to receive emergency payments, they are legally decoupled (ignoring the issues of the fruit and vegetable planting restriction and base updating) as current prices can be used, but only for base period production. So a strict interpretation of the law puts countercyclical payments into the Green Box (it is a new programme, updating the base is not an issue) yet because of base updating, direct payments should be in the Amber Box.

Yet Brazil is now demanding "a limit on countercyclical and coupled subsidies". What is that limit? The URAA baseline levels of 1992? Or reduce them to the threshold level where price suppression no longer exists? And what is this level? And what if the United States complies with cotton and not other crops and sectors?

Meanwhile, there is no reference in the WTO's final ruling on direct payments, or in the Brazilian submission asking for concessions to retaliate. Are only those subsidies causing serious prejudice to be reduced (or eliminated regardless of URAA base period levels)?

The WTO Panel ruling on cotton, although a landmark, has yet to show how the United States will be brought into compliance on the key issues of direct, countercyclical and coupled payments. Elimination of the Step-2 payments and export credit guarantees seems straight forward but represent only a small part of total subsidies. Other countries also face similar issues like the European Union's switch of Blue Box payments into the Green Box with the new 2003 single-farm payment programme (not only are there planting restrictions but there are also rules such as having to be a farmer). Will new legal cases have to be brought forward to induce the European Union to comply? Environmental programmmes in the United States like the EQUIP and the CRP also have restrictions on plantings so the rulings of the WTO Cotton Panel extend to other types of programmes as well. Yet it seems unclear as to how compliance is forthcoming on the basic arguments in the cotton case against the United States, let alone extending the same arguments to other crops, farm programmes and countries (not to mention issues discussed earlier that are not addressed by the Panel like cross-subsidization, risk reduction, etc.).

6. Suggestions for new rules and commitments

Domestic support is on the rise in terms of absolute levels and relative to border protection, now representing about 40 percent of the PSE (not counting public good expenditures under the OECD's GSSE category). The key questions are: what are the characteristics of domestic support measures that cause potential trade distortions? And will the WTO disciplines be effective?

Many studies conclude that policies in the Amber Box are far less distorting than border protection, while those in the Blue and Green Boxes are minimally

distorting. But some argue that Amber Box subsidies are close to being as trade distorting as an export subsidy because of very inelastic demand at the farm level and very elastic supply (Stiglitz and Charlton, 2004). Furthermore, there are studies now showing that other domestic subsidies can be quite trade distorting by way of cross-subsidization, exit deterrence, risk reduction and wealth effects, expectations for more support or a change in rules, and the relaxation of input constraints.

Countries beginning the switch from a coupled to a decoupled programme are undertaking a significant step in right direction of trade liberalization. Ideally, governments would give a one-time unconditional payment, a subsidy buy-out, to all engaged in farming or deemed in need of compensation as an annuity (bond) that is non-transferable to the farmer's successors, and non-renewable. However, the decoupling experience shows that there can be problems in both the design of programmmes and in their implementation.

The experience so far indicates that with anything short of an ideal decoupling scheme, some distortions will continue (Baffes and de Gorter, 2004; Orden, 2005). However, features that will increase the effectiveness of a slightly less than ideal decoupling scheme include:

- Make payment programme transitory and for adjustment purposes only.
- Require no constraints on input use.
- Implement credible and time consistent policies with no changes in the eligibility rules, payments or eligible sectors or farmers.
- Discontinue all other coupled programmes.
- Bind payments and time frame in the WTO to prevent backsliding.

But the analysis shows that one needs to be concerned about the ineffectiveness of (a) the disciplines in the WTO on domestic support and (b) WTO Panel rulings in both including all distorting mechanisms and inducing compliance. In terms of the proposals on domestic subsidy reforms in Hong Kong, policy reforms occurring between the end of the base period of the URAA and the beginning of the implementation period have inflated AMS ceilings to levels well above actual support, making proposed cuts in bound levels of support less painful than they need to be. The European Union has recently changed many of its payment programmes to be put in the Green Box (even though the cotton ruling would imply otherwise), and so should be able to easily absorb steep cuts in OTDS. The proposed change in the Blue Box definition would accommodate countercyclical payments under current United States programmes. Japan simply eliminated its official support price for rice without changing the actual level of support, creating plenty of room to fulfill any obligations to reduce domestic support ceilings without having to change policies. More water is added to bound levels by the new discipline on OTDS, which aims to reduce maximum allowed levels of support, rather than current levels. The proposed maximum allowed levels include 15 percent of the total value of production - 5 percent each for product - and non-product-specific *de minimis* support, and 5 percent for Blue Box subsidies.

Analysis shows that the reductions in domestic support required under the framework will likely affect only the AMS for the European Union, United States,

and the Republic of Korea, and *de minimis* support in Canada. Even then, most of the required AMS reductions can be circumvented by eliminating official support prices, without actually changing support. Given the water in the current system, cuts of up to 80 percent may be required before meaningful reductions in domestic trade-distorting support occur. Short of that, effective and balanced domestic-support reductions will require major changes in the current methods of measurement and classification, as well as strong commitments to reduce trade-distorting support. Therefore, the WTO should consider the following options:

- The 2004 Agriculture Framework proposed a cap on product-specific AMS. Hence, the WTO should implement support-reduction commitments by individual commodity sectors, rather than on a single AMS for all sectors. Doing so would limit countries' ability to shift support among sensitive commodities. The WTO also should consider introducing a commitment to reduce support per unit and by sector, along the lines of a tariff, to make reductions more effective.
- Reduction commitments should be imposed on Blue Box subsidies as well. Doing so would reduce the degree to which the expanded definition of the Blue Box can be used to shelter subsidies.
- The "price-gap" measure of market price support in the AMS should be eliminated. Henceforth, only taxpayer-financed support to farmers should be reported. This would prevent countries from reducing their AMS simply by reducing or eliminating an official support price, without actually reducing support.
- Because of the WTO Cotton Panel ruling, previously product-specific direct-income payments to farmers in the Green Box should be distinguished from expenditures for public goods. The former should be reported as part of a new Amber Box.
- Reduction commitments should be imposed only on the taxpayer-financed portion of the current AMS-plus the Blue Box, product-specific and non-product-specific *de minimis* subsidies, and previously product-specific, direct farm income payments under the current Green Box. This new (flashing?) Amber Box would report only domestic subsidies that distort trade and that are not border protection. Such a discipline will minimize countries' ability to avoid reductions in support by shifting support from box to box.
- The WTO should require a substantial cut in new Amber Box subsidies, such as allowing a maximum of 5 percent of the value of production at world prices, as suggested in some proposals, with a phase-in for countries currently above 5 percent, as proposed in the framework for other subsidies. A commitment should also be made to extend that ceiling to each individual commodity sector in the future. This would help overcome the problem of an artificially high base level of the previous AMS and would flush most of the water from current commitment ceilings.
- The Green Box should be maintained for expenditures that provide public goods or prevent negative externalities. But programmes listed in Annex 2 of the Agreement on Agriculture as non-trade-distorting or minimally trade-distorting must be more tightly defined to screen out abuses. For example, crop

insurance programmes, which have been found to be very trade-distorting, are currently in the Green Box, and tax concessions are not even considered support. Strict rules, definitions, and monitoring arrangements are required. In recognition of the fact that even these newly defined Green Box expenditures are likely to have some effect on production (and therefore on trade), they should be capped at 5 percent of the total value of agricultural production, as measured at world prices, or at current levels of spending for measures included in the new Green Box, whichever is lower.

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11

Domestic support to agriculture in developing countries

Mario Jales

1. Introduction

The current round of multilateral negotiations at the World Trade Organization (WTO) will have only a modest impact on the agricultural domestic support commitments of most developing countries. While the 2001 Doha Ministerial Declaration called for substantial reductions on the level of trade-distorting domestic support, it also recognized the need for special and differential treatment (SDT) for developing countries in all areas of the negotiations. The Framework adopted by the General Council in 2004 and the 2005 Hong Kong Ministerial Declaration have established that, except for a small number of middle-income WTO member countries, no developing country will have its ability to support agriculture further constrained by the ongoing negotiations. For the developing world, effective reductions in developed countries' subsidies and stricter disciplines to prevent members from circumventing commitments remain the most important domestic support issues in the Doha Round. Reforming developed country subsidies has the potential to be significantly more development friendly than expanding developing country entitlements to provide trade-distorting domestic support.

This paper analyses the flexibility needed by developing countries in terms of domestic support commitments. It aims to determine whether the Green Box, *de minimis* and Article 6.2 provisions provide enough policy space to support agriculture in a developing country context. The paper is divided in three parts in addition to this introduction. Part 2 investigates the experience of developing countries with domestic support during the Uruguay Round implementation period. It draws mainly from official notifications submitted to the WTO. Part 3 evaluates the current stage of negotiations in the Doha Round, with a focus on the provisions that have already been agreed in the Framework Agreement and in the Hong Kong Ministerial Declaration. It examines the likely effects of these provisions and classifies developing countries according to the adjustment effort that would be required to conform to new disciplines. Finally, Part 4 looks ahead

in the negotiations. It lists the issues that still need to be negotiated and considers whether the Doha Round will constrain policy space for domestic support to agriculture in developing countries.

2. Developing countries' record on domestic support

Although developing countries represent three-quarters of the WTO membership, they account for only a minor share of global agricultural domestic support. The great majority of developing countries either do not maintain any form of official domestic support to agriculture or apply measures that are exempt from commitments at the WTO. Nevertheless, given the heterogeneity of the developing world, domestic support to agriculture can vary quite widely among countries.

The main source for information on domestic support programmes are the notifications submitted periodically by member countries to the WTO Committee on Agriculture. The notifications consist of: (i) Table DS:1, which provides annual figures on the Current Total Aggregate Measure of Support (AMS); (ii) Supporting Tables DS:1 to DS:9, which present data on Green Box, Development Programmes, Blue Box, Product-Specific and Non-Product-Specific AMS, and Product-Specific and Non-Product-Specific *de minimis*; and (iii) Table DS:2, which provides detailed information on newly-introduced or modified domestic support measures for which exemption from commitments is claimed. Nonetheless, notifications from many developing and developed countries are overdue, incomplete, or contain mistakes.

2.1 Overall profile

Domestic support practices vary significantly among developing countries. Table 1 classifies WTO developing countries according to the status and content of their domestic support notifications.

TABLE 1

Developing countries' record on domestic support at the WTO (Most recent notification)

NO NOTIFICATION (Total = 44)			NO SUPPORT (Total = 15)		ONLY EXEMPT SUPPORT (Total = 42)			NON-EXEMPT SUPPORT (Total = 10)
Least-Developed Countries	**Recently-Acceded Countries**	**Other Developing Countries**	**Least-Developed Countries**	**Other Developing Countries**	**Only Green Box Support**	**Only Art. 6.2 Support**	**Only Green Box, Art. 6.2 and De Minimis Support**	**AMS Support**
1 Angola	1 Albania	1 Antigua & Barbuda	1 Benin	1 Bolivia	1 Armenia	1 Burundi	1 Bangladesh	1 Argentina
2 Burkina Faso	2 Cambodia	2 Belize	2 Haiti	2 Ecuador	2 Botswana	2 Gambia	2 Barbados	2 Colombia
3 Central African R.	3 China	3 Brunei	3 Madagascar	3 El Salvador	3 Dominican R.	3 Malawi	3 Brazil	3 Costa Rica
4 Chad	4 Macedonia, FYR	4 Cameroon	4 Maldives	4 Gabon	4 Georgia		4 Chile	4 Israel
5 Congo, Dem. R.	5 Moldova	5 Congo	5 Myanmar	5 Hong Kong	5 Guatemala	**Only Green Box and Art. 6.2 Support**	5 India	5 Jordan
6 Djibouti	6 Nepal	6 Côte d'Ivoire	6 Uganda	6 Macao	6 Guyana		6 Pakistan	6 Korea, R.
7 Guinea	7 Saudi Arabia	7 Dominica		7 Nigeria	7 Indonesia		7 Panama	7 Mexico
8 Guinea Bissau	8 Chinese Taipei	8 Ghana		8 Qatar	8 Jamaica	1 Bahrain	8 Peru	8 Morocco
9 Lesotho		9 Grenada		9 Singapore	9 Kenya	2 Cuba	9 Philippines	9 Thailand
10 Mali		10 Kuwait			10 Kyrgyz R.	3 Egypt	10 Tunisia	10 Venezuela
11 Mauritania		11 Mauritius			11 Mongolia	4 Fiji	11 Turkey	
12 Mozambique		12 Papua N. Guinea			12 Nicaragua	5 Honduras	12 Uruguay	
13 Niger		13 Saint Kitts & Nevis			13 Oman	6 Malaysia		
14 Rwanda		14 Saint Lucia			14 South Africa	7 Namibia		
15 Senegal		15 Saint Vincent & G.			15 Trinidad & Tobago	8 Paraguay		
16 Sierra Leone		16 Suriname			16 Zambia	9 Sri Lanka		
17 Solomon Is.		17 Swaziland			17 Zimbabwe	10 U.A.E.		
18 Tanzania								
19 Togo								

South Africa was considered as a developing country despite the fact that it declared itself as a developed country in the Uruguay Round.

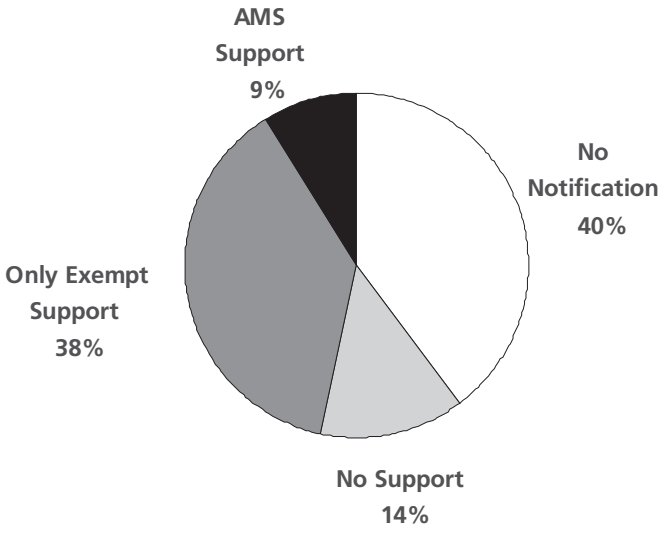
Cyprus and Malta were considered developed countries because they joined the European Union in 2004 and are in the process of adapting agricultural programmes to the European Common Agricultural Policy (CAP).

Romania was considered as a developed country because it is in the process of acceding to the European Union and will have to adapt its agricultural programmes to the European Common Agricultural Policy (CAP).

Source: Author's classification. Based on notifications to the WTO Committee on Agriculture.

The first and largest group (see Figure 1) is comprised of countries that had not submitted a single notification to the Committee on Agriculture as of 31 December 2005. Not less than 44 of the 111 developing country members of the WTO fall in this category. The group contains a large number of least-developed countries (LDCs)[1] and recently acceded countries,[2] but also includes middle-income developing countries. The great majority of these countries have not observed the notification requirements set out by the Committee on Agriculture.[3]

FIGURE 1
WTO Developing Country Members:
Status and Content of Domestic Support Notifications
(Most recent notification)



Source: Author's classification. Based on notifications submitted to the WTO Committee on Agriculture.

The second group consists of countries that have submitted notifications, but which do not provide support to the agricultural sector. It contains small customs entities without a sizeable agricultural sector (i.e. Hong Kong, Macao, Qatar and Singapore), but also countries where agriculture accounts for a substantial share of the gross domestic product (GDP) and economically active population (i.e. Bolivia, Ecuador, El Salvador, Gabon and Nigeria).

[1] Not all LDCs have failed to notify domestic support to the WTO. Eleven LDCs (Bangladesh, Benin, Burundi, Gambia, Haiti, Madagascar, Maldives, Malawi, Myanmar, Uganda and Zambia) submitted notifications at some point in time between 1995 and 2005.

[2] Not all recently acceded countries have failed to notify domestic support to the WTO. Armenia, Georgia, Jordan and Oman have all submitted notifications since WTO accession.

[3] All non-LDC WTO members must notify domestic support annually. Countries with AMS commitment levels should submit notifications no later than 90 days following the end of the year in question. LDCs should submit notifications every two years. Where no support exists, a statement to this effect should be made (WTO Committee on Agriculture, *Notification Requirements and Formats,* G/AG/2, 30 June 1995).

The third group is comprised of countries that provide support only in forms that are exempt from WTO commitments. Some of these countries (i.e. South Africa) only provide Green Box support. Others provide Article 6.2 support in conjunction (i.e. Paraguay) or not (i.e. Malawi) with Green Box support. Finally, other developing countries provide Green Box, Article 6.2 and *de minimis* support. Several larger developing countries are found in this subgroup (i.e. India, Brazil, Pakistan and Philippines).

The fourth group includes the ten developing countries that have notified AMS support in their most recent submissions to the Committee on Agriculture. They are mostly high-income (Israel and the Republic of Korea) or middle-income (Argentina, Colombia, Costa Rica, Jordan, Mexico, Morocco and Venezuela) developing countries. Some WTO members claim that other members have failed to notify existing AMS support.[4] The above classification is based only on official figures submitted by notifying countries.

While Table 1 attests that there is no such thing as a single domestic support profile for developing countries, it also indicates that the majority of these countries (nearly 80 percent of those for which notifications are available) do not provide the most trade-distorting types of agricultural subsidies (AMS and Blue Box) that are so prevalent in the developed world.

2.2 Specific types of support

Given that domestic support notifications from many developing countries are long overdue, this section of the paper focuses on the 42 countries that have submitted notifications for any year since 2000. Eight other countries (Bangladesh, China, Egypt, India, Mexico, Nigeria, Pakistan and Venezuela), which do not fall in this group, are also examined because of their importance at the respective regional levels. A total of 50 countries is thus analysed.

Green Box

In the last year for which a notification is available, Green Box support accounted for 67 percent of the total support notified by the average developing country. The share varied significantly between countries, from 15 percent in Mexico to 100 percent in Armenia, the Dominican Republic, Georgia, Guatemala, Guyana, Indonesia, Nicaragua, Oman, Paraguay, South Africa and Trinidad & Tobago (see Figure 2). If the analysis is extended to the entire 1995-2005 period, the share of Green Box support in the total support notified by the average developing country is 66 percent.[5]

[4] Australia, Canada and the United States, among others, claim that Turkey has incorrectly classified AMS support as *de minimis* support. Trade-distorting support for sugar beets in Turkey exceeded 50 percent of the value of production between 1995 and 2001. The Turkish government maintains that this does not constitute AMS support because there is no private trading.

[5] For comparison purposes, the share of Green Box support in total notified support in the most recent notifications of Japan, the United States and the European Union were respectively 76 percent, 70 percent and 24 percent. For 1995-2001, the share was 61 percent in Japan, 76 percent in the United States and 23 percent in the European Union.

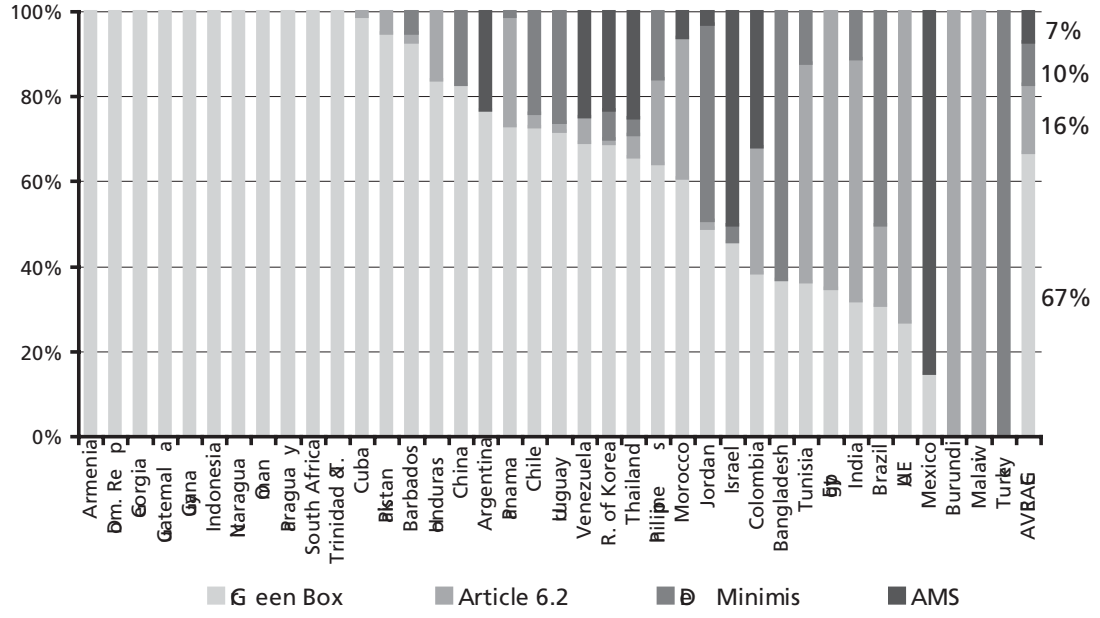
In absolute terms, China is the developing country that provides by far the most Green Box support (see Figure 3). According to a communication submitted by the Chinese government to the WTO Working Party on the Accession of China,[6] Green Box support totalled US$20.4 billion in 1998. The Republic of Korea, India, Cuba and Thailand are the only other developing countries that have provided more than US$1 billion in Green Box support in the last year for which a domestic support notification is available. These five countries together account for close to 90 percent of all Green Box support notified by the 50 developing countries analysed in the present study.

Relative to the total value of agricultural production, Green Box support in China is less prevalent that in the Republic of Korea or Cuba. Figure 4 presents Green Box support relative to total agricultural production value for seven selected developing countries. Except for the Republic of Korea, in none of the seven developing countries does Green Box support exceed 10 percent of the value of agricultural production. In China, Israel and South Africa, Green Box expenditures represent between 5 and 10 percent of total agricultural production value. In Brazil, Tunisia and Bangladesh, the share is under 2 percent. By comparison, in developed countries such as Japan and the United States, Green Box support represents between 25 and 30 percent of total agricultural production value.

FIGURE 2

Composition of Total Notified Domestic Support in Developing Countries

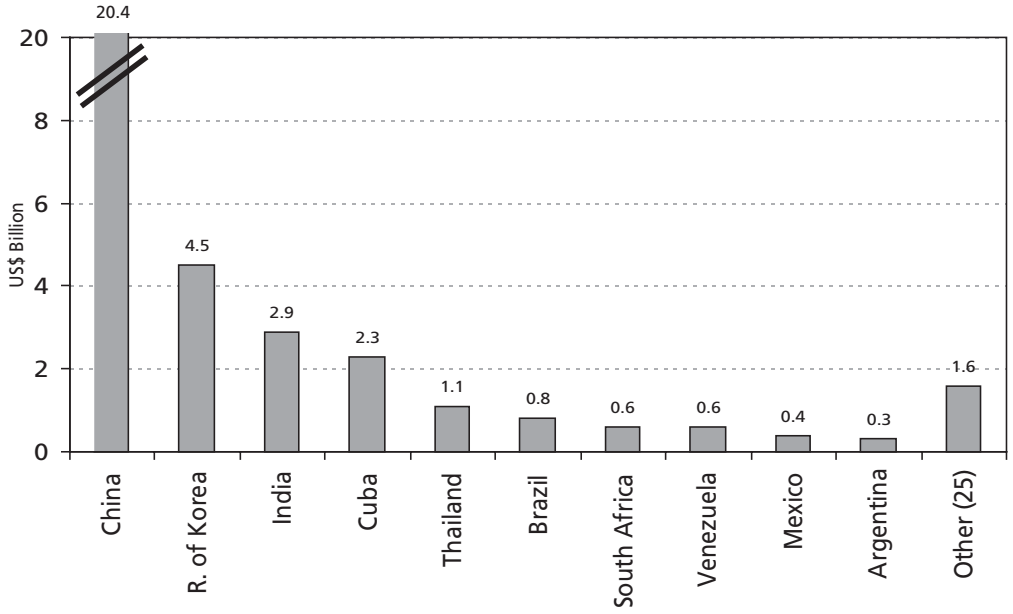
(Most recent notification)



Source: Author's classification. Based on notifications submitted to the WTO Committee on Agriculture.

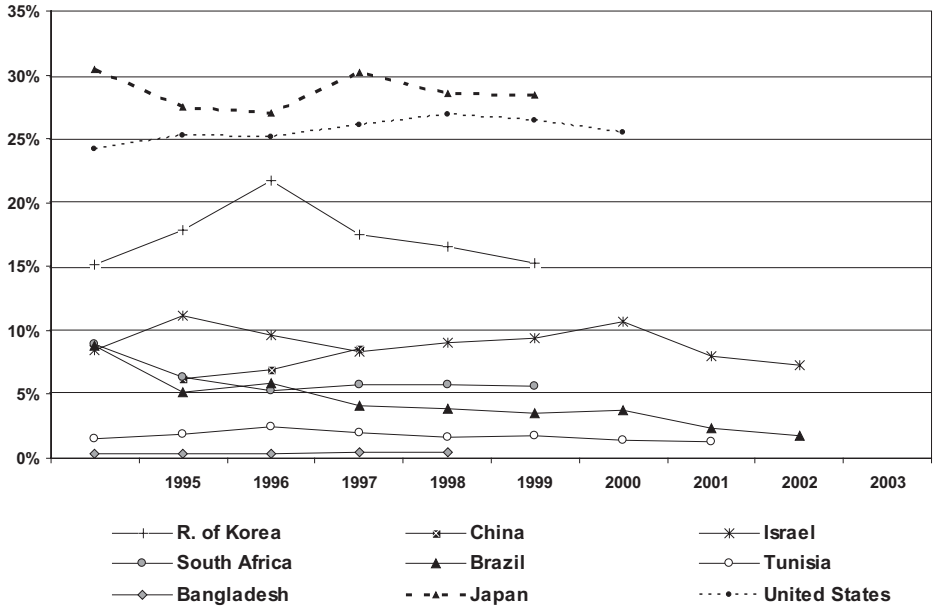
[6] WTO Working Party on the Accession of China, *Communication from China,* WT/ACC/CHN/38/Rev.3 (19 July 2001).

FIGURE 3
Green Box Support in Developing Countries
(Most recent notification)



Source: Notifications submitted to the WTO Committee on Agriculture.

FIGURE 4
Green Box Support as a % of the Value of Agricultural Production
(Most recent notification)



Source: Author's calculations. Based on WTO and OECD data.

Most Green Box support in developing countries is provided in the form of general services, especially research, sanitary defence, education and training, extension and promotion, infrastructure, and government administration. Other important categories of Green Box support include public stockholding for food security purposes, domestic food aid, payments for relief from natural disasters, and structural adjustment assistance provided through investment aids. Figure 5 illustrates the composition of Green Box support in six selected developing countries.

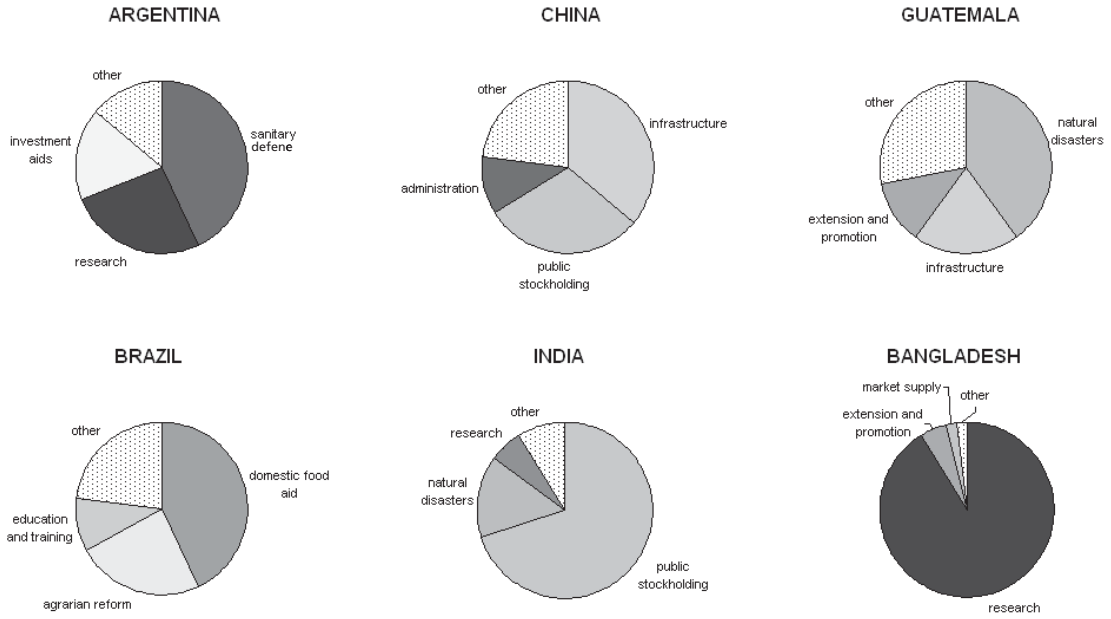
As an important meat exporter, Argentina spends a considerable share (43 percent) of its Green Box support on sanitary defence. Research (26 percent) and structural adjustment assistance through investment aids (17 percent) are Argentina's second and third most important categories of Green Box support. The composition of Green Box support in Paraguay and Uruguay - where meat also accounts for an important share of agricultural production and exports - is similar to that of Argentina. In these two countries, sanitary defence accounts for over 60 percent of total Green Box support, and research for between 12 and 14 percent.

In Brazil, domestic food aid and agrarian reform together account for over two-thirds of total Green Box support. Education and training account for an additional 10 percent. These figures indicate the strong social orientation of Brazilian Green Box policies.[7] Cuba also devotes significant portions of its total Green Box support to domestic food aid (41 percent) and education and training (24 percent). In Venezuela, domestic food aid alone accounts for 88 percent of total Green Box spending.

In China, infrastructural services constitute the single most important category of Green Box support (36 percent of total expenditures). Similar situations are found in Honduras (31 percent), Chile (32 percent) and the Dominican Republic (36 percent). Even higher shares of total Green Box spending are geared towards infrastructural services in Colombia (45 percent), Guyana (49 percent), the Republic of Korea (51 percent), the Philippines (60 percent), Georgia (61 percent), and Thailand (68 percent).

[7] Nonetheless, Brazilian expenditures on research and infrastructure have fallen significantly in 1995-2003. While the two categories represented between 25 and 30 percent of total Green Box support in the second half of the 1990s, they accounted for only 12 percent in 2003. This is of significant concern given that total Green Box support has fallen from US$4.9 billion in 1995 to US$820 million in 2003. Green Box support as a percentage of agricultural production value has fallen from 9 percent to less than 2 percent in the same period.

FIGURE 5
Composition of Green Box Support in Selected Developing Countries
(Most recent notification)



Source: Author's calculations. Based on notifications submitted to the WTO Committee on Agriculture.

China also allocates an important share (30 percent) of its Green Box spending to public stockholding for food security purposes. This type of support is even more prevalent in India, where it accounts for 70 percent of all Green Box support. The only other developing countries analysed in this study to notify support for public stockholding were the Philippines (10 percent of its total Green Box spending), Indonesia (7 percent), Israel (6 percent), the Republic of Korea (2 percent) and Brazil (0.7 percent).

Approximately 40 percent of Guatemala's Green Box support comprises payments for relief from natural disasters. This is not surprising given that the country is situated in a region prone to earthquakes and hurricanes. India also destines a significant share (15 percent) of its Green Box spending to cover relief from natural calamities.

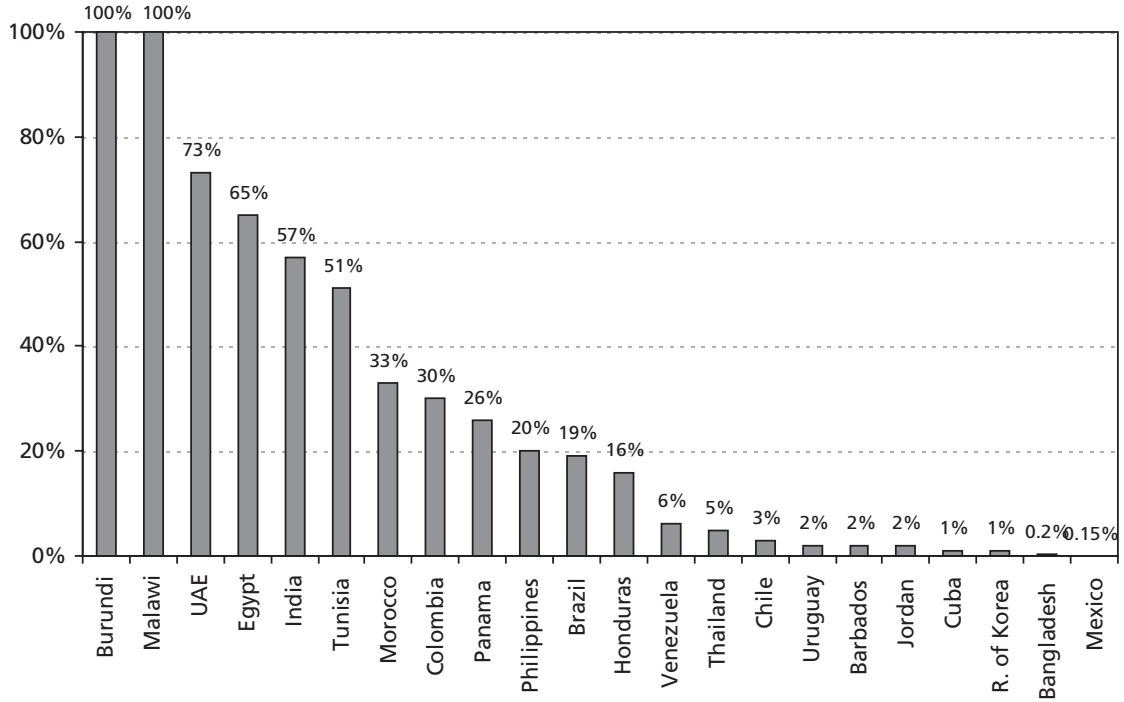
Finally, the vast majority (91 percent) of Bangladesh's scarce Green Box support is channelled through research services. A similar case is found in Trinidad & Tobago (82 percent).

Article 6.2

Taking into account the last year for which notifications are available, the agricultural and rural development measures described in Article 6.2 of the Uruguay Round Agreement on Agriculture (URAA) accounted for 16 percent of the total support notified by the average developing country (see Figure 2).[8] This makes Article 6.2 programmes the second most important type of support for developing countries.

Figure 6 presents the share of Article 6.2 support in total support to agriculture in every one of the 22 countries that notified Article 6.2 support in their most recent notifications. Shares vary significantly between countries, from 0.15 percent in Mexico to 100 percent in Burundi and Malawi.

FIGURE 6
Share of Art. 6.2 Support in Total Support to Agriculture
(Most recent notification)

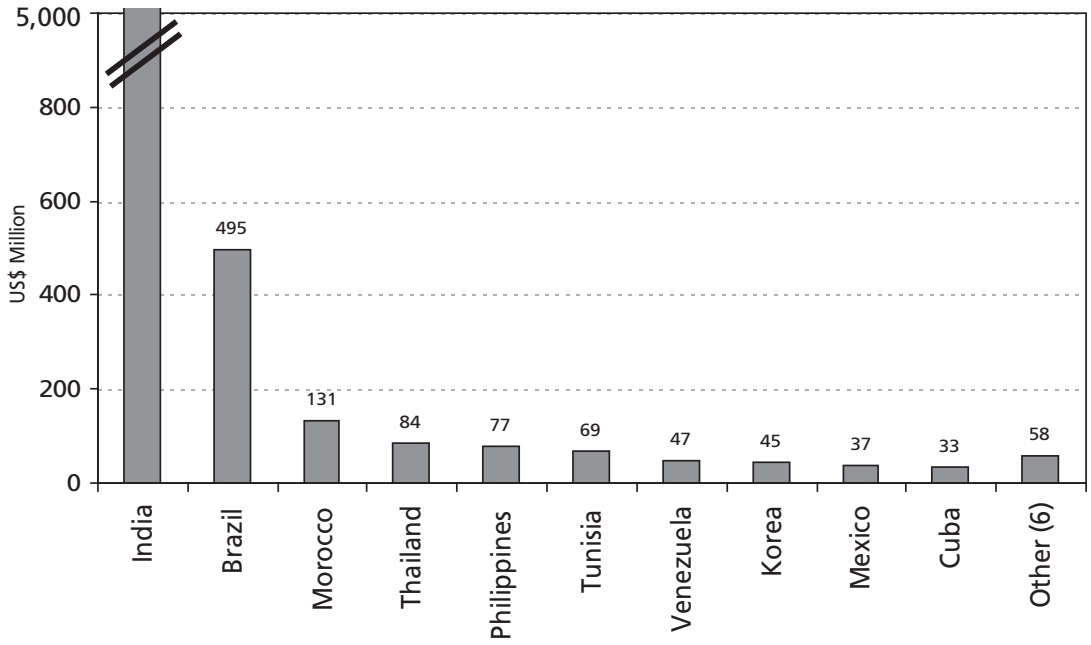


Source: Notifications submitted to the WTO Committee on Agriculture.

[8] If the analysis is extended to the entire 1995-2005 period, the share of Article 6.2 support in the total support notified by the average developing country is 17 percent.

In absolute terms, India is the country that provides by far the most Article 6.2 support (see Figure 7). In 1997, India's Article 6.2 support totalled US$5.2 billion. Brazil comes in a distant second place, with US$495 million notified in 2003. The other 20 countries notified a combined total of US$579 million.

FIGURE 7
Art. 6.2 Support
(Most recent notification)



Source: Author's calculations. Based on notifications submitted to the WTO Committee on Agriculture.

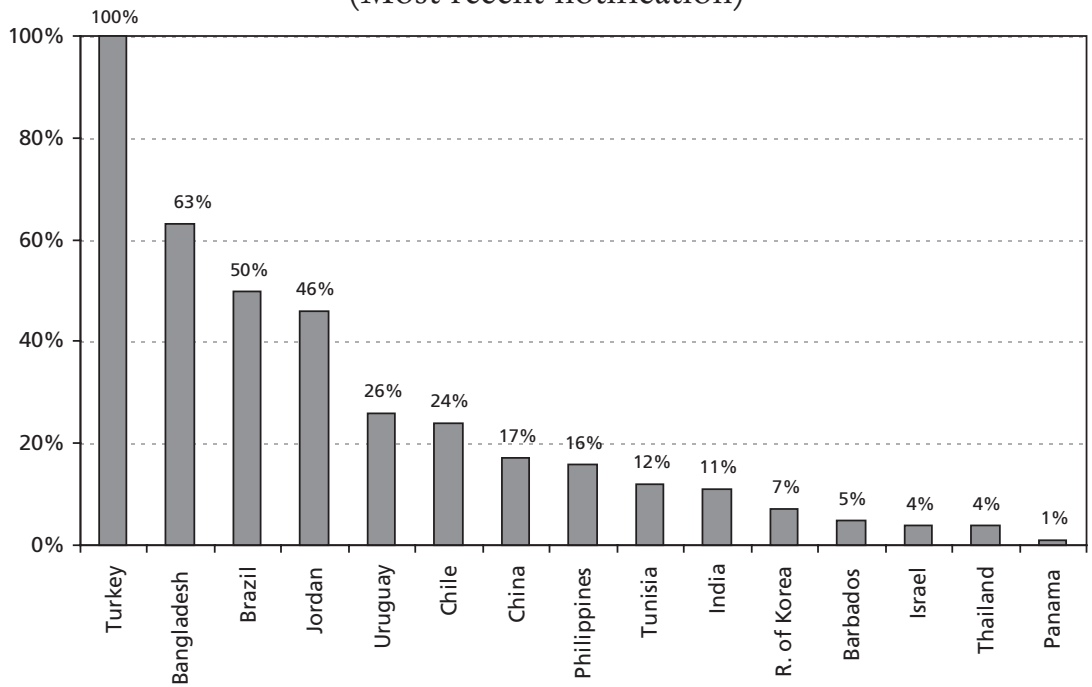
Of the three types of Article 6.2 support, input subsidies generally available to low-income and resource-poor producers are the most prevalent in five countries: Cuba, Egypt and Thailand (100 percent of total Article 6.2 support), the Republic of Korea (85 percent), and India (78 percent). Investment subsidies generally available to agriculture are dominant in the other 17 countries with Article 6.2 programmes. Support to encourage diversification from growing illicit crops was only notified by Colombia, and only in 1995-2001. In its two most recent notifications (2002 and 2003), Colombia did not notify support under this category.

De minimis

De minimis support represents 10 percent of total notified support in the average developing country (see Figure 2). Only 16 of the 50 developing countries analysed in this study provided *de minimis* support in the last year for which a notification is available. Except for three South Asian countries (Bangladesh, India, and Pakistan), they are all middle-income or high-income developing countries.

As was the case with Green Box and Article 6.2 support, the share of *de minimis* in total support varies widely between countries, from one percent in Panama to 100 percent in Turkey (see Figure 8). In absolute terms, only four countries notified substantial amounts of *de minimis* support: China, Brazil, India and the Republic of Korea (see Figure 9). In all four countries, non-product-specific support accounted for over 80 percent of total *de minimis* support.[9]

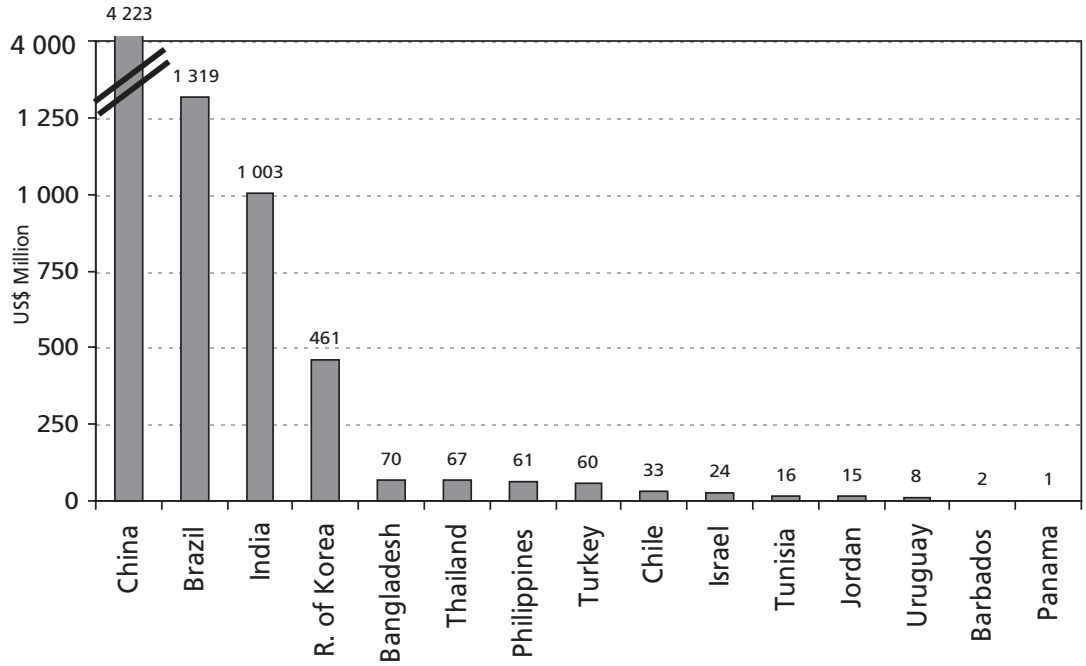
FIGURE 8
Share of De Minimis in Total Support to Agriculture
(Most recent notification)



Source: Author's calculations. Based on notifications submitted to the WTO Committee on Agriculture.

[9] The same was true in Chile, Pakistan and Uruguay. In Barbados, Panama, the Philippines, Thailand, Tunisia and Turkey, 100 percent of *de minimis* support was product-specific. In Jordan, Israel and Bangladesh, product-specific support accounted for respectively 72, 70 and 43 percent of total *de minimis* support.

FIGURE 9
De Minimis Support in Developing Countries
(Most recent notification)



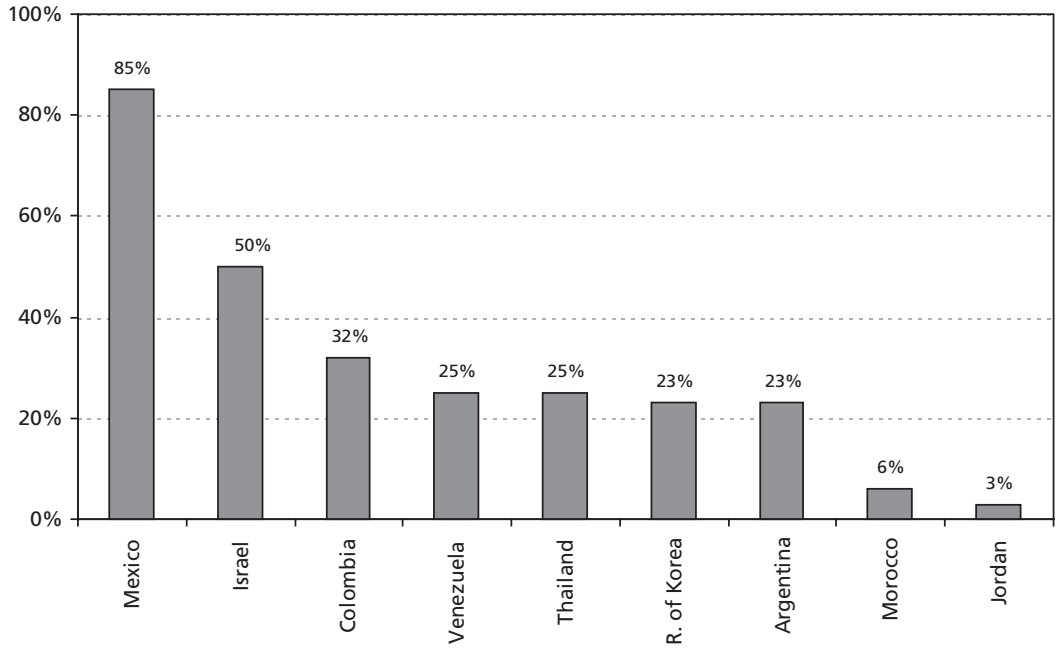
Source: Notifications submitted to the WTO Committee on Agriculture.

Aggregate Measure of Support (AMS)

The most trade-distorting form of domestic support is the least commonly used by developing countries. AMS support represents only 7 percent of total domestic support to agriculture in the average developing country (see Figure 2). Only nine out of the 50 developing countries analysed in this study notified AMS support in their most recent notifications. They are all middle-income or high-income developing countries.

AMS accounts for a very significant share of total domestic support in Mexico and Israel. In contrast, it has only a marginal role in Morocco or Jordan. In Colombia, Venezuela, Thailand, the Republic of Korea and Argentina, AMS accounts for a modest share of total support (see Figure 10).

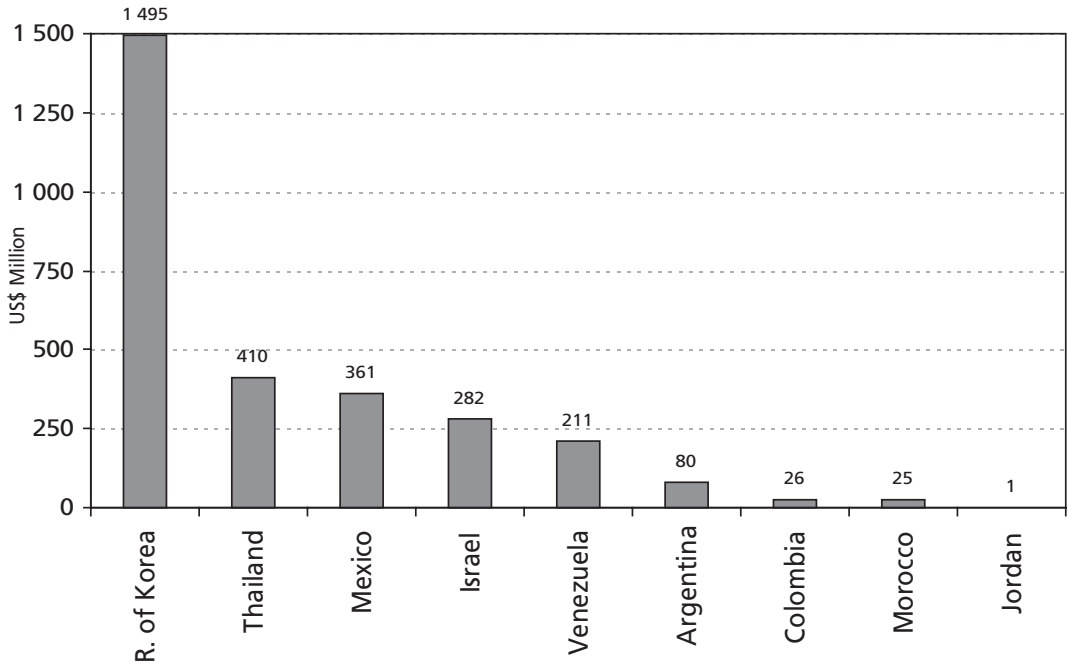
FIGURE 10
Share of AMS in Total Support to Agriculture
(Most recent notification)



Source: Author's calculations. Based on notifications submitted to the WTO Committee on Agriculture.

Just one country - the Republic of Korea - accounts for more than 50 percent of total AMS support in the 50 countries examined (see Figure 11). AMS support is also highly concentrated on a few products. Over 97 percent of Korean AMS is connected with support to rice. In Thailand, rice accounts for 79 percent of AMS support, with manioc and coffee accounting for the remainder. In Venezuela, AMS is due exclusively to maize; in Argentina, to tobacco. In Mexico, most of the notified AMS is due to maize; in Colombia, to coffee. In Israel, AMS is split between milk and eggs.

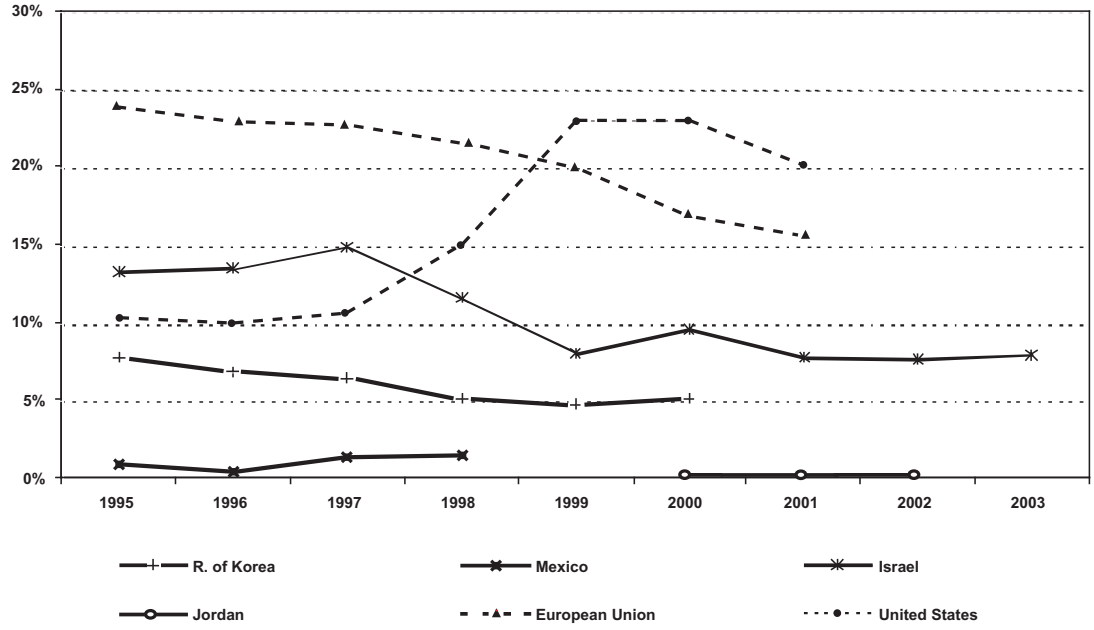
FIGURE 11
AMS in Developing Countries
(Most recent notification)



Source: Notifications submitted to the WTO Committee on Agriculture.

When compared with the total value of production, AMS in developing countries is substantially less prevalent than in the United States and the European Union (see Figure 12). There is also a significant difference between high-income developing countries (Republic of Korea and Israel) and other developing countries (Mexico and Jordan). While AMS represents between 5 and 10 percent of the value of agricultural production in the former, it corresponds to less than 1.5 percent in the latter.

FIGURE 12
AMS Support as a % of the Value of Agricultural Production: Selected Countries
(Most recent notification)



Source: Author's calculations. Based on WTO and OECD data.

Blue Box
No WTO developing country member has notified Blue Box support in the 1995-2005 period.

3. Doha Round: what has been already agreed

The 2005 Hong Kong Ministerial Declaration and the 2004 Framework Agreement contain significant provisions regarding domestic support reform efforts in developing countries. While some important issues remain unaddressed, the two documents provide a good starting point to understand the potential effects of the Doha Round on developing countries' domestic support commitments.

3.1 Hong Kong Ministerial Declaration

In the Hong Kong Ministerial Declaration,[10] adopted on 18 December 2005, WTO member countries agreed that: (i) developing countries with no AMS commitments will be exempt from reductions in *de minimis* and the overall cut in trade-distorting domestic support, (ii) developing countries with AMS commitments will undertake reduction commitments for AMS and overall trade-distorting domestic support, and

[10] WTO, *Doha Work Programme – Ministerial Declaration* (WT/MIN(05)/DEC, 22 December 2005).

(iii) Green Box criteria will be reviewed to ensure that programmes of developing countries that cause not more than minimal trade-distortion are effectively covered. These provisions and their potential impact on developing countries are analysed below.

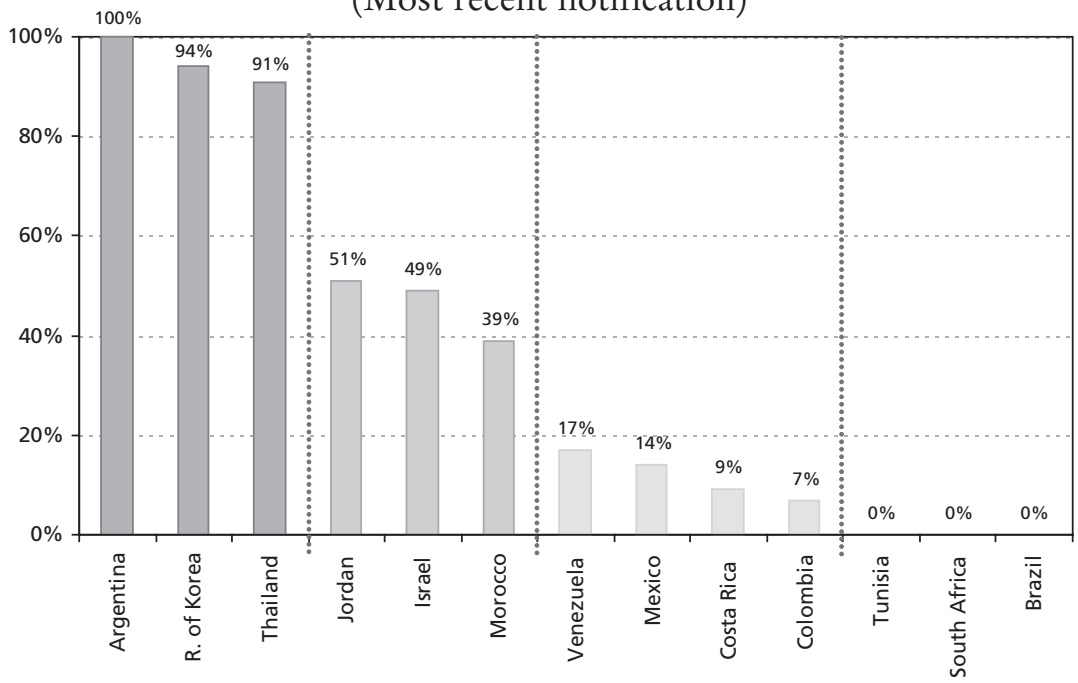
Developing countries with no AMS commitments will not have to undertake reduction commitments in de minimis and overall trade-distorting support

This is arguably the most important provision concerning domestic support in the developing world. It exempts 94 of the 111 WTO developing country members from undertaking reduction commitments for *de minimis* and overall trade-distorting domestic support in the Doha Round. This includes large developing countries such as China, India, Indonesia and Pakistan. For these countries, *de minimis* commitments will remain at the levels established in the URAA or the respective accession agreement, namely 8.5 percent of the value of production for China and 10 percent of the value of production for the remaining developing countries without AMS commitments.

Developing countries with AMS commitments will undertake reduction commitments in AMS and overall trade-distorting domestic support

Only 17 developing countries have AMS commitments and will therefore be affected by this provision (namely: Argentina, Brazil, Chinese Taipei, Colombia, Costa Rica, Israel, Jordan, Republic of Korea, Macedonia, Mexico, Moldova, Morocco, Papua New Guinea, South Africa, Thailand, Tunisia and Venezuela). Figure 13 compares notified AMS support with AMS commitment levels in 13 developing countries. Cuts on AMS commitment levels will require different degrees of adjustment from these countries. Four distinct scenarios are identified.

FIGURE 13
Notified AMS as a % of AMS Commitment Levels: Four Cases among Developing Countries
(Most recent notification)



Source: Notifications submitted to the WTO Committee on Agriculture. Notifications are not available for four developing countries with AMS commitments (Chinese Taipei, Macedonia, Moldova and Papua New Guinea).

According to the most recent domestic support notifications submitted to the WTO, three countries that have AMS commitments (Brazil, South Africa and Tunisia) do not provide AMS support. For this first group of countries, it should be relatively easy to implement cuts in AMS spending limits. Nonetheless, these countries will be making a concession in terms of reducing the amount of AMS support that they would be authorized to provide if they decided to do so in the future.

A second group is comprised of four Latin American countries (Colombia, Costa Rica, Mexico and Venezuela) that do provide AMS support, but which are using less than 20 percent of their AMS entitlements. Given the substantial difference between bound and applied levels of support, it should be relatively easy for these countries to undertake cuts in AMS. However, implementation would be considerably more troublesome if very strict product-specific caps were established for developing countries.

The third group contains three countries (Israel, Jordan and Morocco) that are using around 40 to 50 percent of their AMS entitlements. They would be forced to reduce applied levels of support only if the AMS reduction coefficient for developed countries was set at 90 percent or higher. In this case, the two-thirds proportionality rule would require a 60 percent cut from developing countries. It is unlikely that the Doha Round will produce such an outcome.

Finally, the fourth group contains the three developing countries (Argentina, Republic of Korea and Thailand) that are the most vulnerable to cuts in AMS. According to their most recent notifications, these countries are using between 90 and 100 percent of their AMS entitlements. They will invariably have to reduce AMS spending in the Doha Round. Given that AMS support in these countries is highly concentrated in a few products, they are also likely to be vulnerable to product-specific caps.

Four other developing countries with AMS commitments (Chinese Taipei, Macedonia, Moldova and Papua New Guinea) have not submitted notifications to the WTO. Therefore, it is not possible to indicate the status of their domestic support programs. Three of these countries are newly-acceded countries (Moldova joined the WTO in 2001; Chinese Taipei, in 2002; Macedonia, in 2003). Therefore, they may benefit from some type of additional special and differential treatment.[11]

Green Box criteria will be reviewed to ensure that programmes of developing countries that cause not more than minimal trade-distortion are effectively covered

The objective of this provision is to make the Green Box more user-friendly for developing countries. The G-20 believes that several provisions of the Green Box, as currently stated in the URAA, reflect the nature of agricultural programmes administered by developed countries. "Developing countries may not necessarily be able to cover their programmes under such provisions."[12] Therefore, the group argues that Green Box provisions may require modifications and clarifications in order to take into account the special circumstances prevailing in developing countries.

The fundamental requirement that Green Box measures have no, or at most minimal, trade-distorting effects or effects on production will remain unchanged. As will the basic criteria that the support be provided through a publicly-funded government programme (not involving transfers from consumers) and refrain from providing price support to producers.

The review of Green Box criteria should grant some additional legal security to developing countries regarding agricultural programmes that are not cited in the illustrative lists of Annex 2 of the URAA. Lists should be expanded to include policies that are in use by developing countries. For example, the G-20 calls for the inclusion of an eighth category of general services in Paragraph 2 of Annex 2, which would cover "agrarian, land and institutional reform, and any other programmes related to food and livelihood security and rural development, in developing country members, including services related to such reform and other programmes."[13] This type of support is already explicitly covered by the caput of Paragraph 2, which deals with programmes that provide general services or benefits to agriculture or the rural community. So much so that Brazil has notified support to agrarian reform under the Green Box for every single year between 1995 and 2003.

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[11] Proposals calling for special treatment for recently-acceded countries have been made and discussed. However, no specific flexibility provisions have commanded consensus. WTO, *Report by the Chairman of the Special Session of the Committee on Agriculture to the TNC* (WT/MIN(05)/DEC, Annex A, 22 December 2005), A-7.

[12] G-20, *Review and Clarification of Green Box Criteria* (02 June 2005), 2.

[13] Ibid., 5.

Making implicit reference to programmes such as agrarian reform makes the URAA more development-oriented and protects developing countries from potential challenges. In principle, developing country members have nothing to lose. Nevertheless, developed countries might see the revision of criteria as a concession that will have a cost. Furthermore, the review of the Green Box to ensure that developing country programmes are effectively covered may detract attention from another urgently-needed review to ensure that developed country programmes classified in the Green Box truly cause no or minimal production and trade distortions.

3.2 Framework Agreement

Additionally, the Framework for Establishing Modalities in Agriculture,[14] adopted by the WTO General Council on 1 August 2004, contained the following provisions on domestic support for developing countries:

Longer implementation periods and lower reduction coefficients for all types of trade-distorting domestic support

Paragraph 6 of the Framework enshrined the traditional form of special and differential treatment for developing countries. This provision will actually only be used by the 17 developing country members that have AMS commitments - the only ones required to undertake domestic support reduction commitments in accordance with the Hong Kong Ministerial Declaration. It is still unclear if this special and differential treatment will apply to the cap on Blue Box spending.

Continued access to the provisions under Article 6.2

Paragraph 6 of the Framework also ensures the continued access of developing countries to the exemptions from domestic support reduction commitments for the agricultural and rural development programmes contained in Article 6.2 of the URAA. This provision is important because Article 6.2 support is the second most common type of support provided by the average developing country. It is especially important in India, where input subsidies generally available to low-income or resource-poor producers and investment subsidies generally available to agriculture accounted for 57 percent of total notified domestic support in the last year for which a notification is available (marketing year 1997-1998).

Developing countries that allocate almost all de minimis support for subsistence and resource-poor farmers will be exempt from reductions in de minimis

This provision must now be read in conjunction with the provision in the Hong Kong Ministerial Declaration that exempts developing countries with no AMS commitments from undertaking reduction commitments in *de minimis* support. As it was seen above, the overwhelming majority of developing countries do not have AMS commitments and are already exempt from undertaking reductions in *de minimis* support. Therefore, the exemption for developing countries that allocate

[14] WTO, *Framework for Establishing Modalities in Agriculture* (WT/L/579, Annex A, 1 August 2004).

almost all *de minimis* support for subsistence and resource-poor farmers could only have meaning for the 17 developing countries that do have AMS commitments. However, according to the most recent domestic support notifications of these countries, only six of them provide *de minimis* support: Brazil, Israel, Jordan, the Republic of Korea, Thailand and Tunisia.[15] In order to benefit from this exemption, countries would have to prove that "almost all" *de minimis* support is allocated to subsistence and resource-poor farmers. In conclusion, this provision has an extremely limited - if not nonexistent - scope of application.

Least-developed countries will not have to undertake any reduction commitments
This provision has lost its *raison d'être* in the domestic support pillar of the negotiations for three reasons. First, because no single LDC has AMS commitments. Second, because of the 33 LDC members of the WTO,[16] only Bangladesh has ever notified *de minimis* support. Because it has no AMS commitments, Bangladesh is also exempt from reducing *de minimis* support. Finally, the four other LDCs that have ever notified domestic support to agriculture (Burundi, Gambia, Malawi and Zambia) have only made use of types of support that are already exempt from reduction commitments: Green Box and Article 6.2 support.

The domestic support provisions already agreed in the 2005 Hong Kong Ministerial Declaration and the 2004 Framework Agreement, combined with the domestic support notifications submitted to the Committee on Agriculture, indicate that, except for a small number of middle- and high-income developing countries, no other developing country should have its ability to support agriculture further constrained by the ongoing WTO negotiations. Nevertheless, the exact outcome of the Doha Round will depend on both the treatment of issues that remain unresolved in the negotiating process and on the type of agriculture that developing countries envisage for their future.

4. Ways forward

4.1 What needs to be negotiated

Significant issues still remain open regarding developing countries' domestic support commitments in the Doha Round. The most critical are:

1. the reduction coefficient for AMS;
2. the reduction coefficient for overall trade-distorting domestic support;
3. whether developing countries with AMS commitments will have to apply a separate cut to *de minimis* support (in addition to the cut that may result from the cut on overall trade-distorting domestic support);

[15] The other 11 developing countries with AMS support either did not provide *de minimis* support in their most recent notification (Argentina, Colombia, Costa Rica, Mexico, Morocco, South Africa and Venezuela) or have not yet submitted domestic support notifications to the WTO (Chinese Taipei, Macedonia, Moldova and Papua New Guinea).

[16] Annex B presents a list of the least-developed country members of the WTO.

4. whether product-specific AMS caps will apply to developing countries, and, if affirmative, which methodology and base period will be used;
5. whether the 20 percent down payment in overall trade-distorting domestic support will apply to developing countries;
6. which Green Box provisions will be revised and how; and
7. the length of the implementation period.

4.2 Policy space for domestic support in developing countries

While most developing countries will be exempt from domestic support reduction commitments in the Doha Round, the outcome of the negotiations for some developing countries will depend on the treatment provided to the issues listed above. Policy space for agricultural domestic support should remain unchanged for countries that do not have AMS commitments, but will most likely be constrained for countries that do have AMS commitments. The impact of this loss of policy flexibility will vary from country to country, and will depend on both the current status of domestic policies and expectations for future support to agriculture.

Developing countries that do not have AMS commitments will not have their policy space for agricultural domestic support reduced by the Doha Round. These countries will continue to have access to three types of support which they have provided since the establishment of the WTO: Green Box, Article 6.2 and *de minimis*. While the provisions on Article 6.2 and *de minimis* support should remain unchanged for these countries, the review envisaged for the Green Box should make it better tailored to meet the realities of developing country agriculture.[17] Therefore, access to this type of support may be encouraged by the ongoing negotiations.

Developing countries that have AMS commitments will have to undertake reduction commitments on AMS and overall trade - distorting domestic support. According to the Hong Kong Ministerial Declaration, developing country members will be placed in the lowest of three bands for both cuts. Although reduction coefficients have not yet been agreed, post-July 2005 proposals for cuts in the bottom band of the tiered formula for AMS have varied from 37 to 60 percent. The most aggressive proposal (60 percent cut) would reduce policy flexibility for five of the 13 developing countries with notified AMS support (Argentina, Republic of Korea, Thailand, Jordan and Israel), and would leave one country (Morocco) barely untouched. The least aggressive proposal (37 percent cut) would only affect three countries (Argentina, Republic of Korea and Thailand). As indicated in section 2.2.4., developing countries will have their policy flexibility further restricted if they are required to implement product-specific caps in AMS support.

Proposals for cuts in the bottom band of the tiered formula for overall trade-distorting domestic support have varied between 31 and 70 percent. To accurately simulate the results of such cuts, data on total agricultural production value are needed. Official data were only obtained for Brazil, Israel, Jordan, the Republic of Korea and

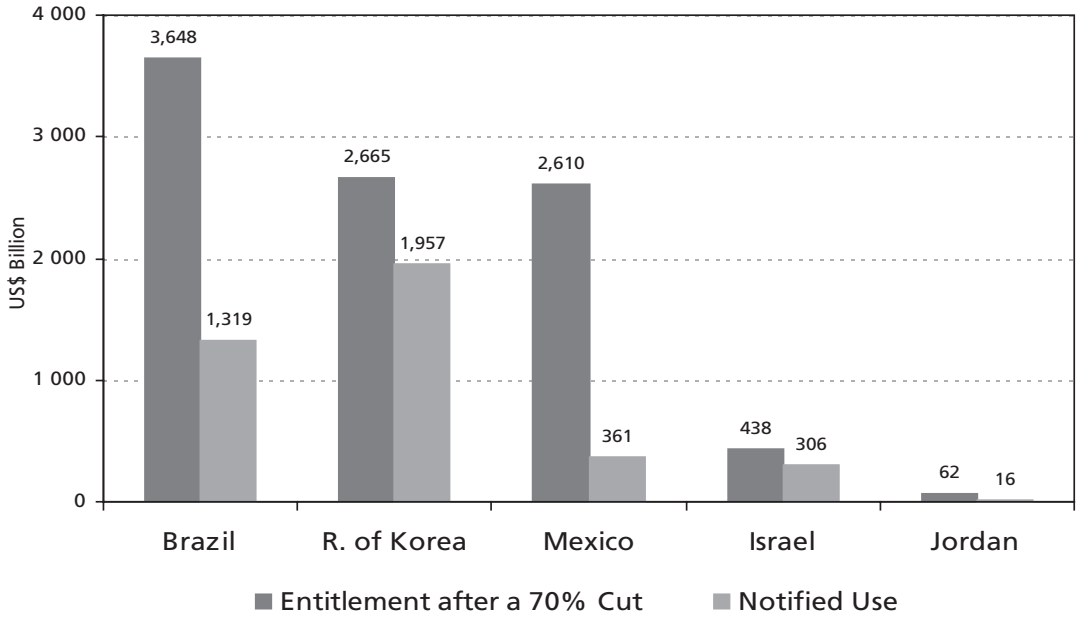
[17] WTO, *Report by the Chairman of the Special Session of the Committee on Agriculture to the TNC* (WT/MIN(05)/DEC, Annex A, 22 December 2005), A-4.

Mexico. Even the most aggressive proposal (70 percent cut) would have no effect on current domestic support as notified by these five developing countries (see Figure 14). Therefore, no additional cut on AMS, *de minimis* or the Blue Box would be necessary. This is because the starting point for the cut on overall trade-distorting support in developing countries consists of AMS commitments plus 25 percent of the value of total agricultural production (10 percent for product-specific *de minimis*, 10 percent for non-product-specific *de minimis*, and 5 percent for the "new" Blue Box).

FIGURE 14

Overall Trade-Distorting Domestic Support: Notified Use and Entitlement After a 70% Cut in the Doha Round

(Most recent notification)



Source: Author's calculations. Based on WTO and OECD data.

Developing countries with AMS commitments may also have to cut *de minimis*. Such reduction in *de minimis* would represent a major concession by developing countries. This is especially true for product-specific support and for countries that provide a large share of their total support under the *de minimis* provision. In the long run, a reduction in the threshold level for *de minimis* support could significantly reduce future policy flexibility for developing countries. While AMS commitments are set in nominal terms and tend to correspond to decreasing shares of total agricultural production value over the years, the *de minimis* exemption is a dynamic provision that indirectly accounts for factors such as inflation and increased value of agricultural production.

Developed countries are pushing for *de minimis* cuts in developing counties with AMS commitments. The level of 8.5 percent of the total value of agricultural production, which was the *de minimis* level established for China upon accession to the WTO in 2001, is a figure envisaged as a target for the final *de minimis* for developing countries. The adoption of a lower *de minimis* threshold would adversely impact countries where product-specific support as a percentage of the production value of a given product is close to the 10 percent threshold level. This was the case for garlic and maize in Thailand (9.83 and 9.33 percent of the value of production in 2001 respectively), and beef in the Republic of Korea (9.28 percent of the value of production in 1997). If the *de minimis* threshold level had been established at 8.5 percent of the production value (instead of 10 percent), support for garlic and maize in Thailand and beef in the Republic of Korea would have counted towards Total Current AMS and would have resulted in the violation of these countries' AMS commitment levels in 2001 and 1997 respectively.

The potential outcome of the Doha Round for developing countries in terms of their own domestic support commitments provides a mixed picture. For 85 percent of all developing country members, including large countries such as China, India and Indonesia, no flexibility will be lost in terms of Green Box, Article 6.2 and *de minimis* support. While the review of Green Box criteria may make it more development-friendly, the expansion of the Blue Box will not serve the interests of developing countries. For the 17 developing countries that have AMS commitments, the required reduction in the levels of such commitments may be accompanied by the introduction of AMS product-specific caps and reductions in *de minimis*. Depending on these countries' current record on domestic support and on their envisaged development needs, the new disciplines established in the Doha Round will require different degrees of adjustment efforts.

Developing countries are not the source of most trade-distorting domestic support among WTO members. In fact, they suffer significantly from the drastic effects of subsidies applied in the developed world. The developing country contribution to the reform process in the domestic support pillar should reflect both this reality and need for special and differential treatment to address their development concerns. However, even more important is that developed countries effectively reduce their applied levels of trade-distorting domestic support.

ANNEX A

DEVELOPING COUNTRY MEMBERS OF THE WTO (Total = 111)

Albania	Chile	Guatemala	Malawi	Papua New Guinea	Togo
Angola	China	Guinea	Malaysia	Paraguay	Trinidad & Tobago
Antigua & Barbuda	Colombia	Guinea-Bissau	Maldives	Peru	Tunisia
Argentina	Congo	Guyana	Mali	Philippines	Turkey
Armenia	Congo, Dem. R.	Haiti	Mauritania	Qatar	Uganda
Bahrain	Costa Rica	Honduras	Mauritius	Rwanda	United Arab Emirates
Bangladesh	Côte d'Ivoire	Hong Kong, China	Mexico	St Kitts & Nevis	Uruguay
Barbados	Cuba	India	Moldova	St Lucia	Venezuela
Belize	Djibouti	Indonesia	Mongolia	St Vincent & Grenadines	Zambia
Benin	Dominica	Israel	Morocco	Saudi Arabia	Zimbabwe
Bolivia	Dominican R.	Jamaica	Mozambique	Senegal	
Botswana	Ecuador	Jordan	Myanmar	Sierra Leone	
Brazil	Egypt	Kenya	Namibia	Singapore	PLUS:
Brunei Darussalam	El Salvador	Korea, R.	Nepal	Solomon Is.	South Africa[1]
Burkina Faso	Fiji	Kuwait	Nicaragua	Sri Lanka	
Burundi	Gabon	Kyrgyz R.	Niger	Suriname	
Cambodia	Gambia	Lesotho	Nigeria	Swaziland	NOT INCLUDING:
Cameroon	Georgia	Macao, China	Oman	Taipei, Chinese	Cyprus[2]
Central African R.	Ghana	Macedonia, FYR	Pakistan	Tanzania, U.R.	Malta[2]
Chad	Grenada	Madagascar	Panama	Thailand	Romania[3]

[1] South Africa is seeking to be recognized as a developing country in the Doha Round.
[2] Cyprus and Malta are considered developed countries due to their entry into the EU.
[3] Romania is considered a developed country due to the advanced stage of its EU entry negotiations.

ANNEX B

LEAST-DEVELOPED COUNTRY MEMBERS OF THE WTO (Total = 32)

Angola	Central African R.	Guinea-Bissau	Mali	Rwanda	Uganda
Bangladesh	Chad	Haiti	Mauritania	Senegal	Zambia
Benin	Congo, Dem. R.	Lesotho	Mozambique	Sierra Leone	
Burkina Faso	Djibouti	Madagascar	Myanmar	Solomon Is.	
Burundi	Gambia	Malawi	Nepal	Tanzania, U.R.	
Cambodia	Guinea	Maldives	Niger	Togo	

ANNEX C

DEVELOPED COUNTRY MEMBERS OF THE WTO (Total = 37)[4]

Australia	New Zealand	Czech R.	Hungary	Poland	PLUS:
Bulgaria	Norway	Denmark	Ireland	Portugal	Cyprus[1]
Canada	Switzerland	Estonia	Italy	Slovenia	Malta[1]
Croatia	United States	Finland	Latvia	Slovak R.	Romania[2]
Iceland	EU MEMBERS:	France	Lithuania	Spain	
Japan	Austria	Germany	Luxembourg	Sweden	NOT INCLUDING:
Liechtenstein	Belgium	Greece	Netherlands	United Kingdom	South Africa[3]

[1] Cyprus and Malta are considered developed countries due to their entry into the EU.
[2] Romania is considered a developed country due to the advanced stage of its EU entry negotiations.
[3] South Africa is seeking to be recognized as a developing country in the Doha Round.
[4] The WTO has 38 developed members if the European Union is counted as a separate entity from its own member countries.

12

Roles and status of state supported trading enterprises in developing countries

Lamon Rutten

1. Introduction

In a recent informal expert consultation on export competition held at the Food and Agriculture Organization[1], it was suggested that the potentially positive roles that State-supported Trading Enterprises (STEs) can play in supporting developing country producers, given the incidence of both domestic and international market failures, could be put at risk in the attempt to discipline aspects of their status and actions.

While concerns on the trade-distorting effects of STEs have been expressed in various quarters in the WTO context the efforts towards reform have been spearheaded by the United States (Ingco and Ng, 2002). For example, in 2002, the US Trade Representative announced that "the United States will aggressively seek in the WTO:

- To end exclusive export rights to ensure private sector competition in markets controlled by "single desk", monopoly exporters;
- To eliminate the use of government funds or guarantees to support or ensure the financial viability of single desk exporters; and,
- To establish WTO requirements for notifying acquisition costs, export pricing, and other sales information for single desk exporters." (Office of the United States Trade Representative, 2002)

This US policy is primarily in response to the operations of the Australian and Canadian Wheat Boards, which are seen as unfairly competing with US exporters. This paper will not discuss whether this response is justified or not. In any case, even if the US is fully successful in its efforts, the private sector and the institutional support systems for commodity trade (for logistics, financing, grading etc.) in Australia and Canada are well developed, and producers and (new) exporters in

[1] See FAO, 2005.

these countries will be able to adapt. Rather, this paper focuses on the agricultural sector STEs of developing countries, which even if they are not specifically targeted, may be negatively affected by broadly drawn measures in the framework of WTO negotiations. These countries' private sectors and trade institutions are much less developed, and without capacity- and institution-building support, and sufficient time to build up private sector capacity, they may suffer unnecessarily.

On thin evidence, State-supported Trading Enterprises (STEs) have at times been maligned for their role in distorting trade. Given their bundled roles and exclusive powers, and their multiple services as economic agents, public servants and managers of transition, the potential for trade distortion indeed exists. But is the existence of this potential enough of a reason to advocate the termination of these institutions? After all, they have not been created as a tool to distort international markets, but rather to respond to the necessities of internal markets. A meaningful assessment of what should be done with STEs in the context of the WTO negotiations is only possible in the light of their overall contributions to the sectors in which they are active, and the underlying factors which define their raison d'être and guide their heterogeneous activities. The objective of this paper on agricultural STEs of developing countries is to make such an assessment.

The broad position of this paper is that commodity trade should in principle be undertaken by private sector or cooperative organizations. As a rule state enterprises are overly exposed to non-commercial pressures - in terms of management, operational procedures, objectives etc. - and tend to have insufficient checks and balances, with the result that they become inefficient and act as a burden to the government. However, one should be realistic since commodity trade is complex, and, faced with a poorly developed institutional framework for trade, in many countries the private sector and cooperatives may not have the wherewithal to compete in the global market, or to provide sufficient security of supply to domestic consumers. Moreover, for countries with poorly developed quality control systems, it may be necessary to strictly regulate exports, to prevent irresponsible or poorly organized exporters from spoiling the country's reputation in international markets. Even if such regulation is delegated to a private sector association, the result may be a STE in the sense of GATT. If developed countries want developing countries to give up their STEs, but wish to avoid negative effects, they should seriously consider supporting the development of the capacities, institutions and infrastructure for trade in these countries.

This paper provides an overview of the prevalence of agricultural sector STEs in developing countries. It discusses the critical functions that they may perform, and examines whether STEs have a comparative advantage in performing these functions, and reviews the arguments for and against monopoly status of such STEs. For example, the extent to which enterprises with monopoly status can exert control on domestic markets (procurement) and international markets (sales), whether state supported trading enterprises and private operators could coexist in the absence of monopoly rights, and the consequences of the inability of state supported trading enterprises to coexist. On the basis of the review and arguments developed, it

draws conclusions with respect to the reform of STEs, as currently discussed in the framework of the WTO.

The legal definition of state trading enterprises or state supported trading enterprises (used interchangeably in this report and further referred as STEs) implies that they are entities who influence trade. STEs are essentially institutions in the agriculture markets that can perform multiple roles as economic agents, regulators, public policy conduits, industry development bodies, etc. It has been argued that their exclusive powers, influencing trade, make them vehicles of protectionism, often distorting trade. On the other hand their role in improving export competitiveness (which particularly developed country STEs have done with great effect) and as providers of critical infrastructure rendering important public services is also known. For instance, in Asia the public distribution system has contributed in reducing the percentage of under-nourished from almost 40 percent to 16 percent (FAO, 2004), while the procurement operations of state enterprises provided the market security necessary to enable farmers to adopt new crop technologies (Rashid, Cummings and Gulati, 2005).

In order to move the debate towards less politicized grounds, this paper seeks to understand the roles played by STEs in developing countries. Section 1 further describes what is meant with STEs and what key roles they can play. Section 2 provides an overview of the major STEs in developing countries, discussing their current status, economic and regulatory functions, and exclusive controls. The relevance of economies' food security position and the size of domestic markets is discussed, as are commodity-specific drivers of these STEs' functioning. Based on this discussion, section 3 explores the options that are before policy makers. To provide a better perspective, the experiences of some of the STEs in developed countries are described. The concluding section stresses the need for a phased transition, with market-based alternatives to the STEs' critical functions developed alongside any programme of reform of STEs.

2. State-supported trading enterprises

2.1 Meaning

Classifications of STEs have included criteria of ownership and scope of operations as well as the ability of an STE to impact trade through its monopolistic powers or otherwise. In practice they could be engaged in any part of the agriculture supply chain, engaging in activities like production, processing, domestic or foreign trade, directly or indirectly. In form they could be government agencies, statutory marketing boards, export marketing boards, regulatory marketing boards, fiscal monopolies, canalizing agencies, foreign trade enterprises, and boards and corporations resulting from nationalized agencies.

GATT defines STEs for the purpose of notifying the Council for Trade in Goods as "Governmental and non-governmental enterprises, including marketing boards, which have been granted exclusive or special rights or privileges, including statutory or constitutional powers, in the exercise of which they influence through

their purchases or sales the level or direction of imports or exports."[2] Thus, STEs need not be state-owned, nor need they be monopolies. In recent years, several state-owned STEs have been restructured into cooperatives - and they may or may not lose their STE status in the process. One notable case in kind is New Zealand's Fonterra, which replaced its Dairy Board, a STE. After this change, New Zealand did not notify Fonterra as a STE. Fonterra is the world's largest dairy exporter, and accounts for virtually all of the country's exports. But it does not have "exclusive rights" and according to the government, its management of European Community (EC), Japanese and United States (US) import quota is just for practical purposes - so this does not amount to special rights or privileges. [3] WTO rules require notification every three years, and separate notifications of any change in status, but many members ignore this obligation. Even those who do notify may provide statistical data that are years out of date.[4]

Broader definitions have been proposed. For example, some have noted that the EC's export tender system as well as the United States exports under the Export Enhancement Programme (EEP), food aid, and export credit guarantee programmes have a similar impact to state trading because, in these cases, decisions are made on a case-by-case basis (by the government) whether to export more or less, whether to influence the price, or in other ways to affect the terms of sale (Sorenson, 1991). However, this has remained a minority opinion. The WTO Working Party on State Trading Enterprises is currently trying to develop a more elaborated methodology to help governments determine whether a certain company is a STE or not.[5]

2.2 Significance of STEs in developing countries

The GATT definition of STEs focuses on their ability to influence the level or direction of imports or exports. The concern was two-fold: STEs' exclusive rights can allow them to engage in non-competitive behaviour that contributes to trade distortions; and the lack of transparency in their pricing or operations can conceal violations of countries' GATT obligations and commitments. Against this background, Article XVII of GATT required that contracting parties operate their STEs "in a manner consistent with the general principles of non-discriminatory treatment", making purchases or sales based purely on commercial considerations and allowing other businesses to compete. It also introduced reporting requirements.

In developing countries, creating the ability to influence the level or direction of imports or exports played little or no role in the establishment of STEs. Rather, STEs were meant to remedy perceived or real market inefficiencies, in sectors

[2] Understanding on the Interpretation of Article XVII of the General Agreement on Tariffs and Trade, 1994.

[3] In the Hong Kong WTO negotiations in December 2005, the EC Agricultural Trade Commissioner referred to Fonterra as a STE, but New Zealand denied that this was the case. Given the way that Fonterra has tied up New Zealand's dairy producers (who, if they want to deliver to Fonterra, have to deliver all of their milk), there are question marks about the validity of the New Zealand position.

[4] For further discussion on the definition of STEs under GATT/WTO see Xie, 2003.

[5] The WTO website provides considerable information on STEs: see www.wto.org/english/tratop_e/ statra_e/ statra_e.htm.

deemed critical by the Government. If they influence the level or direction of trade, this is a secondary effect of their operations. While this does not imply that other countries need not be concerned about these STEs, it does imply that when trying to impose new disciplines on STEs, or arguing for their abolition, one needs to consider these STEs' primary functions. The major ones are the following:

1. Food security: targeted assistance in providing affordable food supplies through public distribution systems and welfare schemes are an important means of improving food security and living standards. The role of the public distribution system (PDS) in reducing poverty and malnutrition has been documented in the Asia-Pacific region. Another stabilizing function is the role STEs play in preparing for emergencies by stocking food reserves and intervening in times of crisis.
2. Food self-sufficiency: domestic procurement operations are used by STEs to incentivise production of crops critical for domestic security. Through input and market support many countries have been successful in achieving food sufficiency. As a secondary function, measures in sustaining producer income also provide an impetus for higher investment in agriculture.
3. Market functions: through a framework of institutions and policies, STEs constitute a cornerstone of the agro-industry. By engaging in domestic procurement, they can provide a ready market and price for producers. As aggregators achieving economies of scale in trading operations, improving terms of trade, and fulfilling international commitments on quantity, price, and credit requirements they can lead export competitiveness - as large entities, they can afford to invest in market expertise, can negotiate better prices, more competitively-priced loans, better freight rates, and longer-term forward contracts. They have the means to set up robust agricultural infrastructure facilities for warehousing, scientific preservation, grading, weighing, transportation, distribution, etc. In all these cases, they have an unbiased reach (indeed, those with procurement operations often are obliged to have a pan-regional presence, buying even in remote areas), which in turn is an important means for ensuring accessibility to marginalized participants.

In all these cases, the relevance of these functions is hard to criticize. However, there is a large scope for exploring modalities. STEs may provide these functions at a cost higher than that of alternative arrangements, and some of their operations may have counterproductive effects, in particular by weakening the private sector. For example, STEs that try to stabilize food prices for consumers across the year discourage private-sector food storage; and stabilizing food prices across the country creates major disincentives for private food sellers in remote areas. But in any case, merely abolishing a STE will not automatically lead to another (private) entity filling the gap. After describing in more detail in section 2 what STEs in developing countries do, section 3 discusses policy options that do not "throw out the baby with the bath water".

3. Overview of major STEs in developing countries

This section presents an overview of the major STEs in developing countries, providing information on (i) their economic and policy functions, and the special privileges granted to the STEs; and (ii) the significance of the STE. For the purpose of this study, the major agricultural STEs of developing countries which were reported to the WTO, as well as those of Vietnam and Kazakhstan (which at time of writing were not yet WTO members), and a few other significant STEs of WTO-member countries which were not reported are considered.

3.1 China: COFCO - National Cereals, Oil and Foodstuff Import and Export Co (rice)

Overview: COFCO has in recent years transformed itself from a trade-only company into a transnational conglomerate covering grain purchasing, processing and marketing. "COFCO Grain & Oil" is the subsidiary engaged in policy-related trading of grain (rice, wheat, maize), oil and sugar. As China's largest trading company of agricultural commodities it is engaged as a government-licensed agency for state trading.

Economic activities: procurement (from domestic traders and cooperatives), processing, exports and imports.

Policy functions: policy counsel for the government on agricultural issues.

Special privileges: sole STE designated to import grains (rice, wheat and maize).

Significance of STE: China is the world's largest rice consumer, with 60 percent of its population or more than 700 million people living on rice as their staple food (Xubo, 2004). Self-sufficiency is an established policy and the government has been successful in this regard. In 2002, imports by COFCO comprised only 8.4 percent and 1 percent of the total production of maize and rice respectively (WTO notification, 2003), and in many years China is a net grain exporter. COFCO works more like an agent in the institutional network of marketing organizations. As the conduit of the trade policy, it has, to a large extent, control over grain stocks, domestic marketing, and the mechanisms to manage grain imports and exports; all this traditionally determined the level and direction of its foreign grain trade (Crook, 1999). A corollary to this achievement of self-sufficiency has been China's emergence as a top five rice exporter. COFCO, with the flexibility it has in its domestic operations and its growing investments in state-of-the-art rice processing plants, is well-positioned to respond to international demand. On the other hand, its role in world grain markets is not so large that it can exercise much influence.

Another state-owned entity, the Jilin Grain Group Import and Export Co., is the only other licensed exporter of grains (rice and maize), but it is not notified as an STE to WTO.

3.2 India: FCI - Food Corporation of India (foodgrains)[6]

Overview: FCI is the major agricultural STE in India. In 2001, India notified the WTO of 11 agricultural import STEs, and three agricultural export STEs, and it was estimated that about 40 percent of agricultural GDP was accounted for by these STEs (McCorriston and MacLaren, 2006). FCI is structured as a Public Service Undertaking under the administrative control of the Federal Government's Department of Public Distribution. It was set up under the Food Corporation Act 1964.

Economic activities: procurement both from the rice mills and directly from the farmers; distribution of the grains in deficit areas. In doing so it undertakes the storage and transportation of grains.

Policy functions: guaranteeing procurement prices for a certain amount of the production; managing the targeted Public Distribution System (PDS); maintaining the country's buffer stock for foodgrains; market intervention for price stabilisation.

Special privileges: import of some commodities (wheat, coarse grains, basmati rice[7]) is permitted (though on commercial considerations) only through FCI. Exports are free except in the cases of rice in husk, which requires a licence, and basmati rice which requires the registration of the contract. The Government of India provides funds to FCI to meet the cost of fixed assets like offices, godowns (warehouses), silos, railway sidings and weighbridges. Working capital is provided under a revolving facility by a consortium of 44 banks at the maximum lending rates prescribed by the Central Bank. Private enterprises exist for domestic and international trade.

Significance of STE: with grain production concentrated in a few states, some government intervention is required to ensure the availability of grains at reasonable prices in remote areas. Over 12 000 FCI collection centres assure that the farmer does not have to travel more than 10 km to sell his grains. Given India's self-sufficiency in grains, FCI has only limited participation in international trade. Restrictions over imports are seen as a tool to control supplies and in this way, ensure a fair return for the over 85 million small and marginal farmers. The FCI's assured procurement[8] accounts for only 15-20 percent of India's wheat production and 12-15 percent of rice production, and all of it serves to meet the commitments of PDS and buffer stocks (it is not sold on the "commercial" market). Moreover, the FCI's price works only as a floor price as farmers are permitted to sell in the open market. About ten states (in India, agricultural policy is a state responsibility, not a federal one) have initiated agricultural reforms, including legal and administrative action, permitting "direct marketing" and "contract farming".

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[6] Wheat, rice and coarse grains. Rice and wheat comprise roughly 80 percent of grain production.

[7] Import and export of coarse and certain broken varieties of rice is permitted freely.

[8] A separate body of the Ministry of Agriculture, the Commission for Agriculture Costs and Prices, sets these floor prices.

However, while FCI has performed important functions, it has generally done so inefficiently. The presence of food mountains around its warehouses (when it ran out of space inside them) amidst hunger, and its burgeoning operational costs have been contentious. Its modalities for transporting grain are expensive and have caused large losses. Recently, the government has taken some positive steps towards making FCI a leaner organization. For instance, the national policy on handling storage and transportation of foodgrains (2004) aims to build warehouses and field depots through private sector participation on a Build-Own & Operate (BOO) basis.

3.3 Indonesia: Perum Bulog[9] (Rice)

Overview: Bulog, the state logistics agency, changed its status from a non-profit to a profit-oriented state-owned company, becoming a full-fledged professional commercial enterprise, in 2003. *Economic activities:* domestic procurement, distribution, import, export of rice.

Government policy functions: assured rice procurement (1.75 to 2.0 million tonnes annually in milled rice equivalent, which amounts to approximately 6-7 percent of the total rice production); targeted rice distribution system (Raskin programme) - the Government feels that supplying rice to all of the dispersed islands of the large Indonesian archipelago cannot be left to pure commercial considerations; maintenance of national reserve stocks; trading activities of various strategic commodities on profit making terms (on a government mandate).

Special privileges: control over rice imports. Private enterprises exist for domestic and international trade.

Significance of STE: the case of Indonesia is interesting as the existing control over rice imports (imposed in 2004) is partially a reaction to prior import liberalization policies. Post 1986, import monopolies over rice and other food imports were relinquished to private importers. Import deregulation (zero percent tariff) resulted in a supply imbalance which led to increased imports and consequently decreased domestic prices. It should be noted that this liberalization was subsequent to the economic crisis and droughts of El Nino which had already stymied production. After having been self-sufficient in rice for years, Indonesia declared itself a net importer in 1998.[10]

In exercising discretionary control over the import volumes necessary to strengthen the national stock and in ensuring that excessive surges do not dampen prices, BULOG's role had been critical in managing volumes. This role has now been much weakened. In 2003, BULOG's procurements comprised only 6.7 percent of the national production, so they conferred only limited price assurance (WTO notification, 2004). BULOG is no longer responsible for improving farmers' welfare (except by way of providing farm gate floor prices, but this should be seen in the

[9] This section benefited from a paper presented by Mulyo Sidik, at the FAO Rice conference (February 2004). Also see, WTO notification (2004).

[10] The quantity of rice imports doubled from an average of 1.5 MMT per year in 1995-1997 to more than 3.0 MMT in 1998-2001. In 2003, Bulog's rice imports (655 126 tonnes) were 24% of the total rice imported in the country and consisted approximately 8 percent of the consumption (WTO notification, 2004)

context of its limited procurement operations). After the restructuring of 2003, the special credit line (Central Bank Liquidity Credit) supporting Bulog's procurement activities was abolished. Support to consumer prices has also been restrained: price stabilization strategies were rationalized from a general price subsidy to a targeted policy for the poor (a programme called Raskin which reaches some 9 million people). Financial transparency in Bulog's operations has been much improved.

3.4 Kazakhstan: FCC - Food Contract Corporation[11] (wheat)

Overview: The Food Contract Corporation (1997), the successor in title of the State Production Contract Corporation, is a Joint-Stock Company with 100 percent state control.

Economic activities: procurement of grain from (large) private producers, exports, and raising pre-export and post-shipment finance.

Policy functions: stabilizing fund to manage price fluctuations, enhancing the country's food security.

Special privileges: FCC is the sole export agency, but opened trade to private firms in the 1990s, and became the authorizing agent for managing grain exports.

Significance of STE: Prior to independence, Kazakhstan was one of the main exporters of cereals to the other republics of the former Soviet Union, but now that the other countries have adopted a food self-sufficiency policy, Kazakhstan has reduced the amount of wheat it produces in order to grow other crops to meet its own food needs. Nevertheless, while Kazakhstan has reduced its grain production, it also has had to find new export markets, primarily for wheat (Babu and Rhoe, 2001). In the process of developing new markets, FCC played a large role in quality control. Kazakh wheat is not of the highest quality, and without FCC's proactive management of what is actually exported, there would have been a strong risk of wheat being refused entry into importing countries.

The FCC continues to handle government-to-government transactions, which account for about 60 percent of Kazakhstan's wheat exports, while large private grain producers and traders handle the remaining 40 percent (Ackerman and Dixit, 1999). Given its large volume and the track record it has built up over the years, FCC has been able to raise considerable amounts of pre-export and post-shipment finance in international markets, at very competitive rates.

3.5 Kenya: NCPB - Kenya National Cereals and Produce Board (maize, beans and wheat)

Overview: With the onset of grain market liberalization in 1993, NCPB was exempted from the State Corporations Act and its activities commercialized in 1996. NCPB now competes with private traders.

Economic activities: trade in maize, beans and wheat; provide competitive rates for services like drying, grain grading and cleaning, fumigation, storage, weighing, warehousing, provision of inputs.

[11] As of date, Kazakhstan is not a WTO member.

Policy functions: monitor procurement, distribution, storage, processing and licensing of grain dealers; undertaking some redefined market and food supply functions on behalf of the government, including the management of strategic grain reserves, relief distribution, market intervention for the benefit of grain producers and consumers.
Special privileges: possibility to control exports if food security concerns make this necessary.
Significance of STE: NCPB undertakes famine relief not only in Kenya but also in neighbouring countries. It has initiated schemes meant to enhance producer welfare, for example the "in kind" payment system for small scale maize farmers where they receive seed, fuel and fertiliser in lieu of cash (of course, many farmers would prefer to receive cash on time).

3.6 Malaysia: BERNAS - Padiberas Nasional Berhad (rice)

Overview: In January 1996, BERNAS replaced Lembaga Padi dan Beras Negara (LPN) as the custodian of Malaysia's paddy and rice industry. Contrary to its predecessor, BERNAS is a private entity, listed on the Kuala Lumpur Stock Exchange.
Economic activities: domestic procurement; managing the Bumiputera Rice Miller Scheme; distribution through 29 warehouses and 17 000 retail outlets; managing imports; joint ventures in Thailand and Pakistan for exports (note that its rice exports have been marginal); manufacture and market value-added products through downstream ventures; sale and distribution of certified rice seeds; non-rice businesses include a domestic joint venture for the international trade of onions, garlic, dried chillies, potatoes, shallots, and an integrated joint venture for rice and eggs in Indonesia.
Policy functions: purchasing paddy from farmers at a guaranteed minimum price; acting as the buyer of last resort; conserving, maintaining and managing the national paddy/rice stockpile; representing the government on the management and disbursement of subsidies to paddy farmers.
Special privileges: BERNAS is the sole importer of rice (its mandate is until 2010) and manages its distribution.
Significance of STE: with rice imports averaging about 25 percent of the production over the last decade Malaysia's dependency on rice imports has been area of political concern.[12] Enforcing import controls has been suggested as a measure to curb rice smuggling activities in the country.[13] BERNAS' role is to reduce import dependence, but its performance in this regard has not met expectations. Rather, BERNAS, in addition to benefiting from the rents on its monopoly position in imports, is transforming itself into a consumer goods company, building up operations in a diversified range of food products.

[12] Calculated from the statistics of the Food Security Information.
[13] Press Statement by DAP Member of Parliament for Kota Melaka, Kerk Kim Hock in Petaling Jaya, July 2000.

3.7 Myanmar: MAPT - Myanmar Agricultural Produce Trading (rice)

Myanmar Agricultural Produce Trading (MAPT) is a government organization under the Ministry of Commerce. Its activities have changed in the light of the New Rice Trading Policy adopted in April 2003 which scrapped the country's 30-year-old state rice procurement policy (The Irrawaddy, 2003).

With this reform, the State ended direct purchases of paddy. Farmers can sell at market prices instead of (as was previously the case) a discounted price which will boost their motivation to increase yields.

Also, rice exports were liberalized. Exports now follow three guidelines set by the newly formed Myanmar Rice Trading Leading Committee (MRTLC): rice will only be exported when it is in surplus, exporters must pay a ten percent export tax, and the net export earnings after taxes will be shared between the government and rice exporters on a 50-50 basis. Rice trading associations will buy rice directly from farmers and then sell to MAPT. Myanmar has not notified WTO of its STEs.

3.8 Philippines: NFA - National Food Authority (rice, corn, other grains)

Overview: NFA is an agency attached to the Department of Agriculture.

Economic activities: procurement (domestic as well as imports) of various agricultural commodities (including maize, rice and sugar), processing, distributing paddy and milled rice to strategic locations, provision of post harvest facilities.

Policy functions: providing government support prices to farmers, maintaining consumer rice prices at affordable levels, buffer stocking, licensing and registration of activities[14], monitoring and enforcement of rules and regulations.

Special privileges: monopoly control over international rice trade.

Significance of STE: similar to other Asia-Pacific countries, rice is the staple food of about 80 percent of Filipinos. The growing reliance on rice imports (Philippines was a marginal exporter until early 1990) and the higher price of domestic rice as compared to imported rice has made the economy sensitive to the rice supply situation.[15]

In the Philippines, food trade has a crisis-stricken history, and many of NFA's functions came into being as a response to a specific crisis. Regularly, NFA has offered emergency support by providing various services (such as drying and hauling facilities) at nominal charges. NFA's pick-up and delivery schemes are a boon for farmers who have limited means of transportation. The "e-Trade Project", launched in 1999 as part of an overall effort to liberalize grain trading, has been an efficient solution in moving grains from farmers to the market.

NFA is playing a crucial industry developmental role by:

- providing information and technical services;
- running programmes to increase producer returns, for example the Palay/Rice Swap (PRS) and the Farmers Grains Exchange Programme (FGEP) - where

[14] Activities requiring licensing: retailing, wholesaling, milling, warehousing, exporting, importing, indenting, packaging, processing, threshing, corn shelling, mechanical drying.

[15] Rice imports increased at an average rate of 27.5 percent, from a thousand tons in 1970 to 1.2 million tonnes in 2002, peaking at approximately 13.9 percent of domestic production.

farmers deposit their new paddy harvest in a designated NFA warehouse and withdraw its rice equivalent at an opportune time[16];

- structuring innovative financing solutions, for example the Grains Inventory Financing Technique (GIFT)[17] and the Farmers Option To Buy-Back (FOBB)[18] programmes;
- the introduction of the Philippines Grains Standardization Program (PGSP) - a multisectoral effort spearheaded by the NFA to implement the National Grains Standards through continuing advocacy campaigns.

In the 1990s, the NFA was operated rather inefficiently. NFA's losses were higher than the government's investments in agricultural R&D or irrigation (Intal and Garcia, 2005). Since the late 1990s, NFA's management has been improved, but its losses remain relatively large: P7.585 billion in 2003 (US$ 130 million), and P14.552 billion in 2004 (US$ 260 million).

3.9 Thailand: PWO - Public Warehouse Organization (agricultural goods and consumer products)

Overview: PWO is a state enterprise attached to the Ministry of Commerce of Thailand.

Economic activities: exports and imports of several commodities (no monopoly powers).

Policy functions: manages Thailand's import obligations under WTO; manage garlic market.

Special privileges: none.

Objectives: Thailand abandoned rice price stabilization in the 1990s, thereby allowing the domestic price of rice to be determined by international supply/demand conditions. To provide stability and predictability of prices and quantities of agricultural goods and consumer products, PWO ensures that domestic production will not create an oversupply situation for the product.

It conducts agricultural exports in the two trading forms: government to government contracts and direct negotiation. It engages in the export of various commodities according to foreign customers' requirements and is in charge of sourcing foreign markets for selling surplus agricultural products purchased from Thai farmers.

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[16] Another scheme is the Farmers Incentive Rice Purchase Programme (FAIR). This is a procurement incentive designed to encourage farmers to sell to NFA a larger portion of their harvest. Under FAIR, farmers are entitled to buy from NFA up to 10 percent of rice recovery from palay (paddy) stocks they sold the previous year, for their consumption during the lean months when prices are relatively high.

[17] Farmers deposit their new harvest in NFA warehouses and with a NFA certificate of custodianship, use the stocks as collateral to secure loans to meet their immediate production and domestic needs while waiting or hedging for better prices.

[18] FOBB is NFA's response to farmers' immediate need for cash. In a manner of functioning similar to that of the Commodity Credit Corporation in the United States, farmers are provided the opportunity to buy back the same volume of grains sold to the agency within a maximum period of 6 months or one cropping cycle when palay (paddy) prices in the market increase significantly above the support price, thereby maximizing their income potentials.

With regard to imports, the organization is responsible for importing agricultural products according to the country's WTO's obligations, and also imports commodities according to local customer demand. PWO maintains control over the garlic market by allocating quantities to import under in-quota tariff.

3.10 Vietnam: Vinafood I - Vietnam Northern Food Corporation and Vinafood II - Southern Food Corporation

Overview: state-controlled Vietnam Central Food Corporation (Vinafood) was established in 1989, after the removal of the Central Government's monopoly on foreign trade. Until 1999, when private players were permitted to export, contracts were executed by a range of state-owned enterprises.

Economic activities: manage government-to-government trade.

Policy functions: supervise private sector exporters.

Special privileges : rice export licensing was converted to contract reporting in June 2004.

Significance of STE: over time, Vietnam turned from an importer to a leading exporter of rice. Its rice marketing system has been adapted accordingly. The government gradually loosened the rules, first allowing more state-owned exporters, and then permitting private firms to export rice directly. A number of the new state-owned enterprises which became exporters were inexperienced and undercapitalized, and proved unable to fulfill some of the orders they received from foreign buyers, significantly damaging the country's reputation as a reliable supplier of rice. The government reacted by limiting the number of firms allowed to export, and in 1994, allocated 70 percent of the export quota to Vinafood.

With respect to rice exports, Vinafood has kept this dominant position, and indeed, given its preferential access to finance, as well as its volume of trade and its large logistics and storage facilities, it is in a good position to negotiate large transactions. Furthermore, Vinafood and other STEs at times act as a mostly nominal intermediary for deals arranged between private exporters and foreign buyers: this makes it possible for the exporter to obtain access to post-shipment finance. With respect to domestic procurement, though, local traders buy rice from the farmers, and given the fact that they can sell either to Vinafood or to private exporters, Vinafood's power to determine procurement prices is limited (Haughton and Fetzer, 2004).

In the initial years, the lack of domestic food security, and the need to ensure efficient rice distribution (selling at affordable prices) throughout the country, made the management of the rice sector a politically sensitive issue. Vietnam's STEs played a critical role in this time, responding to local conditions, transporting grain to mountainous districts in times of shortages, and stocking for emergencies. But when conditions improved, the government opened up trade to the private sector and to new "public" rice export-ventures; and when these new players proved unable to meet the exigencies of the market place, Vinafood was able to step in again to protect the country's reputation as a rice exporter. Given these pragmatic policies, it seems likely that with Vietnam's entry into WTO and the ongoing development of its economy, the roles of Vinafood will continue evolving to meet the country's changing conditions.

STEs in developing countries' food sectors: summary table

Country	STE (controlled commodity)	Status, privileges	Operations of the STE Exports (export % of production) Imports (import % of production)
China	COFCO-China National Cereals, Oil and Foodstuffs Import and Export Corporation (rice)	Status: govt controlled corporation Privileges: sole importer of rice	International operations: Exports - marginal(2.5 million tonnes) Imports - marginal Domestic operations: procurement, processing
India	FCI-Food Corporation of India	Status: statutory body of the government (Food Corporations Act, 1964) Privileges: sole importer of certain commodities	International operations: Exports (wheat) - marginal (4 million tonnes) Exports (rice) - marginal (3.4 million tonnes) Imports (rice) - marginal Domestic operations: procurement, (15-20% of production)
Indonesia	BULOG-Badan Urusan Logistik (rice)	Status: converted to a state controlled corporate from a governmental body (2003) Privileges: sole importer of rice	International operations: Exports - marginal Imports - (6%) Domestic operations: procurement (6-7%)
Malaysia	BERNAS-Padiberas Nasional Berhad (rice)	Status: privatized in 1996 Privileges: sole importer of rice till 2010. JV with existing wholesalers for distributing imported rice	International operations: Exports - marginal Imports - (15%) Domestic operations: paddy procurement
Philippines	NFA-National Food Authority	Status: established by decree of the govt Privileges: sole importer and exporter	International operations: Exports - marginal Imports - (6%) Domestic operations: procurement of paddy 1997 (0.9%)
Thailand	PWO-Public Warehouse Organization	Status: state controlled Privileges: does not exercise control over rice	International operations: Exports - (30%) Imports - nil Domestic operations: no direct procurement
Vietnam	Vinafood I and Vinafood II (rice)	Status: state controlled Privileges: administers exports (export contracts need to be reported)	International operations: Exports - (11%) Imports - marginal Domestic operations: no direct procurement

Source: information compiled from STE websites and notifications made to the WTO. Figures for export % production and import % production for rice refer to milled rice for 2003. Data from IRRI.

4. Conclusions and policy implications

4.1 Observations on developing country agricultural STEs

Developing country agricultural STEs have different objectives from their major current developed country counterparts, such as the Australian and Canadian Wheat Boards (AWB and CWB) or New Zealand's Zespri. They are either focused on meeting domestic objectives - in particular, food security, including management of security stocks - or on providing a practical means to organize exports in the face of a weakly organized private sector. It is not the rationale of developing country STEs to provide the ability to compete on an equal footing with large multinational trading firms (as is the case for AWB and CWB), or the critical mass necessary to undertake generic market promotion for a unique product (as is the case of Zespri). Even the STEs with the largest weight in international markets - China's COFCO and Vietnam's Vinafood I & II - are very different in scope and operations from the developed country STEs.

A number of points are worth underlining:

- In grains, in developing countries with STEs most farmers produce for domestic markets - in Vietnam, for example, rice exports account for only around 10 percent of production, and in China for less than 2 percent. This is different from developed countries where, if STEs exist, production primarily enters international markets. For instance in Australia, the New South Wales Rice Board exports approximately 80 percent of the rice produced in New South Wales. AWB and CWB export between half and three quarters of their countries' wheat production.
- In Australia and Canada, and except for exports to Australia also in New Zealand, STEs work as single desk exporters, with as a major objective to improve the bargaining power of the producers.[19] Most export-oriented STEs in developing countries (e.g. Thailand and Vietnam) operate alongside private sector exporters.
- Most agricultural STEs in developing countries are in effect meant as tools for managing domestic food sectors, and for this purpose may have been given control over rice imports. State control over grain imports once was common: in the early 1970s, STEs controlled around 90 percent of wheat imports and the vast majority of rice imports (Young, 1999). Since the mid-1990s, though, there have been major reforms, and now significant STEs controlling imports (for rice) only exist in Indonesia, Malaysia and the Philippines. But these countries have been successful in approaching rice self-sufficiently, and as a result, their international procurement activities are not large enough to artificially raise prices on international markets or otherwise distort such markets. When advocating the abolition of these STEs, one has to keep in mind that rice storage requires significant funds, and that world rice markets are rather thin and as a result, volatile: local private sector traders are not necessarily able to cope with the related requirements, in particular if the local financial sector is weakly developed.

[19] Until 1 August 1995, the CWB was also responsible for licensing wheat imports into Canada. This only changed in 1995, post the Uruguay Round.

- Developing country STEs have frequently been innovative in developing new instruments, often using market-based instruments such as warehouse receipts to meet farmers' needs - consider for example the various programmes introduced by the NFA in the Philippines to improve farmers' marketing and financing opportunities.
- Developing country STEs have also frequently been successful in building up a good reputation for themselves and for their countries, enabling them not just to open up new marketing opportunities, but also better access to finance. FCC in Kazakhstan is a case in kind, but one may also mention the Ghana Cocoa Board. There are few borrowers in Africa who receive international bank finance more cheaply.
- When the monopoly powers of a developing country STE are abolished, the STE may not be able to survive alongside private sector importers and exporters if it is has predominantly trading functions. An exception is if the STE has build up a good international reputation in terms of export quality and performance, and has a good track record for international loans. It would be unrealistic for governments to believe they can abolish a monopoly and still achieve various social or political objectives "for free". Such objectives, such as maintaining food security stocks, acting as a buyer of last resort, or protecting consumers from the risks of large food price increases, have a cost, and governments need to budget for these.

4.2 Experiences of STEs in providing services to consumers and the agricultural sector

Experiences of STEs of developed countries

STEs in developing countries were generally set up both as a policy tool and as a way to overcome perceived market failures. STEs in developed countries generally had a more restricted objective: some were set up as a tool for enhancing domestic food security, others to improve export competitiveness and improve the welfare of farmers, by enhancing their earnings, and reducing their exposure to price risk.

The Japanese and Korean STEs provided useful services not just in the economic sense, but also, by providing political comfort in the face of the process of trade liberalization. They ensured that minimum import obligations could be met without disrupting domestic markets. The STEs were responsible for importing many of the agricultural commodities for which the countries accepted tariff rate quota, but with a gradual transfer (over a ten-year period) of import responsibilities to the private sector. In the Republic of Korea, where in the mid-1990s there were seven STEs importing 17 agricultural products, their objectives were 1) to stabilize domestic markets in the face of low-priced imports; 2) to ensure the implementation of UR agreements by fulfilling the committed market access quantities; and 3) to use the revenue from price difference for public objectives. In Japan, there were six STEs, of which the largest was the Food Agency, which had a monopoly on imports and domestic markets of rice, wheat and barley, and whose purpose was "to stabilize supply and demand situations of prices for such staple foods and for promoting

stability of national life and economy" (Choi, Sumner and Song, 1998). The Food Agency was closed in mid-2003, and its responsibilities transferred to the Food Department in the Ministry of Agriculture, Forestry and Fisheries.

The Australian and Canadian Wheat Boards assure that farmers receive the same total payment for the same grade of grain, regardless of when the grain is actually delivered during the crop year. This reduces farmers' risk, and indirectly, reduces waste and unnecessary overcapacity in grain transport and processing. Both Wheat Boards are also seen by their defenders as a tool for competing with the major transnational grain trading companies.[20] Another example is New Zealand, where a cooperatively-owned exporter, Fonterra, has taken over the assets and roles of the New Zealand Dairy Board, the world's largest dedicated dairy marketing network owned by the country's dairy cooperatives. The Founding Chairman of Fonterra described its rationale as follows: "We are organized as a co-operative not because we espouse a sort of vague collectivism. It is firstly because this suits the long-term nature of our dairy farming business and secondly, most importantly, because it gives us market power. Market power has always been exercised by those who have it over those who do not. By having market power, Fonterra gives the farmers the only viable means by which they can move more of their milk towards the higher end of the value chain and utilize the value creation potential of the business itself."[21]

The developed country STEs active in the horticultural sector often had as an important objective to secure the quality of the country's exports and thus defend and strengthen the country's image in international markets. Most of these boards have now been abolished[22], but one that is still operating is New Zealand's Zespri Group Limited. In the late 1990s, the New Zealand Kiwifruit Marketing Board (NZKMB) separated its regulatory and commercial functions. NZKMB became Kiwifruit NZ with responsibility for statutory functions, and the Zespri Group Ltd was established as the sole authorised exporter of kiwifruit outside Australia. Shares in Zespri Group were distributed to kiwifruit growers. About 90 percent of

[20] For example, in 2004, the chief operating officer of the Grain Council of Australia, David Ginns, said that the single desk system "comes under a lot of unwarranted criticism from people with commercial interests in seeing the system dismantled and from policy fundamentalists who will stop at nothing to have their version of the world imposed. Globally Australia is a small producer, our global share of wheat is about 4.5 percent and six percent of barley and our single desk arrangements allow us to even-up unfair competition we struggle against. Our competitors in the global market are transnational corporations, four of which control close to 75 percent of the world's grain trade." (4 November 2004) In this light, these countries may resist calls for greater transparency of STEs: the large multinational trading companies are even less transparent than STEs, as most are privately-held, and therefore provide less information about their operations than do most STEs (they are not subject to the reporting requirements of the Securities Exchange Commission or the European stock exchange regulators).

[21] Address by Andrew Ferrier, CEO, Fonterra Co-operative Group, to The University of Auckland Business School's "New Hemisphere" Speaker Series, 10 June 2004.

[22] For example, the New Zealand Apple and Pear Marketing Board, which had a monopoly export licence, was engaged in strategic marketing, new variety development and quality control measures. In particular, the Board was able to keep sub-standard fruits off the international market, thus maintaining the reputation of the country's fruit exports.

the country's kiwifruit production is exported, and Zespri is responsible for over 98 percent of the exports. Zespri's marketing muscle has enabled it to develop new markets both for "traditional" kiwifruits, and for new "golden" varieties.

Exploring developing country STEs in the light of their objectives and their countries' conditions

Many of the activities of STEs that have attracted criticism have (also) legitimate purposes:

- Export monopoly combined with measures to protect domestic markets allows STEs, for example, to keep domestic consumer prices relatively high while underbidding competitors on international markets (remarkably like the result of EC or US agricultural policies, although they achieve this without STEs). In effect, it is normal for any type of company in any sector that the prices offered to buyers depend on the specific conditions in each market. This practice of price discrimination is not illegal under WTO, and indeed, it is hard to imagine that anyone would want to regulate trade in order to prevent it from happening, given how central it is to the idea of price competition. On the other hand, in 2001, WTO decided that in the case of the Canadian Dairy Commission, its policy of market segmentation between domestic and export markets resulted in an export subsidy, and this was subject to subsidy reduction commitments. Much of the discussion on this issue in the WTO has been characterized by a lack of understanding of the realities of world commodity trade. One example is the part of the so-called Harbinson proposal (2003) which dealt with export STEs, in which it was suggested to introduce as a new rule that export of a product cannot take place at a price less than the price paid by the enterprise to the domestic producers of the product. Given the way that commodity prices fluctuate, this proposal, if it had been accepted and applied not just to STEs but also to private exporters, would have made much of world commodity trade illegal under WTO rules.[23]
- Control over production and exports gives the STE security of supply, which allows it to enter into long-term contracts; such long-term contracts provide security to both buyers and sellers. Multinational companies have similar abilities to offer long-term contracts, laying off the resultant risks through their well-diversified trading books.
- Price pooling (the payment to producers off a price based on average revenue from different markets) distorts pricing signals to producers. They may continue adding production even if the additional production, in reality, is sold at a below-cost price in international markets; and as a result, supply to the world market is distorted. However, many producers prefer this kind of pricing, as it avoids price

[23] A common practice in commodity trade is to hedge price risks on futures markets, so an exporter who sees world prices fall after he has made his domestic purchases will be compensated for the losses on his physical transaction by profits on his futures transaction; it defies understanding why the Harbinson proposal sought to ban this normal industry practice.

discrimination. They know they will all get the same price, irrespective of when they sell. Indirectly, this will also make trading operations more efficient and reduce the risks of supply chain bottlenecks, as transporting and processing are more effectively spread over the year. For the STE, it reduces the risks of holding stocks as sales price changes are passed on to producers.

- Revenue pooling can allow the STE to expand into other commercial activities, and thus cross-subsidize its export operations. Again, this is normal commercial behaviour, and problems only arise if STEs have artificial advantages in some of these other commercial activities. In developing countries, however, it is more likely that they have to engage in other activities to meet social or political objectives, and such engagements generate losses.
- Preferential financing: the STE is able to borrow from the government, banks or capital market at a favourable rate relative to "the private sector". If STE funding comes from the government, there may indeed be a problem. In the past, STEs proved considerable burdens on public finance. But if they are funded by banks or on the capital market, it is more difficult to see why there should be an issue. Financing costs depend on the perception of risk. Developing country STEs are generally deemed less risky by the international financial markets than developing country private sector exporters or importers. For example, Ghana's Cocoa Marketing Board is able to borrow at rates 2 percent better than those paid by Côte d'Ivoire's largest private sector cocoa exporter. When Zimbabwe abolished its single desk cotton exporter in the mid-1990s, none of the successor private export companies managed to get access to western bank finance at rates even remotely comparable to what the monopoly exporter was used to paying. In Indonesia, when Bulog gave up its monopoly on rice imports, private importers were "unable to obtain import letters of credit" (USDA, 1998). Western multinationals often have direct access to the capital market, and as a result, their financing costs are even lower. For those exporting from the United States, they also have access to cheap, government-provided export credits. It is evidently preferable for a developing country to pay lower financing costs, and if this can be achieved by centralizing exports or imports into one entity (whether controlled by the Government or not), it is difficult to see why, in itself, this should constitute a problem.

In all of these areas, STEs can provide valuable services that, in the environment of many developing countries, cannot or would not readily be supplied by the private sector. The long-term approach should indeed be to transfer responsibilities for commodity trading, and all related functions, from the government to the private sector. But this requires considerable capacity and institution-building, and deliberate programmes towards these objectives should be formulated and implemented.

4.3 Making policy choices: the real and present dangers of failing service provision, versus the potential threats of state control over commodity trading

State-supported trading enterprises are in many instances a second-best approach to organizing commodity trade. However, a first-best solution would require that their essential functions can be transferred to other entities. It is worth quoting, in this respect, the main findings of a paper by Australia's Productivity Commission:

- "Most of the potential benefits of single-desk arrangements can be achieved without the compulsion of a single desk.
- In export markets where premiums might be obtained, for example, due to quotas imposed by importing nations, targeted export licences can be used to control exports. Monopoly marketing of all exports is not required.
- Economies of scale and scope in marketing can be captured without monopoly selling, while premiums could still be 'earned' for high quality and customized service.
- Activities which deliver industry-wide benefits such as research and development and quality control can be delivered and funded by more targeted mechanisms.
- Whereas the potential benefits of single-desk marketing are likely to be small, or could be achieved in a more competitive marketing framework, the costs of single desk arrangements have the potential to be large. Because single-desk arrangements inevitably discourage product and marketing innovations, costs may be especially large in markets where product variety and value-adding are essential for success.
- Importantly, statutory marketing authorities can be reconstituted to operate on a commercial basis in a competitive environment, continuing to offer services to producers and providing a vehicle for continued grower ownership of marketing functions. Voluntary producer organizations can continue to give producers a voice." (Gropp, Hallam and Manion, 2000)

All of this, of course, would pose rather heavy demands on a country's trade-related institutions and on its private and public sectors. Among other things, producers need to be able to organize themselves and defend their interests. And government bodies dealing with commodity trade would have to be able to design and implement targeted mechanisms.

In the case of developing country STEs, alternative arrangements for assuring the services as spelled out above by Australia's Productivity Commission are not evident, given the weakness of their private sectors, and their weak institutional supports for commodity trade. These STEs are in principle able to distort international trade, but in practice, they are not set up for this purpose, and any trade distorting effects that they may have are small, given their limited roles in world markets. It would thus be rather perverse to try to abolish developing country STEs because of concerns about their international trading practices without considering how this would impact on service levels to their domestic economies.

As some have observed, "If WTO reforms were to eliminate STEs or contribute to their demise, they may be replaced by imperfectly competitive private actors, a common outcome following structural adjustment reforms. In addition, to the

extent that market power exists, if STEs are eliminated, then the rents will be captured by private oligopolistic firms instead of being funneled to producers though public entities."(Abbott and Young, 2003).

If the commodity trade and finance infrastructure in developing countries were stronger, there would be serious alternatives to STEs. For example, the nature of the STE could perhaps be changed from that of an agent stabilizing prices to that of an agent providing instruments through which individuals themselves can stabilize or at least, better plan the prices that they will receive. Thailand's rice pledging programme is one example of such an instrument. The various programmes initiated by NFA in the Philippines are another. Yet another example is ASERCA in Mexico - a government department established in 1994 to accompany the programme of agricultural policy reform by giving farmers and millers, who previously were able to rely on price guarantees from an STE, access to futures and option markets. Such programmes act as safety nets, essential complements to any agricultural policy reform (Kajisa and Akiyama, 2003).

Another possibility would be to strengthen domestic marketing and price discovery institutions in developing countries. In the early 1990s, the United States objected to producer price stabilization as an excuse for the existence of STEs, and recommended that instead, countries set up futures and options commodity exchanges to be used by private traders. At that time, this was not a realistic recommendation for developing countries. But in recent years, commodity exchange technology and relevant information and communications technology has much improved, and successful commodity exchanges have emerged in countries like China and India. They have also become commercially feasible in Africa, although a large capacity- and institution-building effort would be necessary to overcome lack of awareness among government policy-makers and the private sector. If the United States and others were to support the development of new commodity exchanges and related institutions, in particular in Africa (and for the time being, no such support is being provided), this would indeed create an alternative to STEs' price stabilization functions, and they could then argue more convincingly that such functions should be gradually removed.

Similarly, if the capacity of the domestic banking system is strengthened, private sector exporters could more easily meet the demands of the international market place in which they would often have to sell on credit. However, governments cannot just leave all financing responsibilities to the private sector. A significant part of the infrastructure necessary for efficient trade has a long life - warehouses, cold chains or port facilities, for example, can be used for decades - and investments in them are not likely to give fast returns. Public-private partnerships can overcome the obstacles to private investment, not by governments or multilateral organizations making the investments, but through targeted support that changes the risk premium and discount rates applied by private investors,[24] and through technical assistance that reduces the upfront costs of investments (e.g. feasibility studies; work

[24] For example, by making available long-term capital, or by providing sovereign risk insurance.

with government authorities to ensure supportive legal and regulatory regimes).

Developing a robust infrastructure of accreditation agencies can replace the operations of STEs in ensuring the quality of agricultural exports. But as such agencies are now mostly absent, this will require investments - probably through a public-private partnership approach, with international support.

International support for all the above-mentioned trade capacity building efforts has traditionally been very weak. However, current discussions in the framework of the WTO include calls for increased "aid for trade" and organizations such as the World Bank and some bilateral donors have been increasing their aid levels in this area. Unfortunately, and somewhat ironically, much of the approach of the international community corresponds to the traditional model of development assistance which assumes a central role for governments; there is no focus on strengthening the private sector. In effect, it is the private sector that is confronted with weaknesses in supply capacity, and the time that governments took responsibility for investing in the required warehouses, cold chains, grading systems, marketing and promotion bodies, credit systems, or even road and port infrastructure is long since over. If the international community genuinely wishes to remedy supply side weaknesses in the trading systems of developing countries, it needs to adapt modes of operation which reflect this reality. Similarly, with respect to food imports, the structure of trade is such that, to help Net Food Importing Developing Countries cope with the risk of rising import bills for key food commodities and to provide a realistic alternative to an importing STE's food security operations, a new kind of financing facility is necessary, one that can reach the private sector entities that are actually exposed to rising food import prices.[25]

It may be in the interests of those who seek genuine agricultural policy reform to recognize that STEs can be valuable tools to facilitate the transition from a state-dominated agricultural sector to a liberalized system. In December 2004, a group chaired by former GATT Director-General Peter Sutherland pointed at the experience of the US and the EU, where assistance programmes and social safety nets played a crucial role as they opened up to trade and reduced subsidies, and stressed that budget constraints prevent many developing countries from adopting similar mechanisms. It then argued that "international development agencies, chiefly the World Bank, should have, or should improve, programmes to fund adjustment assistance for developing countries", and continued "we would argue that the ability of the Doha Round to deliver worthwhile results depends critically on such action." In effect, in Japan and the Republic of Korea, STEs acted as tools for adjustment, and in a developing country, they could have the same function, leveraging any international adjustment support that the country may receive. The Public Warehouse Organization in Thailand, which is responsible for meeting Thailand's minimum import requirements under WTO, plays a similar role. Although some observers distrust the management of minimum import quota by STEs, in effect

[25] See UNCTAD/FAO (2005). IMF research on the impact of low cotton prices in West Africa similarly shows that much of the burden is borne by the local private sector - see IMF (2005).

such controls can help make governments more comfortable with any minimum import obligations for essential foodstuffs that they may have to assume under ongoing WTO negotiations (Sutherland *et al,* 2004).

In conclusion, one has to be practical with respect to STEs. They can be valuable tools for developing country governments, and in the absence of a strong private sector and a strong trade support infrastructure, there may be few, if any, alternative tools available. Capacity- and institution-building for trade can change this situation, but it will take time for the results of this to become visible. Meanwhile, STEs can actually be tools to facilitate agricultural liberalization, ensuring that the government's social objectives do not come into conflict with its economic ones.

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13

WTO Negotiations on Agriculture: a compromise on food aid is possible[1]

Panos Konandreas

1. Introduction

Among the issues on agriculture negotiated in the WTO under the Doha Development Agenda (DDA), food aid remains one of the most controversial. While progress on a number of issues under the market access and domestic support pillars has also been slow, resolving the food aid issue has been considered of pivotal importance in making progress in the agricultural negotiations overall.

Because of the humanitarian nature of food aid, there has been general support by the entire WTO membership to preserve and enhance that important role. At one side of the spectrum are those Members that consider that the maximum degree of flexibility should be allowed in the provision of food aid so that humanitarian considerations are not compromised. At the same time, those that advocate a reform of the present food aid regime are motivated by the same objective, i.e. that streamlining food aid disciplines in a way that minimizes its possible adverse market effects, both on world markets and on the market of the recipient countries, actually enhances the humanitarian effectiveness of this type of assistance. Hence both sides of the spectrum have the same objective in mind. This presents an opportunity to resolve this component of the negotiations by clarifying some of the issues involved and building on the common commitment of the WTO membership on the positive contribution of food aid to the food security of vulnerable countries.

The paper first provides some relevant statistics on food aid trends as well as the changing importance of this resource for the recipient countries. The second part of the paper summarizes the origins of the present disciplines on food aid as they have been adopted under the Uruguay Round Agreement on Agriculture (AoA).

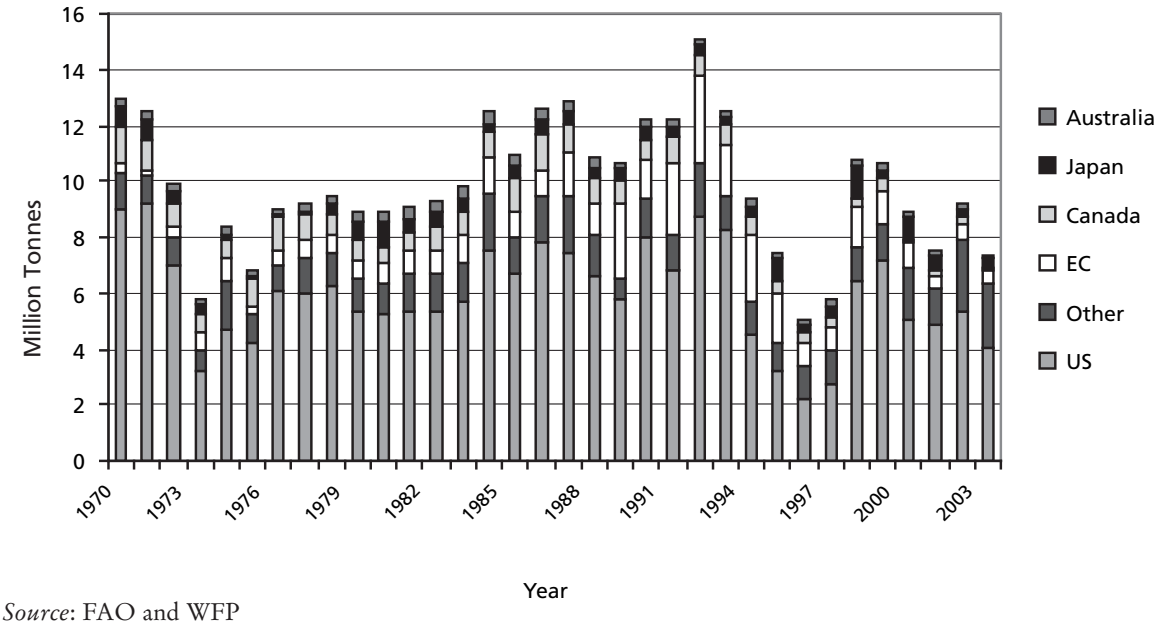
[1] The views expressed in this paper are those of the author and do not necessarily reflect official policy of the Food and Agriculture Organization.

The paper then turns to the current debate on food aid under the DDA and the evolution of thinking as regards possible new disciplines on food aid. It then highlights some of the main contentious issues and remaining controversies and offers some ideas on how these could be resolved. The paper concludes with some observations on the scope of reforming food aid in the context of the overall objective in the negotiations on agriculture.

2. Food aid trends

Over 90 percent of all food aid is provided by five donors (The United States (US), European Union (EU), Canada, Japan and Australia). The largest donor has traditionally been the US, which usually accounts for over 60 percent of total food aid (Figure 1). Food aid has ranged from 7 percent up to 20 percent of US wheat exports and more than 50 percent of US dried skim milk exports in recent years. Rice is a significant proportion of the export market for highly subsidized US, Japanese and EU rice.

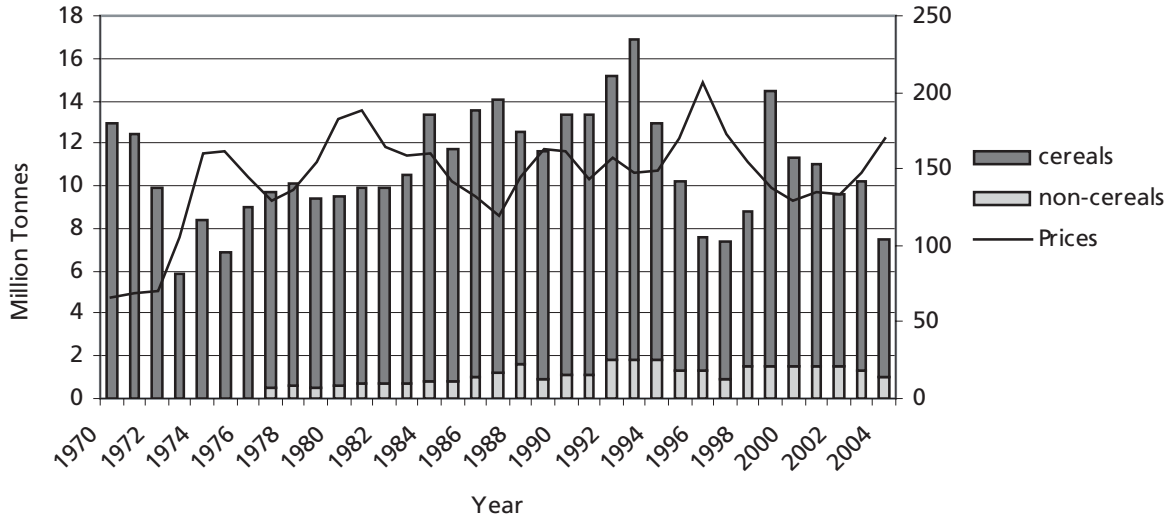
FIGURE 1
Levels of Cereal Food Aid Shipments by Donor



Source: FAO and WFP

Cereals account for 80 to 90 percent of total food aid shipments in volume terms. Cereal food aid has declined over the past two decades, especially since the mid-1990s, due mainly to falling apparent surpluses among the major donors. Non-cereals donations have also declined somewhat in recent years (Figure 2).

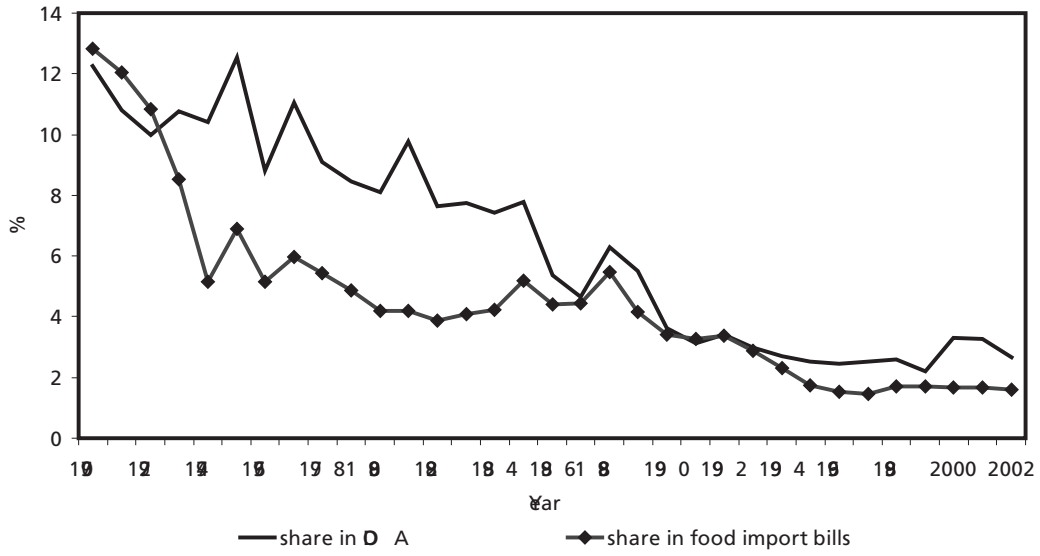
FIGURE 2
Global food aid shipments and cereal prices



Source: FAO

The value of food aid shipments expressed as a share of the food import bills of the developing countries as well as a share of the OECD Official Development Assistance (ODA) has also declined considerably over the past decade (Figure 3). This suggests that food aid has lost its importance both as an indirect price support in donor countries and as a policy instrument in development assistance. Food aid is no longer a major part of aid and agricultural trade, being less than 5 percent of all ODA and under 2 percent of total developing country food imports in 2004. However, this masks some country situations where the share of food aid is of considerably greater importance both as a share of their total resource inflows and their food imports.

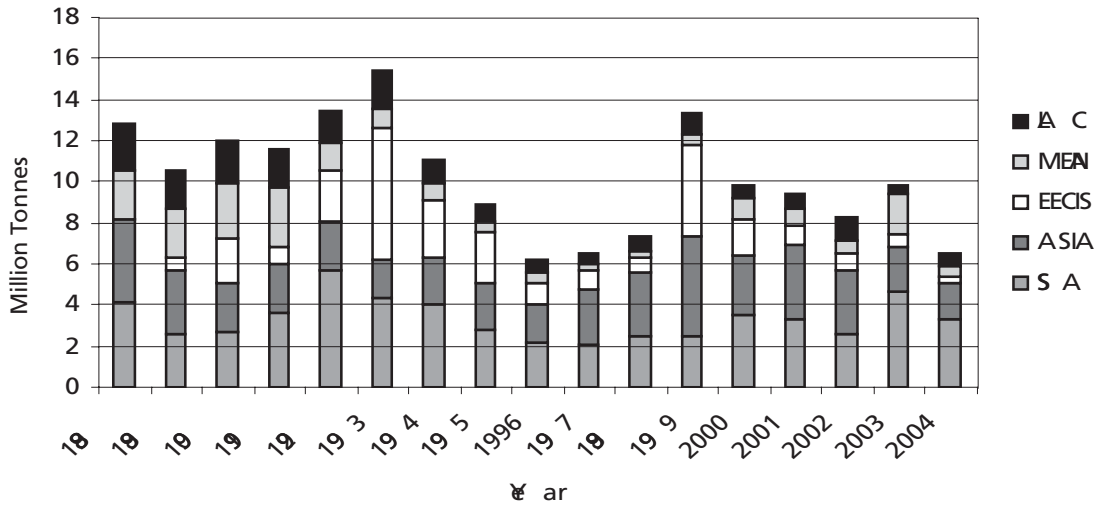
FIGURE 3
Share of food aid in ODA and in food import bills of developing countries



Source: FAO

Within this overall trend of a declining role of food aid, several important trends are evident. The first has to do with the destination of food aid (Figure 4).

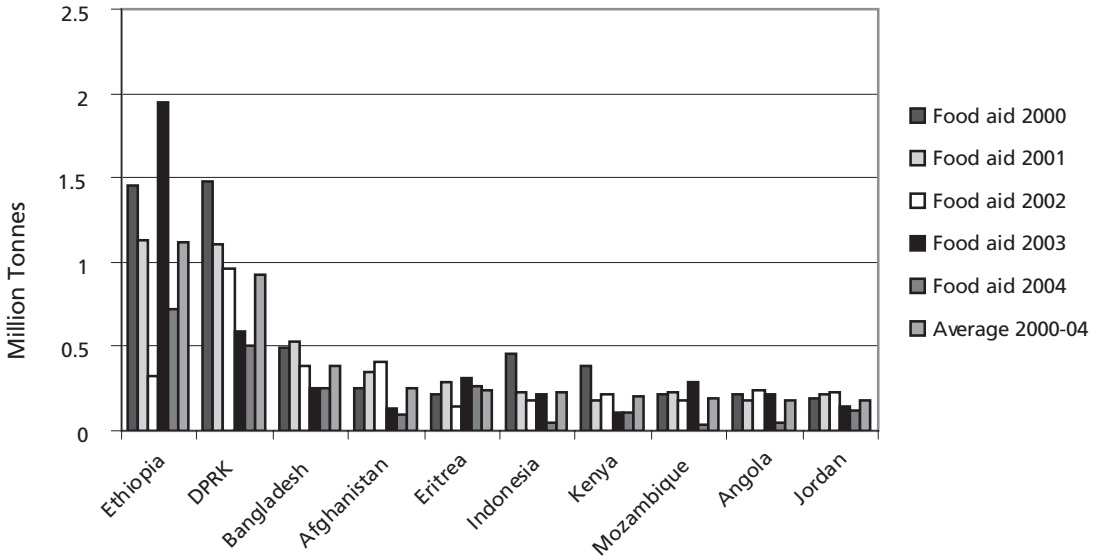
FIGURE 4
Cereal Food Aid by Recipient Region



Source: WFP

The largest part of food aid has, in most years, been destined to the developing countries, particularly to the food deficit countries, many of which rely on food aid to meet their food needs. Regionally, 50 percent of food aid is now destined to Sub-Saharan Africa. For the poorest of the developing countries, the Least Developed Countries (LDCs), food aid ranged between 15 percent and 20 percent of food imports during 1994-2003. Ethiopia, the Democratic People's Republic of Korea and Bangladesh are the most dominant recipient countries (Figure 5).

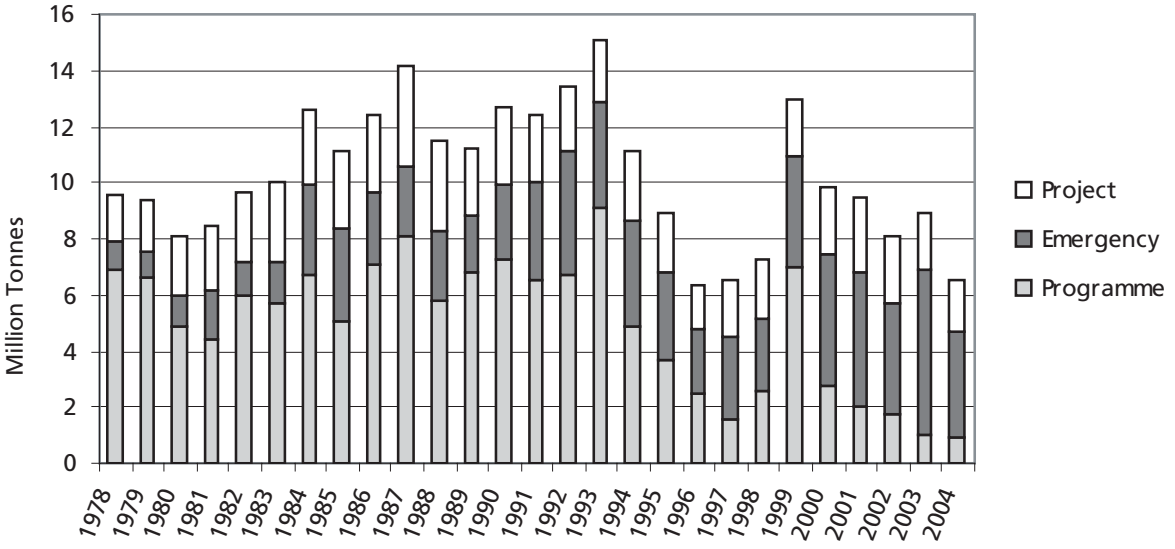
FIGURE 5
Leading recipients of food aid, 2000-2004



Source: FAO

The second trend concerns the use made of the bulk of food aid. Emergency food aid, which is defined as food aid provided for direct distribution at times of severe food shortages, now constitutes nearly two-thirds of total food aid (Figure 6). Programme food aid, which in large part represents balance of payments support, has fallen to 15-20 percent of total food aid flows from a high of 60-70 percent at the beginning of the 1990s. The remaining portion of food aid is used in support of project activities, either for distribution to targeted groups for development purposes or for monetization to fund other food security-related work, and channelled through the UN World Food Programme (WFP), non-governmental organizations (NGOs) and other charitable bodies.

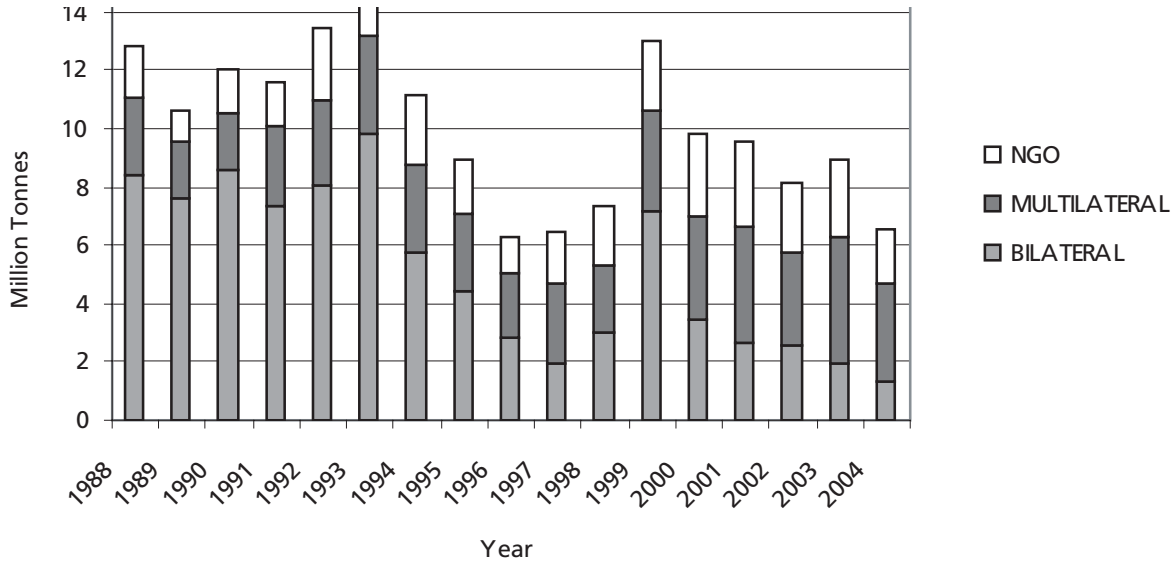
FIGURE 6
Cereal Food Aid by Category



Source: WFP

Yet another trend concerns the channelling of food aid. Largely because of the changed nature in the use of food aid (for emergencies, as discussed above) an increasing share of total food aid is now channelled multilaterally (through WFP) and NGOs and a much reduced share bilaterally.

FIGURE 7
Cereal food aid by channel



Source: WFP

Emergency food aid is considered to have the least market distorting impact, because it is usually delivered directly to those who would not otherwise be able have access to food. They are most likely to consume the food aid they receive rather than sell it in the market. The same can be said about project food aid, to the extent that adequate care is taken for identifying the beneficiaries and having in place effective mechanisms for targeting them. Programme food aid, on the other hand, is considered to be the most market distorting, since all of it is monetized in the open market, augmenting the supply in the recipient countries.

The above categories of food aid overlap in practice. For example, NGOs monetize in some cases the whole of multi-year US development project assistance to provide local currency support, (Clay, 2006 and Clay, Riley and Urey, 2005). Consequently, all forms of tied food aid have potential trade displacing impacts and internal market distorting effects.

Overall, over time there have been considerable improvements in the food aid system in terms of assessing more precisely the specific needs of recipient countries and responding to them with more flexibility as regards the resources needed and the complementary measures to be taken. However, the system is yet to be free from its legacy dating back to almost five decades ago when the notion of "surplus disposal" was first introduced and when food aid policies were driven, by and large, by the supply availabilities in donor countries. While this has changed considerably since then, complete de-linking has yet to be attained (Figure 8 and Figure 1). As a consequence, food aid still remains highly variable and an uncertain resource, with commodity prices, stock levels and shipping costs playing a key role.

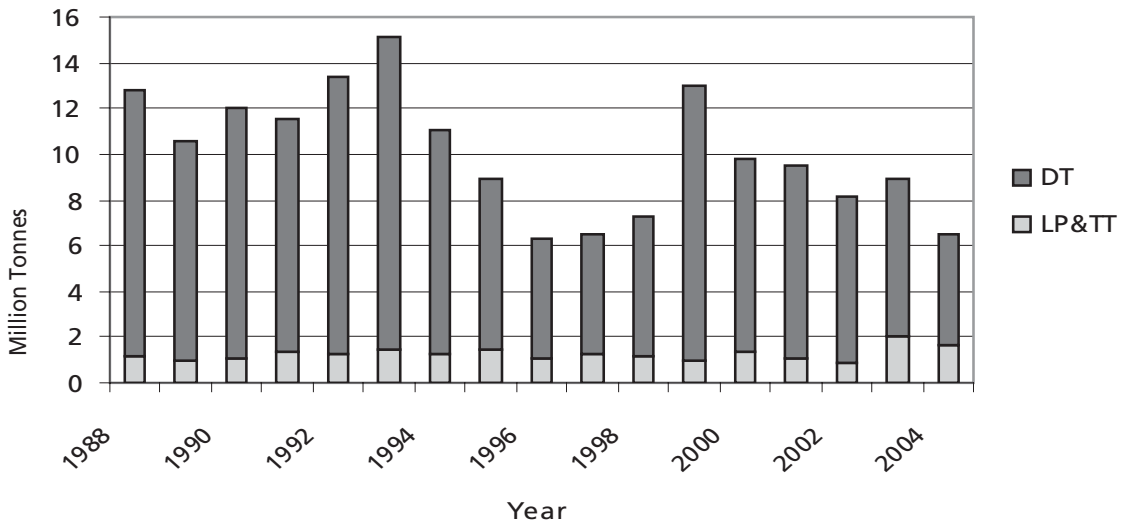
FIGURE 8
Wheat food aid shipments and opening stocks of major wheat exporters

Source: WFP

The continuing link of food aid to the availability of surpluses in donor countries implies that a large part of food aid is tied aid, in contrast to the wider move of other development assistance towards untying. Only 12 percent of OECD Development Cooperation Directorate (DAC) member food aid was fully untied during 2001-03. However, the partial untying of food aid funds is becoming much more extensive, indicating growing donor flexibility over procurement in developing countries.[2] As a result, nearly a quarter of food aid deliveries were purchased in developing countries in 2004 including a record 1.1 million tonnes of local purchases (Figure 9).

[2] All DAC members with the sole exception of the US (less than 1 percent) funded significant developing country procurement, 56 percent of their food aid in 2004 (Clay, op cit).

FIGURE 9
Cereal food aid by mode of procurement



Source: WFP. Direct Transfers (DT) = ; Local Purchases (LP) &Triangular Transactions (TT)

3. The FAO principles of surplus disposal and other institutional mechanisms[3]

A milestone in the history of food aid was the Seventh FAO Conference in November 1953, which addressed the growing difficulties, encountered for the first time since the end of the Second World War, in absorbing surpluses of certain commodities (notably cereals), rapidly accumulating in North America. The FAO Conference concluded that the absorption of excess supplies was to be sought by adopting policies for increasing consumption in the developing countries. At the same time it recognized that the movement of surpluses into consumption required consideration of the possible international repercussions of such measures, including their effects not only on the commercial exports of similar products of competitors, but also on production and economic development within receiving countries themselves.

[3] For a more detailed discussion on these, see Konandreas, Panos, "Multilateral mechanisms governing food aid and the need for an enhanced role of the CSSD in the context of the new WTO disciplines on agriculture", FAO 2005.

Accordingly, the Conference instructed the FAO Committee on Commodity Problems (CCP) to consider: (i) the most suitable means of disposing of surpluses including proposals for setting up consultative machinery through which the disposal of agricultural surpluses can be facilitated[4]; and (ii) the principles which should be observed by Member Nations in order that the disposal of surpluses be made without harmful interference with normal patterns of production and international trade. Soon thereafter, a CCP Working Party drafted the FAO "Principles of Surplus Disposal and Guiding Lines for Dealing with Agricultural Surpluses"[5] and the Consultative Subcommittee on Surplus Disposal (CSSD) was established in July 1954 as a subsidiary body of the FAO Committee on Commodity Problems.[6]

As several countries moved from a net-importing position to a net-exporting position of basic foodstuffs in the 1960s, certain concerns about previous understandings and arrangements on food aid started to come to the surface. In response to such concerns, a CCP Working Party developed, in 1969, a Catalogue of Transactions, as an internationally accepted basis for classifying concessional transactions, distinct from commercial transactions. Along the same lines, the CCP adopted in October 1970 procedures for the establishment of Usual Marketing Requirements (UMRs), as a mechanism for avoiding commercial displacement.

The next milestone in the institutional evolution of food aid was the establishment of the World Food Programme (WFP) in 1962, under the joint auspices of FAO and the United Nations, which marked the beginning of the multilateral food aid system.[7] The establishment of the WFP was also an attempt of the traditional food aid donors to broaden the food aid donor base beyond North America, especially in Western Europe and Japan, which until then had given little or no food aid.

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[4] "*Disposal of Agricultural Surpluses*", FAO Commodity Policy Studies No. 5, 1954. This major study pioneered some very creative ways in making appropriate uses of food aid to address humanitarian needs in developing countries and was the first major step in the conceptual evolution of food aid towards its eventual food security role. That study had profound implications both at the conceptual and institutional level. It launched new ideas for utilizing food surpluses in food-for-work projects, for food stabilization purposes, in special feeding programmes for the most vulnerable target groups, and in support of government programmes to subsidize consumption.

Another FAO study ("*Uses of Agricultural Surpluses to Finance Economic Development in Under-Developed Countries*", FAO Commodity Policy Studies No. 6, 1955) concerned the possible contribution of food aid to economic development. A clear distinction was made for the first time between food assistance for welfare and support for general development programmes. That study stressed the role of food aid as an additional capital to finance economic development, including its balance of payments and budgetary support roles.

[5] Subsequently revised under the title of *FAO Principles of Surplus Disposal and Consultative Obligations (see Reporting procedures and consultative obligations under the FAO principles of surplus disposal: A guide to members of the FAO Consultative Subcommittee on Surplus Disposal, Rome 2001).*

[6] The acronym of the sub-Committee was changed fro CSD to CSSD in October 1995 in order to avoid confusion with another UN body, the Commission on Sustainable Development created at that time.

[7] The first move in this direction was UN General Assembly Resolution 1496 (XV) in 1960 on the 'Provision of Food Surpluses to Food Deficient Peoples through the United Nation System'; (ECOSOC Resolution 832 (XXXII) requesting the UN and FAO to formulate more detailed proposals regarding procedures and arrangements for a multilateral programme; FAO Resolution No. 1/61 on 'Utilization of Food Surpluses - World Food Programme'; and UN General Assembly Resolution 1714 (XVI) on 'World Food Programme'.

A more formal arrangement, along these lines, was the signing of the first Food Aid Convention (FAC) in 1967 as one of the two instruments - the other being the Wheat Trade Convention - which constituted the 1967 International Grains Agreement.

The FAC is a treaty that was intended to enhance the capacity of the international community to respond to food aid needs by guaranteeing a predictable flow of food aid per year, irrespective of price or supply fluctuations. Under the FAC 1967, an aggregate annual minimum guaranteed volume of 4.2 million tonnes of food aid in cereals (in wheat equivalent) was committed by nineteen donors.[8] The Convention was renegotiated in 1971 maintaining the same minimum commitment, and again in 1980, when the minimum guaranteed level was raised to 7.6 million tonnes of cereals. The number of donors also rose to twenty two and the cereal coverage was extended to rice.

The FAC was renewed and renegotiated a number of times through the 1980s and early 1990s, with the aggregate minimum commitment essentially being maintained at about 7.6 million tonnes until the 1995 Convention, when donors lowered their minimum commitment by more than a quarter to about 5.5 million tonnes. The Convention presently in effect is the 1999 FAC.

Together with the minimum guaranteed volume of food aid, a set of guidelines forms part of the FAC, related to the provision of food aid to ensure that it is targeted effectively and directed towards the neediest countries. The Convention also cross-references donors' obligations to the CSSD by stating that food aid should be provided in a manner consistent with the FAO Principles of Surplus Disposal and Consultative Obligations. While the FAC, as a treaty, is a legal instrument and as such goes beyond the CSSD, it, like the CSSD, lacks a binding enforcement mechanism whereby donors not meeting their commitments and/or not observing agreed guidelines and principles could face discomfiture and possible penalties under a WTO-like dispute settlement/resolution mechanism.

Another major step in the evolution of food aid was the decisions and recommendations of the World Food Conference in 1974. In particular, the Conference established the WFP Committee on Food Aid Policies and Programmes (CFA)[9], and the FAO Committee on World Food Security (CFS). Both of these Committees promoted innovative approaches in the use of food aid to support food security and economic development in vulnerable countries.

In addition, the World Food Conference recommended the acceptance by all donor countries of the concept of forward planning of food aid and a global food aid target of 10 million tonnes of cereals. It also suggested the need for raising the share of food aid channelled through WFP, the grant component of the bilateral food aid programmes, and the cash resources available for commodity purchases from developing countries. The Conference recommended measures for meeting

[8] Individual donor shares were negotiated in the GATT Kennedy Round of trade negotiations. The nineteen participants in the 1967 Convention included grain-importing countries as food aid donors.

[9] At its Seventh Session in May 1979, the CFA adopted Guidelines and Criteria for Food Aid to guide food aid programmes and policies of bilateral as well as multilateral donors.

international food emergency requirements in order particularly to enhance WFP's capacity to render speedy assistance in emergencies.

The latter recommendation led to the establishment of the International Emergency Food Reserve (IEFR) by the UN General Assembly in September 1975, with a minimum target of 500 000 tonnes of cereals, placed at the disposal of WFP, additional to regular WFP pledges, and subject to the existing WFP procedures for approval of emergency requests.[10]

4. WTO negotiations on food aid under the DDA

The existing WTO disciplines on food aid came into force in 1995 under the export competition pillar of the Uruguay Round Agreement on Agriculture (AoA) and were intended to prevent food aid being used to circumvent commitments on export subsidies. The AoA states that food aid should not be tied to commercial exports, that all food aid transactions should be carried out in accordance with the FAO "Principles of Surplus Disposal and Consultative Obligations", and that such aid should be provided to the extent possible in fully grant form or on terms no less concessional than those provided for in the 1986 Food Aid Convention (FAC).[11] The explicit referencing in the AoA of the FAO Principles and the FAC was significant in the sense that, in principle, they became part of Members' rights and obligations under the legal framework of the WTO. However, adherence to these disciplines has not always been in line with expectations, mainly because there has not been a formal reporting obligation by FAO and FAC to the WTO Committee on Agriculture on donors' compliance with their respective obligations and no corresponding remedy in the WTO legal framework in cases of partial compliance. It is partly for these reasons that new enhanced disciplines on food aid have been considered necessary by the WTO Membership under the DDA.

Food aid is being discussed in the DDA along with other aspects of export competition such as export subsidies, export credits and state trading enterprises, because of the possible danger that some forms of food aid transactions could act like other forms of export subsidization. The main preoccupation at the WTO has been with unintended effects of food aid, in particular, its possible interference with commercial trade and misallocation of food aid to countries and people not in genuine need of assistance. If present, such effects occur simultaneously, i.e. to the extent that one takes place the other is also inevitable. Hence, the two inter-related preoccupations at the WTO: how to avoid commercial displacement, and at the same time, how to ensure that genuine food aid is not compromised.

[10] The CFA approved modalities for the operation of the IEFR at its First Session in 1976.

[11] In addition, the Marrakesh *Decision on Measures Concerning the Possible Negative Effects of the Reform Programme on Least-developed and Net Food-Importing Developing Countries* (which is an integral part of the Uruguay Round Agreement) sought to ensure that agricultural reforms would not adversely affect the availability of food aid at a level which is sufficient to continue to provide assistance in meeting the food needs of developing countries, especially Least Developed and Net Food-Importing Developing Countries.

The thinking of the WTO membership on both of these issues has evolved considerably since the attempted draft modalities in March 2003 "the Harbinson text", (WTO, 2003). As regards commercial displacement, that text basically reiterated existing language in the AoA whereby Members shall ensure that their food aid transactions are carried out in accordance with the procedures under the FAO Principles of Surplus Disposal and Consultative Obligations, including, where appropriate, the system of Usual Marketing Requirements (UMRs). There were no links being made to other forms of export competition.

The next step in the process was the July 2004 Framework Agreement which was the first real departure from existing mechanisms (WTO, 2004). The objective of the new disciplines is now spelled out in more direct and specific language, i.e. to prevent commercial displacement through operationally effective disciplines to be developed.[12] Also, the notion of parallelism is introduced, whereby all forms of export subsidization (not in conformity with the disciplines to be developed) are to be eliminated in a parallel fashion and by a date to be agreed.

Yet more explicit language on commercial displacement was introduced in the Hong Kong Ministerial Declaration, whereby commercial displacement is to be eliminated through "effective disciplines on in-kind food aid, monetization and re-exports so that there can be no loop-hole for continuing export subsidization," (WTO, 2005). Also, parallelism becomes more concrete with the agreement to eliminate all forms of export subsidies and all export measures with equivalent effect by the end of 2013 in a "progressive and parallel manner".

In a similar fashion, there has been an evolution of the WTO thinking on what constitutes genuine food aid. The 2003 draft modalities text made a distinction between emergency and non-emergency food aid, with the former provided in response to appeals from UN food aid agencies, other relevant regional or intergovernmental agencies, humanitarian NGOs and private charitable bodies and urgent government to government requests. However, for all practical purposes, these provisions essentially reiterated existing practices.

The July 2004 Framework text, although not addressing genuine food aid directly, was an attempt to limit the role of the above possible actors in emergency situations by recognizing explicitly the role of international organizations as regards the provision of food aid by Members, including related humanitarian and developmental issues. Of significance is that the Framework text made no reference to other possible actors in the food aid system as had been the case in the earlier draft modalities text.

As in the case of commercial displacement, the Hong Kong Ministerial Declaration text was more explicit on what would constitute emergency food aid. It calls for the creation of a "safe box" for bona fide food aid to ensure that there is no unintended impediment to dealing with emergency situations. The explicit reference to bona

[12] There is no longer mention of the FAO Principles of Surplus Disposal and UMRs, which suggests that the weaknesses of those instruments had been recognized by the WTO membership by then and more explicit disciplines were considered necessary.

fide food aid is important as it implicitly recognizes the problem of lack of clear definition of what constitutes emergency food aid and related concerns having to do with declaration of such situations and assessing emergency needs.

While prior to the Hong Kong Ministerial Conference there was considerable debate in the negotiations on how much of the food aid specifics should be internalized in the WTO machinery itself, there is now a clear recognition that the WTO disciplines would cover the broader picture, i.e. the general definition of the "safe box" and how disciplines on other types of food aid would effectively prevent commercial displacement. Inevitably, the specifics on what food aid is to achieve and what mechanisms are necessary on the ground to effectively ensure its humanitarian goal would continue to depend on expertise and institutions outside the WTO.

As with other parts of the negotiations, many issues on food aid remained unresolved at the time the Chair's consolidated text on agriculture was submitted to the WTO mini-Ministerial meeting in Geneva on 30 June 2006.[13] The definition of the "safe box" for bona fide food aid remains one of the contentious issues, and specifically what would be the characteristics of emergency situations and who should have authority to trigger an appeal for food aid that would be provided under the "safe box". While some Members have argued for an explicit definition of what would constitute an emergency situation, the mainstream view on this matter supports the notion of a "multilateral" trigger, on the basis of an appeal by the relevant multilateral or international agencies that are best placed to determine and assess an emergency situation, in collaboration with the recipient country concerned. There are also some differences of view as regards the role of other actors in the emergency response, including charitable bodies and bilateral government-to-government arrangements, as well as the duration of assistance under emergency situations.

Issues on possible disciplines for in-kind food aid in non-emergency situations have been more intractable. One view is for the complete phasing out of this type of assistance by the end of the implementation period (2013) and its replacement with untied cash-based donations. Another view is that both in-kind food aid and associated monetization should remain permissible subject to certain conditions, essentially when such donations are based on assessed needs and are targeted to an identified vulnerable population group to address specific developmental objectives or nutritional requirements.

[13] However, there has been all along general support by the WTO membership on several general principles that should apply to all food aid transactions and these are reflected in the Chair's consolidated text. These include: food aid should be needs-driven and result in additional consumption; is provided in fully grant form; is not tied directly or indirectly to commercial exports of agricultural products or of other goods and services; is not linked to market development objectives of donor Members; and is not re-exported. In addition, there is also general support of the notion that donors should take fully into account local market conditions of the same or substitute products and procure food aid from local or regional sources to the extent possible.

5. Towards a compromise

While eliminating in-kind food aid outside the strictly emergency response, and having it replaced with cash donations is desirable for many reasons, it seems unattainable at the present time. By and large, in-kind food aid outside emergencies is largely an additional resource and is not likely to be substituted by cash if in-kind donations are banned. Considering also that there is hardly a scarcity of situations where people suffer from chronic food insecurity,[14] the issue is how to make effective use of an additional resource with the minimum distorting effect on production and trade.

Identifying the vulnerable households and putting in place effective mechanisms to target them with food and other essential assistance has long been recognised as the only sure way of attaining the humanitarian goal of food aid and minimizing its possible adverse effects.[15] Yet, another key ingredient in making good use of in-kind food aid in such circumstances is the availability of cash resources necessary for an effective implementation of the nutritional intervention and developmental activities (e.g. for purchase of utensils in school feeding projects, implements for food-for-work projects, fuel and transport costs, enumerators for monitoring, etc.)

Often, in order to meet such cash needs, part of the food aid has been sold in the local market to generate the necessary cash. It is these types of transactions that are the most objectionable under the current negotiations at the WTO. This is because of the undisputed distorting effects of monetization on commercial trade.[16] This is more so the case, as some monetization already takes place by the recipients themselves (they may have other needs in addition to food, prefer other commodities, etc.) and therefore an institutional monetization on top of that could be too disruptive for the local market.

Monetization is the main stumbling block in the negotiations on food aid. However, it is clear from the perspective of the proponents of this instrument, that monetization is not the objective per se but the means to better achieve the humanitarian goal of in-kind food aid. At the same time, it is also clear that the opponents of in-kind food aid do not object to the rationale and the objective of this kind of assistance but to the means used in deploying this resource (i.e. the associated monetization). An impartial consideration of these points of view would suggest that we have a case whereby the monetized food aid (a small part of the total) discredits the whole of in-kind food aid and we run the risk of "throwing out the baby with the bathwater". If the sole rationale of monetization is to generate

[14] There are an estimated 850 million under-nourished people in the world, the bulk of them chronically food insecure.

[15] See, for example, Barrett, C.B. "*Food Aid Effectiveness: It's the targeting, stupid!*" Policy Service, Strategy and Policy Division, WFP working paper, Rome 2003.

[16] See, for example, Clay, E., Dhiri, S., Benson, C. *Joint evaluation of European Union programme food aid: Synthesis report*. Overseas Development Institute, London, 1996; Barrett, C.B. and Maxwell, D.G. *Food aid after fifty years: Recasting its role.* Routledge, New York, 2005.

the cash needed for an effective use of in-kind food aid, then the search should be for such cash from sources other than by monetizing food aid. One possible approach could be to stipulate in the new disciplines that donors providing in-kind food aid should also provide the necessary cash needed to make effective use of that assistance.

It is conceivable that such an additional obligation could create problems for some donors that are in a position to provide in-kind food aid but lack the necessary cash (this applies generally to the occasional developing country donors). Those donors could be accommodated by channelling their donations multilaterally (e.g. through the WFP) which could make good use of such donations within the overall pool of cash and commodity resources at its disposal. The cash obligation, in addition to commodity in-kind, would apply strictly to those donors that implement their food aid programmes bilaterally or use national charitable bodies to channel resources through them. Instead of resorting to monetization, these donors should also have the obligation to make available the necessary cash needed to make effective use of their in-kind donations. If they are unable to do so, then the only option available to them would be to channel in-kind food aid multilaterally, as stated above, so that effective use of it can possibly be made by combining it with cash resources available from other donors.

Beyond phasing out monetization as suggested above, the WTO disciplines for in-kind food aid should also include specific provisions on how this assistance should be provided and used to minimize possible distorting effects on commercial trade and domestic production. In broad terms the rationale of the criteria suggested below is to ensure that in-kind food aid results in additional consumption at both national and individual household levels. Additionality in consumption would imply that possible adverse effects of in-kind food aid on production and trade are largely subdued.

The first prerequisite for in-kind food aid in non-emergency situations is the existence of a well-defined vulnerable population group in the recipient country in need of nutritional intervention. This can be a whole community composed of largely destitute people with chronic food deficiency, or it can be a specific group of the community, such as school children, the elderly, mothers in need of medical and nutritional attention, chronically unemployed willing to work for food rations, etc. The idea is that targeting food aid to this group would largely lead to additional consumption.

The second prerequisite is the prevalence of a food deficit situation at the local community level where the vulnerable group is located. Clearly, if the local community and the neighbouring region is not a food deficit area, then bringing in food from outside would displace food from the market and adversely effect local food production. The logical response to assist the identified vulnerable people in this case is though cash resources, either by purchasing the food and making it available to them, or by paying them in cash (food coupons) for addressing their needs on their own. The specific modality would depend on practical considerations and assessment of effectiveness of each option.

The third prerequisite, cumulative to those above, is that the country has an overall food deficit necessitating outside assistance. Evidence of needs at national level shall arise when domestic production plus normal commercial imports fall consistently short of meeting aggregate national requirements for a normal diet for the whole population. Again, the aim here is to avoid the undesirable effects of adding to the national supplies food commodities in excess of national needs. In the cases when aggregate supplies at the national level (production plus normal commercial imports) are at par with assessed aggregate national needs, cash resources for purchasing food locally would be the appropriate response to assisting the vulnerable population group.

6. Concluding remarks

International food aid mechanisms and institutions have evolved considerably since the early 1950s when food aid became part of the assistance package of donor countries in their efforts to reduce hunger and promote development. Donors, international organizations, NGOs and associated institutions are now in a much better position to know what works and what does not and also they have better information to guide them in identifying the vulnerable and target them effectively. Yet, partly because of not questioning enough the rationale and urgency of calls for humanitarian assistance, partly because of vested interests and political considerations along the whole food aid chain from donors to the final beneficiaries, often the mechanisms that have been put in place do not function as they ought to. The primary victim of such malfunctioning is food aid itself and specifically the vulnerable people that food aid was supposed to help.

There is plenty of room for improving the food aid system. Better disciplines are necessary and the negotiations under the DDA present a unique opportunity to build upon the common commitment of the WTO membership on the positive contribution of food aid to food security and to try to fix what needs fixing.

Often, those that wish to see more stringent disciplines on food aid are accused of being against food aid. That latter assertion sometimes also comes from poor recipient countries, fearing that more stringent disciplines would necessarily imply less food aid for them. That is far from the truth. Better disciplines imply, first and foremost, that less food aid would be diverted to better-off countries and better-off households and, consequently, more food aid would go to those countries and those population groups with genuine needs for this assistance. It follows that the poorest countries have nothing to lose from more stringent disciplines but much to gain.

Improved food aid disciplines would also raise the efficiency in the deployment of this resource with an immediate impact that a larger share of donors' resources devoted to food aid would reach the intended beneficiaries instead of intermediaries and people not in real need. The main element in the disciplines to achieve that would be an obligation to allocate food aid to the poorest countries with a chronic unmet food deficit at the national level, and that well-identified vulnerable population groups in these countries are the target of this assistance. Provided also

that, in addition to in-kind food aid, the necessary cash resources are made available, a large part of the food aid provided would result in additional consumption, thus muting concerns about commercial displacement.

Related to the above is the elimination of monetization of food aid, a practice which has often been responsible for giving food aid a bad name and has been in the centre of the controversy in the DDA negotiations. Besides legitimate concerns about its commercial displacement effects, monetization often harms local markets in the recipient countries, creates undesirable vested interests and perpetuates dependency on outside assistance.

As a final thought, it may be worth reiterating that any resource transfer, especially in the form of a commodity, cannot be free from some distorting effects, internationally and/or locally. As in all other parts of the negotiations in agriculture (and the other sectors as well) the absolute is not possible. The aim is always to limit the policy space to those policies and instruments that have a minimal distorting effect on production and trade. That overall objective of the negotiations should always be kept in mind in the effort being made under the DDA to reform the food aid system, considering also the largely humanitarian motives of providing this type of assistance.

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