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Blend it like Beckham – Trying to Read the Ball in the WTO Negotiations on Industrial Tariffs

by

Santiago Fernandez de Córdoba, Sam Laird and David Vanzetti

Centre for Research in Economic Development and International Trade, University of Nottingham

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The Authors
Santiago Fernandez de Córdoba and Sam Laird are Economists, Division of International Trade, UNCTAD and Sam Laird is also Special Professor of International Economics, University of Nottingham. David Vanzetti is a Senior Economist, Division for International Trade, UNCTAD.

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Abstract

The current WTO negotiations on industrial tariffs have focused largely on a formula approach to cutting tariffs, but the process of trying to find a compromise that would satisfy all sides has led to a number of propositions that entail blending various elements of formulae, sectoral elimination, exceptions for sensitive products, capping to reduce tariff peaks, provisions for developing and least-developed countries, provisions for recently acceded countries, and extending binding coverage at rates that could be determined in different ways. This blend of approaches is so complex that determing what a country may have to do and what it might expect from others is rather like trying to read one of David Beckham's curved balls. Yet, for many countries the outcome will determine for them whether the Doha Ministerial Declaration of the WTO delivers on its development promises. This paper looks at the various proposals and tries to assess how they measure up against the objectives of the negotiations.

Key words: WTO negotiations, trade, industrial tariffs, development, special and differential treatment, CGE modelling,

Outline

1. Introduction
2. State of play in the WTO negotiations
3. Existing levels of protection
4. How would current WTO negotiations affect tariffs?
5. Implications and conclusions

1. INTRODUCTION

The WTO negotiations on industrial tariffs have focused mainly on a formula approach to cutting tariffs. But various conditions attached to the formulae proposals make it difficult to assess the overall thrust of the approaches, rather like a goal keeper trying to figure out
the line of David Beckham's curved ball! This paper looks at the various proposals with all their bells and whistles to try to make an overall assessment of how these approaches measures up to the objectives of the Doha Declaration, and in particular the development implications. Developing countries in particular will want to know to what extent the proposals tackle barriers that face their key exports and the extent to which they may be required to take on new obligations that could curtail their policy space – the latitude that they have for using tariffs for industrial development purposes.

The paper is structured as follows. In Section 2 we look at the state of play on the WTO trade negotiations, describing the various proposals on the table. In Section 3, we look at the existing level of protection for world trade, and go on to make some some estimates of the implications of the various scenarios for tariff peaks, tariff escalation and binding coverage. The paper concludes with an assessment of the extent to which the various proposals measure up against the objectives of Doha.

2. STATE OF PLAY IN THE WTO NEGOTIATIONS

In relation to industrial tariffs, WTO Ministers meeting in Doha in 2001 agreed 'by modalities to be agreed, to reduce or as appropriate eliminate tariffs, including the reduction or elimination of tariff peaks, high tariffs, and tariff escalation, as well as non-tariff barriers, in particular on products of export interest to developing countries. Product coverage shall be comprehensive and without a priori exclusions' (paragraph 16 Doha Ministerial Declaration). Full account was to be taken of the special needs and interests of developing and least-developed country participants, 'including through less than full reciprocity in reduction commitments, in accordance with the relevant provisions of Article XXVIII bis of GATT 1994 …'

After two years of intensive negotiations, the WTO's Cancún Ministerial Meeting was

unsuccessful in finding consensus on non-agricultural market access, although the lack of success may have reflected other issues that are cross-linked through the 'single undertaking' ("nothing is agreed until all is agreed"). Developed countries generally considered that there was insufficient ambition in the proposed draft text presented in Cancún while the developing countries believed that it did not sufficiently reflect their interests and concerns. Had the Singapore issues and agriculture been resolved, it seems unlikely that non-agricultural market access would have been a stumbling block, but the issue has been more difficult than many expected, given the overall level of industrial tariffs. However, the Devil is in the detail…

The Cancún Ministerial draft text on non-agricultural products was based on that of the Chairman of the Negotiating Group on Market Access: Revised Draft Elements of Modalities (TN/MA/W/35/Rev.1). The Chairman's text proposed a tariff reduction scheme similar to the 'Swiss'/harmonizing formula with the maximum coefficient function of each country's national average tariff[1]. He also identified seven sectors for complete liberalisation: electronics & electrical goods; fish & fish products; footwear; leather goods; motor vehicles parts & components; stones, gems, & precious metals; and textiles & clothing.

The United States, the European Union and Canada, in a joint contribution during the summer of 2003, prior to Cancún, had argued for a 'single' harmonizing formula rather than a country-based average tariff reduction formula in order to achieve real expansion of market access. They also proposed that there would be an increase in the single coefficient (implying a lesser reduction commitment) if Members were to bind their tariffs fully and participated meaningfully through a reduction in their binding overhang (the gap between bound and applied MFN rates).

Whereas the Chairman's text envisaged exempting LDCs from tariff reduction commitments, the joint text proposed that additional provisions for LDCs and those IDA-

1 The Swiss formula cuts high tariffs more dramatically. This represents a problem for developing countries that tend to have higher initial tariffs and would therefore be required to make larger cuts under such harmonizing formula. The proposal attempts to addresses this concern by raising the Swiss formula maximum coefficient according to the average tariff. This provides for the 'less than full reciprocity' to the extent that developing countries have higher initial tariffs but countries with the some average tariffs are treated in the same fashion, irrespective of whether they are developed or developing.

only eligible members as well as members with a binding coverage of non-agricultural tariff lines that is less than 35 per cent. These members would be exempt from making tariff reductions arising from the application of the agreed formula, but, with the exception of LDCs, would be expected to bind 100 per cent of non-agricultural tariff lines at the overall level of the average bound tariffs of all developing countries after full implementation of current concessions.

The draft Cancún Ministerial text proposed a non-linear formula applied on a line-by-line basis. In reference to other issues, such as sectoral tariff elimination and increasing binding coverage, the draft contains similar proposals as those presented by the Chairman of the Non-agricultural Market Access Negotiating Group.

In summary, while discussions have inevitably focussed on the Chairman's text, technically all the proposals, including those made by China, Republic of Korea, India, South Africa and Malaysia, are still on the negotiating table, and countries can put forward new proposals, whether or not based on those already on the table.

3. EXISTING LEVELS OF PROTECTION

Many developing and least-developed countries enjoy tariff preferences under the Generalised System of Preferences and more selective schemes, such as the Cotonou Agreement, the Caribbean Basin Initiative, the Everything but Arms initiative of the EU and the African Growth and Opportunities Act (AGOA). Even taking account of the4se preferences, average import-wegihted applied tariffs on exports from these regions to developed countries are higher than those facing developed countries themselves. This reflects the composition of imports with different tariffs rather than higher tariffs on the same item. It also reflects the relatively weak bargaining power of the developing countries in past rounds of negotiations in that they were unable to secure tariff cuts on the kind of goods that they export..

Table 1 shows non-agricultural trade weighted applied tariffs, levied by developed and developing countries on exports from each other. These data include preferential rates. As may be observed, on average, developed countries impose tariffs of 2.1 per cent on imports from other developed countries, 3.9 per cent on imports from developing countries and 3.1 per cent

from LDCs. The most significant sectors contributing to the higher tariffs on developing country exports are petroleum and coal products and textiles and apparel. In petroleum and coal alone, developing countries face an average tariff in developed countries of 45 per cent,. On the other hand, developed countries also face higher tariffs when exporting to developing countries (9.2 per cent) than do other developing countries (7.2 per cent), partly reflecting the composition of trade and partly reflecting preferential arrangements among groups of developing countries.

Table 1: Weighted average applied tariffs (inc. preferences) by group

	Developed %	**Developing** %	**Least developed** %
Source			
Developed	2.1	9.2	11.1
Developing	3.9	7.2	14.4
Least developed	3.1	7.2	8.3
Total	2.9	8.1	13.6

Source: Computed from UNCTAD TRAINS database.

While overall tariffs may appear modest, there is a wide range of items with rates that far exceed these moderate averages. This is why the elimination of tariff peaks on products of interest for developing countries still remains a priority in the multilateral trade agenda. There is no unique definition of a high tariff or tariff peak, but it is now widely accepted among negotiators that a domestic or national tariff peak is an individual tariff rate that is at least three times higher than the national average.[2] Although this exists in many countries, it is more prevalent in developed countries where nearly 10 per cent of developed country tariff lines are in excess of three times the national average (Table 2). Tariff peaks are less common in developing countries as a result of reforms under World Bank/IMF programmes which tend to favour flatter tariff structures.

2 International tariff peaks are the tariff lines more than 15 per cent above the international average.

Table 2: Peaks in bound and applied tariffs as share of total tariff lines

Scenario	Bound %	Applied %
Developed countries	8.2	9.9
Developing countries	0.4	3.5
Least-developed countries	0.4	0.7

Source: Computed from UNCTAD TRAINS database.

Another aspect of the bias in protection against developing country exports is tariff escalation, the increase in the level of tariff rates with the stage of processing (UNCTAD, 2003). Tariff escalation makes it harder for developing countries to develop export-oriented processing industries, e.g. by increasing domestic value added to their base commodity production. The increase in tariffs down the processing chain particularly affects the intermediate stage, as illustrated in Table 3.

Table 3: Tariff escalation: trade weighted applied tariffs by stage of processing

	Primary %	Intermediate %	Final %
Developed	0.4	3.0	3.4
Developing	6.0	9.1	8.0
Least-developed	6.9	18.0	12.0

Source: Computed from UNCTAD TRAINS database.

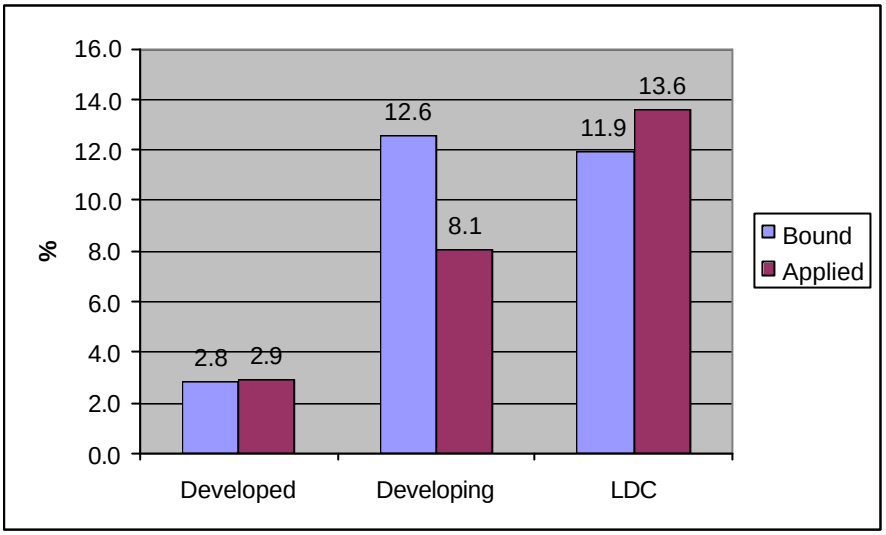
WTO tariff negotiations are not merely about cutting tariffs, but also about "binding" tariffs, that is, locking in tariff rates so that they cannot be increased unilaterally by a WTO Member but only as a result of the renegotiation of bindings under GATT Article XXVIII. Figure 1 shows the existing bound and applied rates for non-agricultural products for developed, developing and least-developed countries (LDCs)[3]. The bound rates are the basis for the current negotiations but

3 The data are taken from the WTO's Consolidated Tariff Schedule database (CTS) for bound tariffs and UNCTAD's TRAINS database for applied rates. A total of 129 countries are covered of which for 93 countries the applied rates are 2001 and for the rest the closest available year is used. Tariff averages are computed at HS 6-digit levels, using import weights from the UN COMTRADE database.

changes in applied rates determine the economic impact. For most developed countries applied and bound tariffs are the same, with applied

tariffs at 2.9 per cent. In developing countries, the average of applied rates is 8.1 per cent, substantially below bound rates as a result of unilateral reforms under World Bank-IMF reform programmes.

Figure 1: Weighted average tariffs for non-agricultural products



Source: Computed from UNCTAD TRAINS database, latest year available.
Note: The method of import weighting appears to point to the conclusion that the average applied tariff exceeds the average bound tariff for developed and least-developed countries, but in fact simply reflects the composition of trade, and does not imply that the applied rates exceed bindings for any particular item.

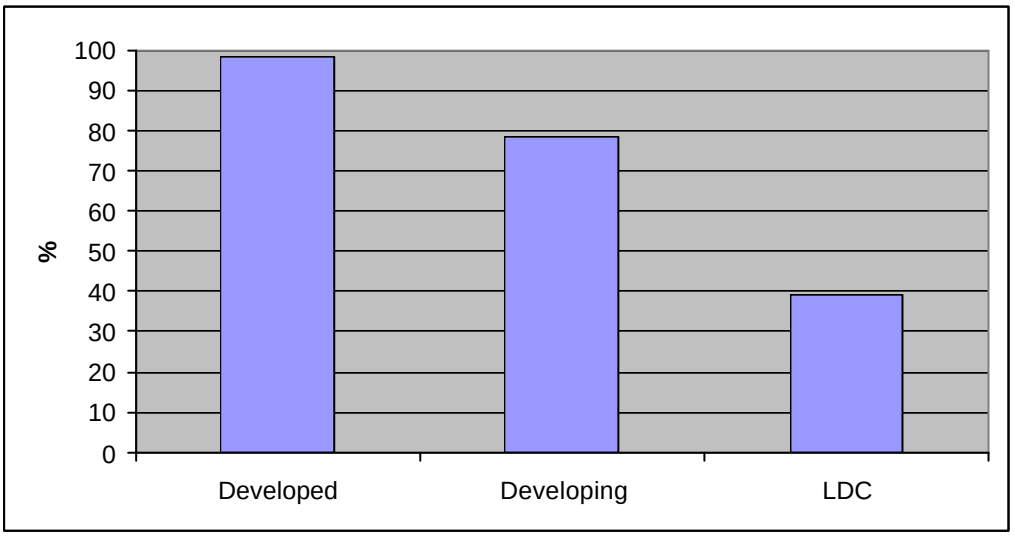
While the binding tariffs is an important, valid, legal commitment, there is also an economic significance, in that binding, even above applied levels, provides greater security to trading partners. Binding may also be seen as a sign of the predictability of trade policy more generally, thereby providing security for investments that can drive economic growth.

Most developed countries have almost all (on average 98.4 per cent) of their tariffs bound as a result of negotiations over the last 50 years. For developing countries binding coverage is much lower (78.2 per cent, compared with 22 per cent prior to the Uruguay Round) and for least-developed countries it is quite low (33.1 per cent). The reason for the lower binding coverage in developing countries and LDCs is essentially because, prior to the Uruguay Round, few demands were made on them to open their markets, which were not perceived as being very important.

Our analysis shows that, under all the non-agricultural proposals on the table in the current WTO negotiations, there would be increase the binding coverage of developing and least-developed countries. For many tariff lines, the bound level would be below the applied level, reducing the overall average applied tariff. However, for other lines there would still be a margin between the applied and bound rates, allowing some scope for increasing the applied rates. This could be used, for example, instead of the invocation of anti-dumping duties or safeguards. Developing countries may also see this margin as providing for some degree of policy space through the use of tariffs for industrial development purposes.

Figure 2: Initial binding coverage for non-agricultural products

(% of total tariff lines that are bound)



Source: WTO's Consolidated Tariff Schedule database (CTS).

4. HOW WOULD CURRENT WTO NEGOTIATIONS AFFECT TARIFFS?

As noted earlier, a large number of proposals have been made in the WTO negotiating Group on Non-agricultural Market Access (NAMA), of which six proposals had a formula as a core element.[4] Of these, the Chinese, EU, Korean and Japanese proposals resembled the Swiss formula used in the Tokyo Round in that they all were intended to cut higher rates by a greater percentage than lower rates. In the Tokyo Round, the Swiss formula used a single coefficient of 14, which became the maximum rate for all affected tariffs in all participating countries, and was therefore "harmonising" countries. A number of the current formulae proposals are intended to reduce tariffs within rather than across countries, and may therefore be seen as "harmonising" _ individual countries. The first phase of the initial US proposal was similar, but the US also proposed universal free trade after 10 years.

One problem being faced by negotiators and analysts is that a number of parameters are not specified but are left to be determined in the negotiations. For example, the Indian proposal included unspecified linear cuts with a lesser reduction by developing countries. although one illustration of how this might work was for a 50 per cent tariff reduction by developed countries and 33.3 per cent by developing countries. In the proposal by the Chairman of the Negotiating Group, there is an unspecified multiplier (or divisor) that could deepen or lessen the depth of cuts and could even be applied differentially across groups of countries.

In this section we analyse the effects of four alternative scenarios of trade liberalisation for non-agricultural products based on proposals made from Member states in the WTO Working Group (Table 4). The scenarios presented ("Free Trade", "Hard WTO", "Soft WTO" and "Simple Mix") have been selected to facilitate a comparison of the spectrum of the proposals on the negotiating table, and to demonstrate the sensitivity of the outcome to the precise parameters that might be negotiated.

[4] See Laird, Fernandez de Córdoba and Vanzetti (2003) for an analysis.

The first scenario, free trade, draws from the December 2002 United States of America proposal to the WTO Working Group. For this scenario all countries bind their non-agricultural tariffs and reduce them to zero.

The second and third scenarios, so-called Hard and Soft WTO, are two variations from the Chairman of the WTO Working Group proposal for non-agricultural tariff reductions. These two scenarios cover the following elements:

1. Tariff reduction formula
2. Sensitive items
3. Binding coverage
4. Level of binding
5. Sectoral elimination

Both the Hard and Soft approaches are based on the WTO proposed harmonizing formula:

$$T_1 = \frac{B \times ta \times T_0}{B \times ta + T_0}$$

where ta is the national average of the base rates, T_0 the initial rate, T_1 the final rate, and B is the coefficient, yet to be negotiated, reflecting the level of ambition.

This formula reduces tariffs according to a Swiss formula. The maximum coefficient is equal to the current national import-weighted average, achieving the progressive effect of proportionately greater reductions in higher initial tariffs. This coefficient in the Swiss formula represents the maximum tariff after the application of the tariff reduction formula. In previous applications B and ta were represented as a single coefficient common to all members. The Swiss formula used for industrial products during the Tokyo Round with a maximum coefficient of 14 per cent.

In the WTO Chairman's proposal the B coefficient would be common to all countries. B set at 1 implies the average bound rates become the maximum. The so-called Hard version of WTO proposal builds upon a B coefficient equal to 0.5. Under this scenario, developed and developing countries with the same average initial tariffs would make the same percentage reduction. In this

sense, the proposal does not contain any specific and differential component. However, an element of special and differentiated treatment for developing countries would exist where developing countries have higher initial tariffs than developed countries, as is often the case.

In contrast to the Hard WTO scenario in which B equals 0.5, the Soft scenario incorporates a B coefficient would be differentiated between developed and developing countries. B takes two values, 1 for developed countries and 2 for developing countries (although these could obviously be differentiated more or less strongly). This differentiation of the B coefficient is based on the principle of special and differential treatment and less than full reciprocity concept for developing countries mandated in paragraph 16 of the Doha Ministerial Declaration.

Both WTO scenarios and the 'Simple' mix include a special clause that allows sensitive items to remain unbound, and excluded from any tariff cut obligations. For our purposes, we define sensitive products as the 5 per cent of the all tariff lines generating the most revenue and which are unbound, or, alternatively, all unbound lines, whichever is less. In other words, we assume that tariff lines gathering the greatest amount of tariff revenue are excluded first. These items have either high tariffs, high trade flows or, most likely, a combination of both. For these tariff lines, WTO Membersneither bind nor cut their tariffs.

Both Hard and Soft scenarios specify that 95 per cent of the tariffs be bound. However, in the former scenario, the binding would be at twice the applied rate, and in the latter scenario, at either twice the applied rate or 50 per cent, whichever is higher. In the Hard scenario tariffs are bound and then the tariff reduction formula is applied. In the Soft scenario tariffs are only bound (up to the 95 per cent level) and are not subject to reductions.

The Hard WTO scenario includes sectoral elimination. This implies the elimination of tariffs for electronics & electrical goods, fish and fish products, textiles, clothing, footwear, leather goods, motor vehicle, parts and components, stones, gems and precious metals. The Soft scenario includes sectoral elimination for developed countries only and presumes that developing countries will not carry out the elimination of tariffs in these sectors.

The last scenario, 'Simple' mix, draws from a linear cut formula with a cap for tariff peaks and escalation. This capping element harmonizes tariffs and has a similar effect as the Swiss formula. It is therefore particularly useful for reducing tariff peaks and tariff escalation. The capping formula specifies that no tariff will be higher than three times the national average. This scenario does not include sectoral elimination of tariffs. As in the Soft WTO scenario, in the 'simple' mix scenario 95 per cent of tariffs are bound at either twice the applied rate or 50 per cent, whichever is higher. No tariff cutting formula is applied to tariffs after binding them.

Table 4: Four scenarios for tariff cutting

Proposal		**Formula**	**Sensitive Products**	**Binding**		**Bind and Cut**	**Sectoral Eliminations**	**B Coefficient**
1. Free Trade	Elimination of non-agricultural tariffs			100%				
Hard WTO	Girard Formula	$T_1 = \frac{B \times ta \times T_0}{B \times ta + T_0}$	Top 5% among unbound lines with highest tariff revenue, or all unbound lines, whichever is less.[5] No cut or binding	95% of tariff lines	Twice Applied Rate	Yes	Yes	B=0.5
3. Soft WTO	Girard Formula	$T_1 = \frac{B \times ta \times T_0}{B \times ta + T_0}$	Top 5% among unbound lines with highest tariff revenue, or all unbound lines, whichever is less. No cut or binding.	95% on tariff lines	Twice Applied Rate or 50% which ever is less	No	Developed Yes	Developed B = 1
4. Simple Mix	Developed A = 50%	$T_1 = a \times T_0$	Top 5% among unbound lines with highest tariffs revenue, or all unbound lines, whichever is less. No cut or binding	95% of tariff lines	Twice Applied Rate or 50% whichever is less			
	Developing a = 36%	Harmonizing. Capping. No tariff higher than 3 times tariffs national average						

[5] For some countries the number of unbound tariff lines are less than 5% of their tariff universe, hence these unbound items are taken as sensitive products.

Tables 5a and 5b show the tariff changes after applying the scenarios defined above. It should be noted that in Table 5a the number of tariff lines varies from one scenario to another, as each scenario implies a different binding coverage, and this affects what is taken into account in computing the averages. However, Table 5b shows the average changes only for those tariff lines that were covered by the initial bindings.

The average final bound weighted tariffs for developing countries under the Soft and Simple scenarios are barely less than the initial tariffs if the newly bound tariffs are included. This is not the case for the Hard scenario where the final weighted bound rate becomes much lower than the initial due to the high level of tariff cuts.

As may be observed, the level of ambition for tariffs cuts declines in going from free trade through the WTO variants to 'simple' mix. For developed countries trade-weighted average applied tariffs fall from 2.9 per cent to 0 per cent under free trade, 0.4 per cent under Hard WTO, 0.6 per cent under Soft WTO and finally 1.6 per cent under the 'Simple' mix scenario. For developing countries, average tariffs are reduced from 8.1 per cent to 0 per cent, 2.6 per cent, 6 per cent and 6.2 per cent respectively. These averages exclude changes in the agriculture and services sectors. In all scenarios least-developed country tariffs do not change.

It is important to note that the Soft WTO scenario and 'Simple' mix give approximately the same final bound and applied tariff for developing countries (17.2 per cent and 6 per cent, respectively, for the Soft, and 18.5 per cent and 6.2 per cent, respectively, for the 'Simple').

Table 5a: Bound and applied tariffs on non-agricultural products after applying the four scenarios (universe of bound tariff lines varies by scenario)

Scenario	Tariffs Simple Averages		Tariffs Weighted Averages	
	Bound	**Applied**	**Bound**	**Applied**
	%	%	%	%
Developed Countries				
Initial Rate	5.7	4.7	2.8	2.9
Free Trade	0.0	0.0	0.0	0.0
Hard	0.7	0.6	0.4	0.4
Soft	1.5	0.8	0.9	0.6
Simple	4.1	2.3	2	1.6
Developing Countries				
Initial Rate	29	11.1	12.6	8.1
Free Trade	0.0	0.0	0.0	0.0
Hard	5.9	4.1	3	2.6
Soft	26.4	9.7	17.2	6
Simple	28.7	10.1	18.5	6.2
Least-developed Countries				
Initial Rate	46.3	12.6	11.9	13.6
Free Trade	0.0	0.0	0.0	0.0
Hard	46.3	12.6	11.9	13.6
Soft	46.3	12.6	11.9	13.6
Simple	46.3	12.6	11.9	13.6

Source: Derived from UNCTAD TRAINS database.

Table 5b: Bound and applied tariffs on non-agricultural products after applying the four scenarios (Initial universe of bound tariff lines)

Scenario	Tariffs Simple Averages		Tariffs Weighted Averages	
	Bound	Applied	Bound	Applied
	%	%	%	%
Developed Countries				
Initial Rate	5.7	4.7	2.8	2.9
Free Trade	0.0	0.0	0.0	0.0
Hard	0.8	0.6	0.4	0.4
Soft	1.2	0.8	0.6	0.6
Simple	3.7	2.3	1.7	1.6
Developing Countries				
Initial Rate	29	11.1	12.6	8.1
Free Trade	0.0	0.0	0.0	0.0
Hard	6.1	4.1	2.6	2.6
Soft	19.4	9.7	8.4	6
Simple	22.1	10.1	9.6	6.2
Least-developed Countries				
Initial Rate	46.3	12.6	11.9	13.6
Free Trade	0.0	0.0	0.0	0.0
Hard	46.3	12.6	11.9	13.6
Soft	46.3	12.6	11.9	13.6
Simple	46.3	12.6	11.9	13.6

Source: Derived from UNCTAD TRAINS database.

None of the partial approaches, i.e. other then the Free Trade scenario, have much impact on domestic tariff peaks (Table 6). In most cases the number of peaks actually rises following partial liberalisation because the average rate has fallen and the most sensitive tariffs (often the highest) are exempted from reduction. This is particularly the case for developing countries under the Hard scenario, where the percentage of peaks rises from the initial 3.5 to 4.9 per cent. (We have re-computed the averages by applying the capping approach suggested by India to all except the Free Trade scenario after the application of the formulae, but this makes little

difference: the peaks that remain are essentially the consequence of allowing exceptions for sensitive items).

Table 6: Changes in bound and applied tariffs peaks as percentage of tariff lines

Scenario	Bound %	Applied %
Developed Countries		
Initial Rate	8.2	9.9
Free Trade	0.0	0.0
Hard	12.2	10.1
Soft	7	11.8
Simple	7	10.6
Developing Countries		
Initial Rate	0.4	3.5
Free Trade	0.0	0.0
Hard	1.1	4.9
Soft	0	3.4
Simple	0.6	3.7
Least-developed Countries		
Initial Rate	0.4	0.7
Free Trade	0.0	0.0
Hard	0.4	0.7
Soft	0	0.7
Simple	0.4	0.7

Source: Derived from UNCTAD TRAINS database.

Tariff escalation is reduced in developed and developing countries following partial liberalisation (Table 7). All methods, except free trade, leave significant escalation between primary and intermediate goods, but under the Hard and Soft scenarios the average trade weighted applied tariffs on final goods are lower than on intermediate goods. The Simple scenario has less impact in reducing escalation, as the harmonising mechanism is a cap at three times the average tariff as opposed to the Swiss formula.

Table 7: Tariff escalation: impact of partial liberalisation on trade weighted applied tariffs

	Primary %	Intermediate %	Final %
Developed Countries			
Initial Rate	0.4	3.0	3.4
Free Trade	0.0	0.0	0.0
Hard	0.1	0.5	0.4
Soft	0.1	0.8	0.7
Simple	0.3	1.5	1.9
Developing Countries			
Initial Rate	6.0	9.1	8.0
Free Trade	0.0	0.0	0.0
Hard	2.8	3.3	2.4
Soft	4.9	6.7	5.9
Simple	5.1	6.9	6.2
Least developed countries			
Initial Rate	6.9	18.0	12.0
Free Trade	0.0	0.0	0.0
Hard	6.9	18.0	12.0
Soft	6.9	18.0	12.0
Simple	6.9	18.0	12.0

Source: Derived from UNCTAD TRAINS database and UN COMTRADE database
Tariffs are trade weighted applied tariffs.

Finally, the apparent discrimination in developed countries on goods from developing countries is diminished. Recall from Table 1 that imports into developed countries faced average tariffs of 2.1 per cent and 3.9 per cent if from developed and developing countries, respectively. Under the Simple scenario the averages are about equal, at 1.5 and 1.7 per cent respectively, while under the Hard and Soft scenarios the developing country exporters would face average tariffs of 0.7

and 0.8 per cent, respectively. By contrast, developed country tariffs on goods from other developed countries are reduced only to 1.2 and 1.1 per cent, respectively, under the Hard and Soft scenarios. It seems that the major sectors driving these results are petroleum and coal products, which is reduced under all three partial scenarios, and textiles and apparel, where tariffs facing developing countries are substantially reduced under the Soft and Hard scenarios.

Table 8: Initial and final bound and applied tariffs by sector

Sector	Tariff Weighted Average (%)							
	Bound Rates				Applied Rates			
	Initial	Hard WTO	Soft WTO	'Simple' Mix	Initial	Hard WTO	Soft WTO	'Simple' Mix
Unprocessed agriculture	9.31	3.09	9.62	10.61	7.15	2.76	5.46	6.12
Processed agriculture	6.49	0.48	2.70	5.64	6.62	0.67	1.80	4.23
Fisheries and forestry	3.22	0.64	6.51	7.81	2.55	0.67	0.92	1.79
Coal, oil, gas and other minerals	2.31	1.29	9.51	9.72	1.62	0.96	1.47	1.53
Petroleum and coal products	9.43	3.47	12.36	13.87	21.49	2.57	3.71	3.96
Lumber	4.23	1.42	4.24	4.77	2.99	1.35	1.96	2.19
Paper products	6.27	2.39	5.98	6.87	4.58	2.02	2.71	2.78
Textiles	12.08	0.07	11.35	15.28	11.83	0.56	4.63	7.93
Apparel	11.92	0.03	6.03	12.26	12.19	0.12	1.54	7.54
Leather	10.22	0.40	9.15	13.28	10.69	0.44	2.22	5.90
Chemicals, rubber and plastics	8.43	3.05	8.63	9.47	6.04	2.59	3.94	4.21
Iron & steel	7.04	2.82	8.80	9.39	5.58	2.53	3.74	3.87
Non ferrous metals	5.64	1.38	6.16	6.58	4.08	1.26	2.93	3.21
Non metallic manufactures	8.47	2.76	8.72	10.02	6.72	2.68	4.34	5.10
Fabricated metal products	9.40	3.32	9.60	10.63	7.07	3.46	5.20	5.50
Metal manufactures	7.14	1.44	6.97	7.84	4.69	1.18	2.94	3.32
Other manufactures	3.59	0.81	7.58	8.33	3.24	0.88	1.78	2.32
Motor vehicles	9.62	1.89	6.43	8.63	7.86	2.21	4.50	5.75
Other transport than motor vehicles	3.22	1.30	5.81	6.05	1.83	0.93	1.31	1.40
Electronics	3.47	0.02	3.53	4.04	2.25	0.05	0.99	1.22
Services and other activities	-	-	-	-	0.48	0.38	0.45	0.46

Source: Computed using the UNCTAD TRAINS database.

Table 8 provides more detailed information on the changes in major sectors. A number of these correspond quite closely to those identified by the Chairman of the Negotiating Group for sectoral elimination, so that the effects of this proposal can be seen fairly well..

Finally, in Appendix Table A1, we provide detailed information on the effects of the application of the Hard, Soft and Simple scenarios on individual countries. (Under the Free Trade scenario, of course, all rates would move to zero). As may be observed, the majority of developing countries would have to make adjustments to their applied tariffs under the various proposals, in line with the degree of ambition. This is in addition to the important increase of the level of binding coverage (data available on request from the authors).

5. IMPLICATIONS AND CONCLUSIONS

The use of a formula approach to tariff negotiations is advantageous for developing countries because they do not have to depend on market power to obtain tariff cuts on their exports Of course, this advantage exists only provided that their exports are not subject to wide-ranging exceptions as sensitive products. Among the various proposals now being considered, the average tariff facing developing country exports would be reduced but important exceptions are likely to remain. Tariff escalation would be substantially diminished under the various proposals on the table. The incidence of tariff peaks would remain almost untouched, mainly because of the exclusion of sensitive items from the formulae reduction.

While the use of a formula approach should simplify the negotiations and the implementation of agreed reductions, the need to satisfy a wide range of interests means that some of the approaches have become complex. This makes it difficult for negotiators to understand what is being asked of them and to assess what they might expect in return. The use of UNCTAD and WTO databases and some powerful analytical tools has allowed us to make such an assessment, subject to the assumptions we were obliged to make in respect of elements that are currently undefined in the various proposals.

From our analysis, the Hard scenario is about twice as ambitious in terms of tariff-cutting as the more conservative Soft and Simple scenarios. The Hard scenario opens up the important EU,

Japanese and US markets by twice as much, but they are also likely to require much greater liberalisation and economic adjustment by the developing countries. Other work by the authors also suggests that the more ambitious scenarios could entail important losses of tariff (and, in some cases, overall government) revenues. Either there is a need for greater differentiation in the approach, allowing lesser cuts by the developing countries (as envisaged in the Doha Declaration) or some means need to be found to help developing countries meet the financial and administrative costs of adjustment, through the building of social safety nets, retraining programmes and so on.

If developing countries remain concerned about the potential important disruptive, short-term effects of liberalisation, then they may prefer to move more cautiously, for example by choosing from the two more conservative scenarios (Soft and Simple). The overall effects of these two approaches are remarkably similar, but, as the name suggests, the Simple scenario has the virtue of simplicity and transparency. A linear cut with a cap to reduce the incidence of tariff peaks is much easier to understand and implement than any measure based on individual national averages. The kind of linear reduction examined in this paper (some 50 per cent cut in developed country bound rates and 36 per cent reduction in developing country rates) would already be more ambitious than what has been achieved in previous GATT rounds, and would entail moderate cuts in applied tariff rates in most developing countries, and a diminution of the gap between bound and applied rates in others..

Our data include the main preferences applicable under unilateral schemes such as GSP, etc., as well as under most regional trade agreements. The effects of such changes on beneficiary countries could be important in specific countries for specific products, and this is something that needs further analysis.[6]

6 Unpublished estimates by the authors using UNCTAD's Agricultural Trade Policy Simulation Model (ATPSM) show some important losses for Mauritius and Zimbabwe in the EU market, with Mauritius suffering some important trade losses in the sugar sector. Our estimates show that the welfare gains in the EU would be more than sufficient to compensate the losers for such losses.

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APPENDIX

Table A1: Weighted average bound and applied tariffs before and after implementation of the four scenarios

	Tariff Weighted Averages (%)										
	Bound							Applied			
		After*							After		
		Hard		Soft		Simple					
		Initial	Final	Initial	Final	Initial	Final				
WTO member	Before	Coverage	Coverage	Coverage	Coverage	Coverage	Coverage	Before	Hard	Soft	Simple
Developed countries	**2.8**	**0.4**	**0.4**	**0.6**	**0.9**	**1.7**	**2**	**2.9**		**0.6**	**1.6**
Australia	9.5	1.7	1.7	2.8	3	6.1	6.4	3.9	1.5	2.2	3.7
Canada	3.7	0.7	0.7	1.1	3.4	2.4	4.7	3	0.7	1	2.1
Iceland	8.2	1	1	1.9	7.2	5.7	11.6	2.5	0.7	1.1	2.2
Japan	1.5	0.1	0.1	0.2	0.8	0.9	1.5	2	0.3	0.2	1
New Zealand	12	1.7	1.7	2.8	2.8	7.7	7.7	3.2	1.4	1.8	3
Norway	2.3	0.3	0.3	0.6	1.2	1.4	2.1	1.4	0.1	0.2	0.7
Switzerland	1.5	0.3	0.3	0.4	1.4	1	2	7.8	0.2	0.3	0.8
United States	2.6	0.3	0.3	0.6	0.6	1.6	1.6	2.8	0.4	0.6	1.6
European Union	2.8	0.4	0.4	0.6	0.6	1.8	1.8	2.8	0.4	0.6	1.7
Developing ountries	**12.6**	**2.6**	**3**	**8.4**	**17.2**	**9.6**	**18.5**	**8.1**	**2.6**	**6**	**6.2**
Albania	7.5	1.1	1.1	3.9	3.9	5.7	5.7	11.1	1.1	3.9	5.7
Antigua and Barbuda	66.6	14.2	14.2	38.9	39	50.6	50.7	13.1	9.2	13.1	13.1
Argentina	32	7.1	7.1	21.1	21.1	24.4	24.4	13.5	6.1	12.8	13
Bahrain	15.3	2.9	5.8	10.6	35.2	11.6	36.2	7.5	5.1	7.5	7.5
Armenia	6.8	1	1	3.8	3.8	5.3	5.3	0.9	0.1	0.6	0.8

WTO member	Tariff Weighted Averages (%)										
	Bound							Applied			
		After*							After		
		Hard		Soft		Simple					
	Before	Initial Coverage	Final Coverage	Initial Coverage	Final Coverage	Initial Coverage	Final Coverage	Before	Hard	Soft	Simple
Barbados	98	18.8	18.8	55.8	55.8	74.5	74.5	14.6	9.3	14.3	14.3
Bolivia	39.9	9.9	9.9	26.6	26.6	30.4	30.4	8.7	6.2	8.7	8.7
Brazil	30.3	6.7	6.7	20	20	23	23	10.4	4	9.8	10
Belize	52.3	14	14	34.5	34.6	39.7	39.8	11.1	7.9	11	11.1
Brunei	25	4.1	4.1	15.9	16.3	19	19.4	7.3	4.7	7.3	7.3
Bulgaria	18.3	4.4	4.4	11.6	11.6	13.9	13.9	9.4	3.3	8.5	8.8
Cameroon	0.5	0.1	6.3	0.3	48.3	0.4	48.4	13.7	7.2	13.7	13.7
Sri Lanka	2.3	0.4	1.9	1.7	44.6	1.7	44.6	4.8	2.1	4.8	4.8
Chile	25	6.2	6.2	16.6	16.6	19	19	8	6	8	8
China	5.5	1.2	1.2	3.6	3.6	4.3	4.3	12.3	1.2	3.6	4.1
Taiwan	2.7	0.5	0.5	1.5	1.5	2	2.1	3.3	0.5	1.4	2
Colombia	35.2	8.6	8.6	23.5	23.5	26.8	26.8	10.3	5.7	10	10.1
Congo, Republic of the	0.5	0.2	6	0.4	46.6	0.4	46.5	16.2	7.1	16.1	16.1
Costa Rica	35.5	8.4	8.4	22.5	22.5	27.5	27.5	3.9	2.5	3.9	3.9
Croatia	4.6	1	1	2.7	2.7	3.5	3.5	9.6	0.8	2.4	3.2

WTO member	Tariff Weighted Averages (%)										
	Bound							Applied			
		After*							After		
		Hard		Soft		Simple					
	Before	Initial Coverage	Final Coverage	Initial Coverage	Final Coverage	Initial Coverage	Final Coverage	Before	Hard	Soft	Simple
Cuba	3.3	1.2	3.2	2.9	26.8	2.5	26.4	8.6	3.6	8.5	8.2
Czech Republic	4.2	0.8	0.8	2.4	2.4	3.3	3.3	5.4	0.8	2.2	2.7
Dominica	43.5	11.3	11.3	29.1	30	33.1	34	10.4	7.9	10.4	10.4
Dominican Republic	37	6.7	6.7	23.8	23.8	28.2	28.2	9.2	3.9	9.2	9.2
Ecuador	16.3	4.7	4.7	11.5	11.6	12.4	12.5	10.7	5	9.5	10
El Salvador	31.9	8.9	8.9	21.2	21.2	24.2	24.2	5.5	3.4	5.5	5.5
Gabon	15.3	4.1	4.1	10.2	10.2	11.7	11.7	13.7	3.7	9	9.4
Georgia	6.6	1.4	1.4	3.6	3.6	5	5	9.5	1.4	3.6	5
Ghana	0.7	0.2	4.7	0.5	61.4	0.5	61.4	15.7	4.8	15.7	15.7
Guatemala	13	2.2	3	9.1	31.1	9.9	31.9	5.7	3.2	5.7	5.7
Guyana	50	13	13	33.3	33.3	38	38	10.8	7.3	10.7	10.7
Honduras	23.1	7.4	7.4	16.2	16.2	17.5	17.5	7.5	4.7	7	6.9
Hong Kong	0	0	0	0	33.1	0	33.1	0	0	0	0
Hungary	6	1	1	4	4.6	4.6	5.2	7.8	2.2	5.1	5.6
India	18.2	3.3	8.8	13.1	35.2	13.8	35.9	24.3	9	20.5	21.2

	Tariff Weighted Averages (%)										
	Bound							Applied			
		After*							After		
		Hard		Soft		Simple					
WTO member	Before	Initial Coverage	Final Coverage	Initial Coverage	Final Coverage	Initial Coverage	Final Coverage	Before	Hard	Soft	Simple
Indonesia	34.9	9.3	9.3	22.8	23.8	26.5	27.5	4.4	2.9	4.3	4.3
Côte d'Ivoire	3.4	0.8	3.2	2.9	32.1	2.6	31.8	10.5	3.9	9.2	8.9
Jamaica	47.6	10.9	10.9	30.1	30.1	36.2	36.2	8.9	4.7	8.7	8.8
Jordan	12.7	3.1	3.1	8.1	8.1	9.7	9.7	11.8	2.7	6.7	8
Kenya	2.6	0.7	6.4	1.7	49.7	1.9	50	12.2	6.3	12.2	12.2
Korea, South	4.6	1	1.5	3.2	10.4	3.5	10.7	5.6	1.8	3.9	3.9
Latvia	7.2	1.5	1.5	4.4	4.4	5.4	5.4	1.4	0.3	0.9	1.1
Lithuania	8.4	1.8	1.8	4.9	4.9	6.4	6.4	1.6	0.3	0.9	1.1
Malaysia	5.7	1.2	1.2	4	7	4.4	7.3	4.9	2.1	3.7	4
Malta	50.8	6	6	33.2	33.3	38.6	38.7	10	2.6	10	10
Mauritius	1.7	0.4	8.9	1.2	68.4	1.3	68.5	25.4	10.2	25.3	25.3
Mexico	35	5.9	5.9	23.3	23.3	26.6	26.6	14.3	5.4	13.9	14
Moldova	4.2	0.7	0.7	2.4	2.4	3.3	3.3	2	0.4	1.3	1.6
Morocco	38.2	6.6	6.6	25.4	25.4	29	29	26.8	5.7	19	21.1
Oman	11.2	2.7	2.7	7.2	7.2	8.5	8.5	4.9	2.6	4.4	4.3

	Tariff Weighted Averages (%)										
	Bound							Applied			
		After*							After		
		Hard		Soft		Simple					
WTO member	Before	Initial Coverage	Final Coverage	Initial Coverage	Final Coverage	Initial Coverage	Final Coverage	Before	Hard	Soft	Simple
Nicaragua	42.1	11.4	11.4	27.8	27.8	32	32	4.2	3.3	4.2	4.2
Nigeria	2.6	0.9	11.2	1.9	50.5	2	50.6	18.2	11.3	18.2	18.2
Pakistan	14.1	3	9.3	9.8	47.8	10.7	48.8	20.1	9.6	19.9	19.8
Panama	18.4	4.6	4.6	12.2	12.2	14	14	6.1	3.1	5.5	5.5
Papua New Guinea	30.8	7.6	7.6	19.7	19.7	23.4	23.4	14.6	7.2	12.1	13.2
Paraguay	30.4	8.3	8.3	20.5	20.5	23.1	23.1	9.8	5.5	9.6	9.6
Peru	30	7.7	7.7	20	20	22.8	22.8	12.3	7.7	12.3	12.3
Philippines	6.2	1.1	2.3	4.6	19	4.7	19.2	3.2	1.9	3.2	3.2
Poland	6.5	1.7	1.7	4.7	5.3	5	10.8	7.9	3	5.9	6.3
Romania	31.6	6.2	6.2	20.7	20.7	24	24	12.8	4.3	11.5	12.1
Saint Kitts and Nevis	71.6	17.6	17.6	47	47	54.4	54.4	11.5	8.6	11.5	11.5
Saint Lucia	66.8	14.9	14.9	39.8	39.8	50.7	50.7	10.9	7.5	10.8	10.9
Saint Vincent & the Grenadines	64	14.3	14.3	39	39.1	48.7	48.7	10.6	7.5	10.6	10.6
Singapore	1.8	0.2	0.2	1.5	15.3	1.4	15.2	0	0	0	0
Slovenia	22.6	5.5	5.5	15.1	15.1	17.2	17.2	9.8	4.7	9.2	9.5

	Tariff Weighted Averages (%)										
	Bound							Applied			
		After*							After		
		Hard		Soft		Simple					
WTO member	Before	Initial Coverage	Final Coverage	Initial Coverage	Final Coverage	Initial Coverage	Final Coverage	Before	Hard	Soft	Simple
South Africa	11.7	2.2	2.2	7.3	18.5	8.9	20.1	4.9	1.5	3.9	4.6
Zimbabwe	2.3	0.6	6.7	1.5	45	1.7	45.3	14.2	6.7	12.2	12.1
Thailand	7.7	2	3.3	5.7	24.2	5.9	24.4	9.1	3.6	8.2	8.3
Trinidad and Tobago	43.7	13.2	13.2	29.4	29.4	33.2	33.2	3.9	2.9	3.9	3.9
Tunisia	25.4	3.7	7.6	17.9	37.2	19.3	38.7	26	7.8	23.8	24.6
Turkey	8.3	1.8	2.6	6.4	28.6	6.3	28.5	4.4	1.9	4.1	4.1
Macedonia			5.7		48.7		48.7	11.8	6.2	11.8	11.8
Egypt	23.7	6.4	6.4	15	15	18	18	15.5	6.6	12.5	13.6
Uruguay	31	7.5	7.5	20.5	20.5	23.6	23.6	12.1	5.5	11.8	11.9
Venezuela	33.3	8.2	8.2	22.1	22.1	25.6	25.6	13	6.6	12.3	12.7
Least developed countries	**11.9**	**11.9**	**11.9**	**11.9**	**11.9**	**11.9**	**11.9**	**13.6**	**13.6**	**13.6**	**13.6**
Bangladesh	2.9	2.9	2.9	2.9	2.9	2.9	2.9	21.8	21.8	21.8	21.8
Myanmar	5.7	5.7	5.7	5.7	5.7	5.7	5.7	4.3	4.3	4.3	4.3
Central African Republic	27.6	27.6	27.6	27.6	27.6	27.6	27.6	14	14	14	14

WTO member	Tariff Weighted Averages (%)										
	Bound							Applied			
		After*							After		
		Hard		Soft		Simple					
	Before	Initial Coverage	Final Coverage	Initial Coverage	Final Coverage	Initial Coverage	Final Coverage	Before	Hard	Soft	Simple
Chad	1.1	1.1	1.1	1.1	1.1	1.1	1.1	11.9	11.9	11.9	11.9
Benin	6.1	6.1	6.1	6.1	6.1	6.1	6.1	11.7	11.7	11.7	11.7
Madagascar	5.2	5.2	5.2	5.2	5.2	5.2	5.2	3.1	3.1	3.1	3.1
Malawi	7.8	7.8	7.8	7.8	7.8	7.8	7.8	12.2	12.2	12.2	12.2
Maldives	36.4	36.4	36.4	36.4	36.4	36.4	36.4	20	20	20	20
Mali	6.6	6.6	6.6	6.6	6.6	6.6	6.6	10.4	10.4	10.4	10.4
Mauritania	7	7	7	7	7	7	7	12.1	12.1	12.1	12.1
Mozambique	95.3	95.3	95.3	95.3	95.3	95.3	95.3	10.7	10.7	10.7	10.7
Niger	27.8	27.8	27.8	27.8	27.8	27.8	27.8	11.4	11.4	11.4	11.4
Guinea-Bissau	38.8	38.8	38.8	38.8	38.8	38.8	38.8	12.8	12.8	12.8	12.8
Rwanda	85.3	85.3	85.3	85.3	85.3	85.3	85.3	8.1	8.1	8.1	8.1
Senegal	29.8	29.8	29.8	29.8	29.8	29.8	29.8	8.6	8.6	8.6	8.6
Togo	0	0	0	0	0	0	0	10.5	10.5	10.5	10.5
Uganda	0.7	0.7	0.7	0.7	0.7	0.7	0.7	6.9	6.9	6.9	6.9
Tanzania	0	0	0	0	0	0	0	11.9	11.9	11.9	11.9

	Tariff Weighted Averages (%)										
	Bound							Applied			
		After*							After		
		Hard		Soft		Simple					
WTO member	Before	Initial Coverage	Final Coverage	Initial Coverage	Final Coverage	Initial Coverage	Final Coverage	Before	Hard	Soft	Simple
Burkina Faso	4.8	4.8	4.8	4.8	4.8	4.8	4.8	10	10	10	10
Zambia	3.8	3.8	3.8	3.8	3.8	3.8	3.8	11	11	11	11

Note: The data are taken from the WTO's Consolidated Tariff Schedule database (CTS) for bound tariffs and UNCTAD's TRAINS database for applied rates. The data are taken from the WTO's Consolidated Tariff Schedule database (CTS) for bound tariffs and UNCTAD's TRAINS database for applied rates.

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