

Differential Impacts of Tariff Reduction Commitment of Developed and Developing Countries: Results of a Product by Product Simulation Using the Swiss Formula

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Abstract

The Trade Ministers and Negotiators who met at Doha in 2001 to begin a new round of trade negotiations were carried away by an unusual political enthusiasm to the point that they christened what appears to be a traditional trade round as a ‘Development Round’. Consequently, the Doha Ministerial Declaration on NAMA sought the most ambitious liberalisation ever of industrial markets in the history of trade negotiations. The Doha round lost complete touch with both historical and current realities by attempting a radical reduction or, as appropriate, elimination of industrial tariffs while at the same time safeguarding the needs and interests of developing countries (with no differentiation) through what it called “less than full reciprocity in tariff reduction commitments”. The history of industrialisation in both the early and late industrialisers eloquently illustrates the special role played by tariffs and other protective trade policy instrument in the development process and makes the attempt to dismantle tariffs both dangerous and unwarranted. Unable or unwilling to deliver the concessions made at Doha, the developed countries have managed to recast the round into a market access round where developing countries are being pressurized to cut their tariff levels proportionately more than developed countries, thus defeating the principle of “less than full reciprocity”.

This paper makes a quick historical detour to establish how crucial tariffs were in the industrialisation process of the presently developed countries. The paper uses tariff simulations to highlight the duplicity of the current NAMA modality in terms of how it delivers development and safeguard the needs and interests of developing countries. The paper also makes a robust case for the use of tariff and other trade policy instruments that were instrumental in the industrialisation drive of the developed countries.

1.0 Introduction

1.1 The Historical Context

The field of economics has witnessed a proliferation of theories seeking to explain the benefits or otherwise of trade liberalisation. From the 18th century to the early 19th century, the concern for markets strengthened sentiments in favour of freer trade among merchants and manufacturers of continental Europe, a change in opinion which was to propel a bitter break with the mercantilists' doctrine of economic nationalism. Adam Smith and his peers provided the intellectual basis for the safe berth of economic liberalism. Smith stressed the absurdities of mercantilists' prescriptions and provided the theoretical underpinnings of free trade.

He writes:

“It is the maxim of every prudent master of a family, never to attempt to make at home what it will cost him more to make than to buy. The tailor does not attempt to make his own shoes, but buys them of the shoemaker. The shoemaker does not attempt to make his own clothes, but employs a tailor. The farmer attempts to make neither the one nor the other, but employs those various artificers. All of them find it for their interest to employ their whole industry in a way in which they have some advantage over their neighbours, and to purchase with a part of its produce, or what is the same thing, with the price of a part of it, whatever else they have occasion for. What is prudence in the conduct of every family can scarce be folly of a great kingdom. If a foreign country can supply us with a commodity more cheaper than we ourselves can make it, better buy of them with some part of the produce of our own industry, employed in a way in which we have some advantage...”¹

In his doctrine of comparative advantage Ricardo made a monumental advance over Smith's statement of the theory of international trade. He demonstrated that two nations would each benefit from trade notwithstanding the absolute superiority of one in all lines of production. He expressed that point as follows:

“Two men can both make shoes and hats, and one is superior to the other in both lines of employment, but in making hats he can only exceed his competitor by one-fifth or 20 percent and in making shoes he can excel him by one-third or 33 percent; will it not be for the interest of both that the superior man should employ himself exclusively in making shoes and the inferior man in making hat”².

¹ Adam Smith, *Wealth of Nations*, Modern Library Edition, pp 424-6

² *Ibid*, footnote, P.83

The central message is that trade is mutually beneficial among all participating nations in the sense that it optimizes the growth rate of each country. Trade facilitates international division of labour and enhances the efficiency of resource allocation in a world of scarcity.

Modern variants of the theory of international trade have only sought to explain why a country would have comparative advantage over others in certain lines of production. For instance, the Heckscher-Ohlin (H-O) theory emphasizes differences in relative factor endowments among nations as the basic determinant of comparative advantage and a basis for international trade. According to these theories countries are better-off when they export what they can produce cheaply, and import everything else.

Therefore, for the most part of the 18th and early 19th centuries, exports were based on a country's resource endowments. Thus, the United States exported cotton, wheat, meat and several other primary products; Japan exported silk; Canada, Australia and Argentina exported butter and lamb; South Africa exported gold and diamond; Sweden exported timber; Russia exported wheat; Brazil exported rubber and coffee; Ghana exported cocoa and India exported tea.

However, in the second half of the 19th century, export of these primary produce were mixed with, and in some cases dominated by import substitution industrialisation bolstered by strong protectionism as was the case in Germany after the unification in 1860. A strong rivalry for markets that reflected the attainment of maturity by continental industry led to eventual relapse into protectionism by the developed countries.

In Europe, as elsewhere, protectionism was inspired by several factors. First, was the invasion of the continent by cheap American and Russian grain. Second, the need for revenue to meet the rising expenditure on armaments, education, public health and social insurance necessitated a hike in custom duties which, in the 19th century provided the larger part of the revenue of many nations.

Aside of revenue, tariffs were used extensively together with other trade policy instruments – the so-called Non-tariff Barriers (NTBs) - as a tool to nurture domestic industry and advance development policy objectives of nations. And here history is replete with classic examples of how the now-developed countries have used tariffs and other protective trade policies to shut out foreign products when they found themselves in uncompetitive high-cost situations.

Britain liberalised after industrialisation, at a time when they were the world's economic powerhouse. But that episode of liberalisation was dotted with several trade practices that are seriously frowned upon by the present multilateral trade regime. Some examples will do. Whenever British exports could not compete with foreign products they were supported as they are today with

refunds (“drawbacks”) of taxes that had been paid on raw materials. Additionally, export subsidies were (and are) not difficult to obtain when the need arises. Export duties were imposed on raw materials and it was not uncommon to find total prohibition of such exports. Those who flout the law have their left arm cut off for the first offense; the second offense carried the death penalty. On the import side, practically every good imported into England paid a heavy duty, in a very large number of cases so high as to be prohibitive. For England’s most important manufactures (woolen and silk textiles) direct prohibition of imports was applied. Imports of raw materials were, however, permitted duty-free.

The champion of free trade today, the United States, has been by far the most protectionist during its period of industrialisation. Bairoch (1993) described the US as “the mother country and bastion of modern protectionism”. In the 1870s, custom duties accounted for more than 50 percent of the United States government revenue. In 1890, average tariff rate was 50 percent and by 1897 the average rate was 57 percent (Ellsworth, 1957).

For a demonstration of how important tariffs and indeed protection were to the industrial rise of America we can turn to the Republican platform of 1896, which provided most of the intellectual arguments in its support:

“We renew and emphasize our allegiance to the policy of protection as the bulwark of American industrial independence and the foundation of American development and prosperity. This true American policy taxes foreign products and encourages home industry; it puts the burden of revenue on foreign goods; it secures the American market for the American producer; it upholds the American standard of wages for the American workingman; it puts the factory by the side of the farm, and makes the American farmer less dependent on foreign demand and price; it diffuses general thrift, and founds the strength of all on the strength of each”³.

This was America of 1896 when it was much richer than any other country in Africa today. By 1929, at the onset of the Great Depression, average tariff rates were 48 percent. Indeed, it was only after the Second World War that the US abandoned its autarkic posture and embraced trade liberalisation, having successfully established its industrial dominance behind high tariff walls and protectionism.

Thus far we cannot say that that policy of tariff protection so eloquently espoused by the Republican Party and somehow wrapped in the American flag did in any way harm American interest. We cannot turn back the clock of time to see what the situation would have been should America had adopted a different policy. But we are certain that America emerged from that era (of heavy protection) as

³ Cited in Ellsworth, *The International Economy*

the most industrialised and richest country on earth and in the history of mankind. Throughout the 19th century until the end of the Second World War, the US had the highest tariffs in the world, but it was also the fastest growing economy in the world.

2.0 The World Trade Organisation (WTO)

It is against this background of the successful use of tariffs and other trade policies to foster industrialisation and economic development that we discuss the World Trade Organisation and its mandate to facilitate the lowering of trade barriers. We do this bearing in mind how continental Europe, the United States, Canada, Japan and the Newly Industrializing Countries (NICs) have used trade policy to achieve unparalleled prosperity for their peoples.

Prior to the establishment of the World Trade Organisation in 1995, global trade was conducted under the auspices of the General Agreement on Tariffs and Trade (GATT). The GATT became an arena for the exercise of power politics. Premised on an anti-legal framework, the GATT was dominated by trade preferences mostly from the colonial powers to their ex-colonies, and the large exemptions from GATT disciplines in the wake of mounting protectionism in the United States and Europe. Therefore, the 1994 Agreement upon which the WTO was founded sought to establish a global trading system that is based on a kind of rule-of-law with an elaborate system and procedures for the compulsory settlement of international trade disputes. And that became a reality in 1995 when the World Trade Organisation was established as the successor organisation to the GATT. The primary economic function of the WTO is to encourage and facilitate trade liberalisation. The organisation provides the forum for member countries to negotiate and agree on trade rules. It provides the rules for how liberalisation can take place, and these rules are written into the agreements reached by members.

The rule-based nature of the WTO system has traditionally served as an attraction for most developing countries. However, the process of rule-making in the WTO has traditionally been dominated if not hijacked by few countries (the US, the European Union, Canada and Japan). These countries have conventionally set the agenda and the ground rules for negotiations. And they do so in a manner that safeguards their national interests and in a flip disregard for the interests of the developing countries.

For several practical reasons, the World Trade Organisation and all that it stands for has become increasingly distanced from ordinary people including national institutions such as parliaments and civil society. While overall world trade has boomed over the last decade with phenomenal growth of global incomes, for a large number of countries especially in the developing world hopes and aspirations for economic emancipation is diminishing by the day for the same reason that is assigned for the increasing global incomes, liberalisation of international trade.

Again, the system of rule-making and enforcement while shrouded in secrecy away from public view appears to override the powers of national institutions in the resolution of what are essentially domestic matters. Consequently, the WTO is viewed in many quarters with deep suspicion and sometimes animosity. It is despised and blamed for the massive unemployment across the developing world that has produced unprecedented levels of human misery alongside unprecedented global prosperity.

Further, the experiences of a large number of developing countries especially in Sub-Saharan Africa that undertook sweeping trade reforms that liberalised their trade and payment systems under the tutelage of the International Monetary Fund and the World Bank has generated a strong wave of anti-trade sentiments across much of the developing world. The large army of unemployed youth roaming the streets of developing countries resulting from the collapse of industries, the deepening poverty, the increasing fragility of economies and above all the diminishing significance of Africa in global affairs including world trade have made many to question the relevance of the WTO and its mission to tear down trade blocks.

It has become extremely difficult for even pro-WTO and pro-liberalisation advocates to justify why, for instance, the share of Africa in global trade has declined from over 5 percent in 1980 when it was deemed as pursuing autarkic policies to a little over 2 percent by 2004 when it was counseled to liberalise with the expressed aim of facilitating its integration into world trade. When the “trade that has created so much prosperity for the world’s wealthy countries is bypassing poor countries” and when “fifty-four countries are poorer than they were fifteen years ago” (Ted Turner, 2006) then we can be sure that something has gone terribly wrong with international trade.

Finally, the WTO and its advocates believe that free trade is a catalyst for economic growth which in neo-liberal minds is essential for the elimination of poverty and the enhancement of welfare. The WTO believes that countries that liberalise most are also the ones that benefit most from international trade. These assumptions and beliefs are imbued with a fundamental contradiction that throws into question the relevance of the WTO itself and what it seeks to do. If free trade is good for growth and development, and if, as we are made to believe by the WTO that, countries that liberalise most are the ones that benefit most, then one would have expected that the “apostles” of free trade will go ahead to liberalise without demanding that others who may not necessarily believe in free trade do likewise. In other words, a free trader is a free trader; he/she does not need to negotiate or coerce others before demonstrating his love for the concept.

3.0 The Doha Development Round

In the midst of dashed aspirations and hopes over international trade and the persistent but sometimes popular conviction that trade is not working for the poor following the collapse of the Seattle Ministerial and mounting discontentment with the world trading system, member countries of the WTO launched the so-called Doha Development Round in the 2001. It is called Doha obviously because it was launched in the capital of the Islamic Republic of Qatar which is Doha. But as we shall soon see, why the round is called a “development” round perhaps can only be determined when it is completed if ever it will.

It is important that we put the Doha Development Round in a proper context if we are to understand and appreciate why the round is so deeply troubled to the point of collapse. The round was launched in November 2001, two months after the September 11 terrorists’ landmark attack on the World Trade Centre and the Pentagon in the United States of America. Those attacks generated anxiety almost to the point of hysteria across the world. Major symbols of global capitalism have been attacked unprovoked. But the attackers and anti-globalisers pointed to the extreme imbalances in the world including global trade rules. At the same time, the United States and her allies needed to build a global alliance to confront the terrorists harboured by the ‘rogue’ states. Public opinion had to be reshaped; the world has got to be assured that globalisation is working and will be made to work for all.

Fortunately, for the allied forces, a new round of multilateral trade was to be fashioned out two months after the attacks. This was an opportunity to seek, however, cosmetic it may be to re-balance the rules and win over public opinion. Therefore, geopolitical enthusiasm and the need to build political coalitions superseded actual political willingness to negotiate and deliver promised concessions. Such was the craze that even the time set at Doha to conclude such an ambitious round was, to say the least highly unrealistic. Not surprisingly, the design of the round itself suffers some fundamental flaws. First, to call a traditional trade round as a “Development Agenda” was a misnomer. Second, non-reciprocity implied at Doha is a fantasy. The impression created that relatively more advanced developing countries such as Brazil and India could extract market-access commitments from developed countries without making any meaningful commitment of their own was a big joke. More than anything else, perhaps, the politicians that met at Doha only played to the gallery.

These notwithstanding, the Doha negotiations were nicknamed the “Doha Development Agenda” for the simple reason that the Doha Ministerial Declaration proclaimed that the needs and interests of developing countries will be at the centre of the work programme. To strengthen the development dimension two issues were highlighted: strengthening special and differential treatment for developing countries, and resolution of problems associated with the implementation of WTO agreements. Addressing these issues was seen as a prelude to the process of balancing the unbalanced rules created by the Uruguay round.

Of particular concern to developing countries was the unfair rules in agriculture which allow developed countries to pay huge subsidies to their farmers and at the same time compel developing countries to dismantle their tariffs. This asymmetric relationship has subjected poor farmers in developing countries to unfair and extremely intense competition from highly subsidised imports. Resolving this imbalance was made a prerequisite for achieving negotiating modalities for liberalizing agriculture and non-agricultural market access (NAMA). Therefore, the Doha mandate promised to eliminate all forms of export subsidies including trade distorting domestic supports.

Essentially, the development angle of the Doha round as they relate to agriculture and NAMA centre on increasing market access for products of export interest to developing countries. It also involved achieving a negotiated agreement whose overall architecture affords developing countries sufficient policy space for the conduct of development policy. However, the over hundred proposals that border on these issues remained deadlocked with passing deadlines.

While trade in agriculture remains the most distorted and should rightly be at the centre of the Doha round, most of the proposals that have received considerable attention at the negotiating table have centred on achieving cuts in industrial tariffs at levels never seen in the history of trade negotiations. The only real achievement so far made is the agreement to eliminate export subsidies by 2013. This concession is meager for two reasons. First, export subsidies are only a small proportion of total agricultural support. Second, the transition period for their elimination seems unreasonably long and there are no firm guarantees that when the time comes the developed countries will honour their words.

Clearly, this is not the way to deliver development in a development round. Gradually, the development content of the Doha Development Round is falling into oblivion even as the ruthless face of corporate greed boosted by national power shows up ever more at the negotiations. In the words of the Indian commerce Minister, Kamal Nath, the negotiations are now in danger of not becoming Development Round but a Market Access Round. By their negotiating positions and stance, it is becoming increasingly clear to all who care to notice that, the developed countries are stripping the round of its development features. Now, the “development spin-off” has ceased as most of the high profile proposals on the table seek to aggressively compel the developing countries to open up their market in a manner that is unparalleled in the history of trade negotiations. For one thing, if the round proceeds along these lines and if developing countries do not fight but allows it to be completed on the terms of the developed countries the future of industrialisation in many countries especially in Africa will be permanently undermined.

3.1 The Non-Agricultural Market Access (NAMA)

The Doha ‘Development’ Round has many components. But one particular aspect of the round that has received considerable publicity is the so-called Non-Agricultural Market Access dimension. As the name may suggest, the Non-Agricultural market Access (NAMA) component of the round relate directly to the liberalisation of trade in all products other than agricultural products.

The NAMA negotiations are mandated under paragraph 16 of the Doha Ministerial Declaration (2001) which sought among other things to address the asymmetric trade relationship between developed and developing countries. In particular, the NAMA mandate sought to address the long held concerns of developing countries over the process of liberalisation in industrial products that have been characterized by the existence of high tariff peaks, specific tariffs, tariff escalation and non-tariff barriers against products of export interest to them. The Declaration states:

“We agree to negotiations which shall aim, 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. The negotiations shall take into account 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 and the provisions Cited in paragraph 50 below. To this end, the modalities to be agreed will include appropriate studies and capacity-building measures to assist least-developed countries to participate effectively in the negotiations.”

The imports of the Ministerial Declarations of this nature have often been the subject matter of intense debate both among negotiators and politicians. But this particular declaration appears unambiguous and straightforward. Among other things, three basic issues stand out:

- ✓ Reducing or as appropriate eliminating tariffs on industrial product including the reduction or elimination tariff peaks, high tariffs and tariff escalation and non-tariff barriers;
- ✓ Taking into account the special needs and interests of developing countries and least-developed country participants by ensuring that their tariff reduction commitments are less than those of other participants.
- ✓ Conducting appropriate studies and build capacity of least developed countries so they can participate effectively in the negotiations.

In pursuit of this far reaching agenda, a Negotiating Group on Market Access (NGMA) was established to develop by negotiations modalities for actualising the mandate. The negotiations thus far has been underlined by three basic principles: increasing the binding

commitment of members in non-agricultural products; declaring bound tariff⁴ rates in industrial products from which tariff reductions will commence based on an agreed formula and explore exemptions mechanisms.

Somehow the Non-Agricultural Market Access negotiations have come to dominate the entire Doha round. The rich countries with overwhelming and unambiguous competitive advantage in industrial products are pushing for sweeping liberalisation of trade in these areas, thus breaking the spirit of the mandate that negotiations will focus largely on removing both tariff and non-tariff impediments in the way of products of export interest to developing countries.

Another issue which keeps coming up and for which developing countries have expressed grave concern relates to the scope of product coverage. While the declaration (quoted above) is not explicit on the extent of liberalisation, the developed countries have proposed a comprehensive coverage with no a priori exclusions. The implication is that tariff cut will be applied on all industrial products a complete departure from the Uruguay round where tariff cuts were limited to the national average. Developing countries have expressed forcefully their opposition to this proposal arguing that, it restricts the policy space because it takes their right to decide on which sector liberalise and at what point in their developmental stage they consider appropriate and feasible to do so.

The counter proposal from developing countries is that tariff cut should be limited to the national average as was the case in the Uruguay round where developing countries were required to cut their tariffs by an overall average of 30 percent. The problem is, if the NAMA mandate was to achieve significant reduction or elimination of tariff peaks, high tariffs and tariff escalation, then it becomes necessary that tariff cut should be applied on a product-by-product basis unless developing countries can come up with a formula that cut average tariff to an agreed minimum and still deliver a substantial reduction (or eliminating) of high tariffs, tariff peaks⁵, and tariff escalation⁶. This is where the Swiss Formula which is the subject for discussion in the next section has become so important to the NAMA negotiations.

⁴ The tariff level that a country has committed itself to charge on a particular product and above which the country is not allowed under WTO rules to charge.

⁵ The highest level of tariff in the tariff schedule of a country

⁶ Tariff escalation refers to a situation where tariffs increase with the level of processing. That is, when tariffs are higher on semi-processed and processed products than on raw materials.

3.2 The Swiss Formula – A Brief Historical Background

For the first time in the history of multilateral trade negotiations, the world is closer to adopting a single formula to reduce or as ‘appropriate’ eliminate tariffs on industrial products. Previous trade negotiations under GATT have achieved tariff cut without a resort to any formula. Part of the reason is that negotiation modalities under the GATT system targeted and actually required member countries to liberalise by cutting their total bound average by an agreed percentage⁷. Determined to move away from cutting national bound averages the developed countries have push through a formula which they argue should be applied on all industrial products.

The first serious proposal towards developing modalities for NAMA negotiations was tabled in 2003 by the then Chairman of the NAMA negotiating group, Pierre Louis Girard, a Swiss. The proposal had three main features:

- ✓ A formula for tariff reduction, the famous (or infamous) Swiss formula;
- ✓ Sectoral scheme for the full elimination of tariffs in seven industrial sectors (automobiles textiles & clothing, gems and jewellery, leather products, electric & electronic products footwear and fish and fish products); and
- ✓ Some level of Special and Differential Treatment (SDT)

At the Cancun Ministerial in 2003, a second text, the Derbez text, on NAMA was proposed. The text proposed a non-linear formula for reducing tariffs, quite similar to the Swiss formula, and a sectoral initiative for tariff reduction. The sectoral initiative precludes member countries from maintaining high tariffs for what they consider sensitive sectors. It was, therefore, strongly opposed by the developing countries and was not adopted.

Following the Cancun debacle, fresh impetus was made in July 2004 to revive the NAMA negotiations which have become central to the entire Doha project. This produced what has become known as the “July Package”. Among other things the package had three main elements. These are: A re-affirmation of the formula approach for tariff reduction; countries with less than 35 percent of their tariff-lines unbound will be exempted from tariff reduction through the formula but would be required to bind 100 percent of their tariff-lines and Sectoral approach for tariff reduction. Indeed, the July Package actually mandated the NAMA negotiating group to concentrate on:

⁷ Perhaps, this may explain why earlier trade rounds could not deal satisfactorily with the recurring issues of high tariffs, tariff peaks and tariff escalation.

“a non-linear formula applied on a line-by-line basis which shall take fully into account the special needs and interests of developing country participants, including through less than full reciprocity in reduction commitments”.⁸

Subsequently, the Hong Kong Ministerial in 2005 declared the adoption of the Swiss formula “with coefficients as the final modality for negotiating Non-Agricultural Market Access”. The Ministerial instructed the Negotiating Group finalise the structure and details of the formula. Two variants of the formula have been floated within the WTO:

1. Swiss formula with limited number of coefficients: the US, Norway, and Pakistan proposed two different coefficients in the formula, one for developed countries and another for developing countries. The developed countries have proposed a coefficient of 10 for themselves and 15 for developing countries. Chile, Colombia and Mexico⁹ have also proposed four different coefficients in the same formula.

$$[fbt_i = c_i \times bt_0] / [c_i + bt_0], i = 2 \text{ or } 4$$

fbt is the final bound tariff after applying the formula; *bt* is current bound tariff of a particular product line and *c* is the coefficient.

2. Swiss formula with multiple coefficients: proposed by Argentina, Brazil and India (ABI). Essentially, the ABI differs from the simple Swiss formula on two counts: the proposal calls for the coefficient to vary from one country to another depending on the level of development. Second, they also propose that the formula should be applied to the average bound tariff rate of member countries and not on a line-by-line basis as proposed by the developed countries.

In both formulas, the rate of tariff reduction is crucially dependent on the value of the coefficient. The higher the coefficient applied in the formula, the less, the tariff reduction and vice versa. For instance, if we apply the Swiss formula with a coefficient of 15 to a bound tariff of 50, the final bound tariff becomes 11.5. When the coefficient is reduced to 10, final bound tariff reduces from 50 to 8.3. When the coefficient is increased to say 30 the final bound tariff becomes 18.75. Therefore, to achieve a “less than full reciprocity in reduction commitments” as stated in the Doha Work Programme (DWP), it is important to apply a higher coefficient for developing countries and a smaller one for developed countries.

⁸ WTO., 2004. Paragraph 4, Annex B, WT/GC/W/535, Page B-1, July

⁹ They, however, did not specify the levels of the coefficients.

It is important to state that the formula cuts higher bound tariffs disproportionately more than lower bound tariffs. Since most developing countries maintain high bound rates on most industrial products they are likely to suffer a deeper cut in tariffs than the developed countries who typically have lower tariff on most industrial products. This negates the principle of “less than full reciprocity” so elegantly espoused in the NAMA declaration. Again, the non-linear nature of the formula produces a complete harmonizing effect that deals automatically with the problems of high tariffs; tariff peaks and tariff escalation. That is, if the formula is applied with say a coefficient of 15 it automatically brings all tariff lines on which it is applied below 15 percent.

While the Swiss formula with multiple coefficients was seen to be more advantageous to developing countries and naturally gained popularity among them, the handful of developed countries managed to impose the basic Swiss Formula on developing countries who constitute over two-thirds of the membership of the WTO. This shows the extent of arm twisting in the negotiations. In a report to the Trade Negotiating Committee under the heading “Towards NAMA Modalities” the chair of NAMA noted his conviction “that there is broader and stronger support for the simple Swiss formula with two coefficients.”

Subsequently, some developed countries have proposed a coefficient of 15 for developing countries and 10 for developed countries. The formula as proposed by the developed countries will be applied to bound tariff lines and the accompanying coefficient of 15 will bring most if not all bound tariff lines below the applied rates¹⁰ thus eliminating the so-called “water”¹¹. This has deep implications for successful conduct of trade policy to achieve specific development objectives.

3.3 Application of the Swiss Formula: Simulation Results

The simulations in this section are based on proposals by the developed countries for a simple Swiss Formula with two coefficients, 10 for themselves and 15 for developing countries. The simulations are done for the following countries: Argentina, Brazil, India, Indonesia, Mexico, The Philippines, South Africa, Tunisia, Canada, European Union and the United States. The results are shown in the appendix. Three scenarios are used for the tariff simulations:

- ✓ A simple Swiss formula with a coefficient 15 for developing countries as proposed by EU and the US.
- ✓ A simple Swiss formula with a coefficient of 30 for developing countries
- ✓ A simple Swiss formula with a coefficient of 10 for developed countries

¹⁰ The tariff rate that a country actually charges on the import of a particular product; it is normally below the bound rate.

¹¹ The difference between the bound tariff rate and the applied tariff rate; it is often used as a measure of “policy space”

It is important to note that the Swiss formula is applied to the bound tariff rate but as are evident from the tables the new bound rates are in most cases below the applied rates. This means that the Swiss formula with a coefficient of 15 invariably eliminates the difference between the bound tariff rate and the applied rate or what is referred to in WTO parlance as the “water”. For instance, applying the Swiss formula with a coefficient of 15 reduces India’s average bound tariff in the wood, pulp, paper and furniture sector from 56.4 percent to 19.6, a cut of almost 80 percent. Significantly, the new bound tariff is about 32 percent below the applied tariff. In that same sector, a coefficient of 10 will mean that the US will be required to reduce her bound tariff by 6.7 percent, the EU 7.1 percent and Canada by about 0.1 percent. In all the other sectors, developing countries would be required to cut their bound tariffs at rates that are significantly higher than the developed countries.

Even, when the Swiss Formula (with coefficients of 15 for developing countries and 10 for developed countries) is applied on the national averages of the selected countries, developing countries will have their tariffs reduced disproportionately more than the developed countries. Brazil’s bound average (non-agricultural products) of 30.8 will cut by 67 percent to 10.1 percent. That of Mexico will be cut by almost 70 percent from 34.3% to 10.5%. For Tunisia, the bound average will be cut by 73% from 40.6 to 10.9 which is almost 60% below its applied rate of 27.1% (see table 1). For the United States, the bound average will be reduced by 25%, EU by 28%, Canada 33.9% and Japan 17.4% (see table 2).

Table 1: Developing Countries (non-agricultural products)

Country	Applied Rate (Average)	Bound Rate (Average)	New Bound Rate After Swiss, C= 15	% cut in Bound Rate after Swiss, C=15
Brazil	14.9	30.8	10.1	67.2
Argentina	12.7	31.8	10.2	67.9
Mexico	17.1	34.9	10.5	69.9
India	30.5	34.3	10.4	69.8
Philippines	5.2	23.4	9.1	61.1
Tunisia	27.1	40.6	10.9	73.2
South Africa	5.3	15.8	7.7	51.3
Indonesia	6.7	35.6	10.6	70.2

Source: World Trade Report, 2003; author’s calculations

Table 2: Developed Countries (non-agricultural products)

Country	Applied Rate (Average)	Bound Rate (Average)	New Bound Rate after Swiss, C=10	% cut in Bound Rate after Swiss, C=10
United States	3.8	3.2	2.4	25.0
EU	4.2	3.9	2.8	28.2
Canada	4.3	5.3	3.5	33.9
Japan	2.7	2.3	1.9	17.4

Source: World Trade Report, 2003; author's calculations

It is also important to note that the average bound tariff rate for developing countries as whole is about **29.4** percent (simple average). For the developed countries the average bound rate is between **3-4** percent. Applying the Swiss formula with coefficients of 15 and 10 respectively for developing and developed countries will effectively imply a reduction of about **66** percent in the bound rates of developing countries (from 29.4% to 9.9 %) and cuts of between **22-27** percent in the bound rates of developed countries effectively transforming “less than full reciprocity” into “more than full reciprocity”.

For Unbound Tariff lines the consensus is that a non-linear mark-up of [yet to be determined] percentage points will be added to the MFN applied rate to establish a base rate for commencing tariff reductions. In the report to the Trade Negotiating Group quoted above, the chair of NAMA, noted that “there is no consensus on the level of the mark-up, but it is clear that the range is between 5 and 30 percentage points”. The idea behind the mark-up is that since the applied rate has traditionally been lower than the bound rate it is imperative to increase the former by a certain percentage point before applying the formula. However, the effect of the mark-up has been proven to be relatively small once the formula is applied since the Swiss formula as we have shown reduces higher bound tariffs proportionately more than lower bound rates. The problem with the range for the mark-up (5-30%) is that many developing countries maintain bound rates that are far greater than twice the corresponding MFN applied rates. For instance, Barbados has an average bound tariff of 97.2 percent on transport equipment while its corresponding MFN applied rate is 10.2 percent. This means that merely adding some 30 percentage points to the MFN applied rate will be grossly inadequate if Barbados had left transport equipment unbound.

Developing countries with low binding coverage of which Ghana is a member, will be exempted from tariff reductions through the Swiss formula. This does not mean that such countries will not be required to reduce their industrial tariffs. Indeed, such countries will

be required to bind their non-agricultural tariff lines at an average level that does not exceed the overall bound tariffs (for non-agricultural products) for all developing countries after the full implementation of current concessions, which is at 29.4 percent (simple average). There is no consensus yet on the level of binding but a range of between 70 to 100 percent has been proposed. What is most likely to occur is that these countries will be required to bind about 95 percent of their non-agricultural tariff lines leaving 5 percent unbound in line with Paragraph 8 flexibilities.

3.4 The Impacts of these Binding Commitments

The current state of play in the NAMA negotiations and other important issues at the WTO raises a number of important issues for the developing world. To begin with, the multilateral trading system under the auspices of the WTO has over the last ten years severely restricted the use of subsidies to support local production of new products or new modes of production (see Agreement on Subsidies and Countervailing Measures). The agreement on subsidies and countervailing measures (SCM) outlaws the use of all types of subsidies such as export subsidies and investment incentives except for low income countries with a per capita income of US\$1000 or below. Of course such countries cannot provide any significant export subsidy or investment incentives that will distort investment flow in their favour. Instead, the rich countries that are barred by the agreement are the ones that continue on a daily basis to pay huge subsidies to their producers and thus attract investments. For instance, in 1991, Portugal paid US\$484 million to Ford for creating 1900 jobs and in 1996, \$300 million was paid to Mercedes-Benz in Alabama for creating 1500 jobs.

Second, the Agreement on TRIMS (Trade Related Investment Measures) effectively prohibits governments from using investment, particularly foreign investments to promote specific development objectives through the widely used performance requirements such as local content requirements which facilitate technological diffusion and promote beneficial linkages in the economy. Local Content Requirements have been used extensively by the developed countries of today to promote linkages in the economy and localisation of production of value added. Australia and New Zealand impose a 50 percent domestic ownership requirement in natural resource projects and as late as the 1970s Canada passed the Foreign Investments Review Act which imposed extensive set of Performance Requirements (PRs) – the so-called undertakings- so that Canada obtains ‘significant benefit from FDI.

Third, the adoption of the TRIPs Agreement effectively strips developing countries of the opportunity to benefit from diffusion of external knowledge and innovation through reverse engineering and imitation. And not even the damaging effects of HIV/AIDS in Africa will compel holders of patent in the developed countries to accept the relaxation of the rules. But the historical evidence is that the developed countries of today benefited extensively from the knowledge and innovations of some other countries when they were

developing countries. Now, they are the source of knowledge and innovation and they will go the extra mile to demand stringent IPR rules from others.

Having so proscribed the use of these important trade policy instruments (which others have used extensively during their process of industrialisation) the only policy tool left in the arsenal of developing countries is tariffs. Incidentally, tariffs appear to be the only potent tool available to developing countries in their bid to protect their nascent industries and avoid massive unemployment that have accompanied unbridled liberalisation. Tariffs generate for developing countries almost a quarter of their total revenue. However, the use of tariffs has become the subject matter of the current round of trade negotiations that has as its final charge the elimination of industrial tariffs. Perhaps this may as well be the final nail in the coffin of industrialisation in developing countries.

As noted above, the use of the Swiss formula almost invariably reduces the industrial tariffs to levels that are below the applied tariff rates. This effectively eliminates the so-called “water”. Again, using a coefficient of 15 for developing countries caps all industrial tariff lines below 15 percent. The significance of this elimination is that countries that face import surge with a potential to destroy domestic jobs and livelihoods cannot raise their tariff levels to deal with the threat.

For developing countries like Ghana, an increase in the binding coverage to about 95 percent effectively closes the door to the use of tariffs as a trade policy tool to leverage industrial development, further squeezing the policy space. For such countries, capping industrial tariff lines below 29.4 percent will mean a substantial loss of government revenue which perhaps can only be replaced by conditionality-bound IMF and World Bank loans. Some of these conditionalities have in the past precluded developing countries from making use of the flexibilities afforded them by earlier multilateral trade rounds. For most developing countries, tariff revenue constitutes about 20 to 30 percent of government revenue; for developed countries this is less than 1 percent (see table in the appendix 2). For instance, Guinea derives about 76% of her tax revenues from tariffs, Uganda 49.8%, Lesotho 47.7%, and Gambia 42.8%. The loss of government revenue that will follow the tariff reduction will constrain the ability of government to maintain or increase social spending that benefit the poor.

Further, a product-by-product reduction of tariffs as this round is seeking to do mark a problematic departure from earlier rounds where countries were required to cut their average tariffs. Applying tariff cut to the average allows countries the liberty to raise or lower tariffs on specific products on the basis of the threats and the opportunities they face in the international trading arena and in line with their overall level of development. In the Uruguay Round, for instance, developing countries were required to cut their tariffs by an overall target of 30 percent. Countries were, therefore, afforded the liberty to choose the rate at which to cut a particular tariff

line provided the overall average came to 30 percent. This affords countries the freedom to modulate applied tariffs in order to pursue a pattern of trade policies that are consistent with their levels of industrial development. The current NAMA mandate takes away this policy freedom.

It is important to state that the ability to raise or lower applied tariffs is extremely essential to the quest for the diversification of the economies of developing countries. The need for developing countries to diversify away from reliance on a few primary products in the wake of massive declines in the terms of trade that has characterized their participation in world trade is hardly controversial. Industrial development remains a viable strategy to actualize the dream of diversification into more dynamic sectors. But the ability to build a durable industrial base in developing countries may depend on the ability to shield infant industries from unsustainable import competition by raising tariffs in response to external factors and even for their revenue needs. Preserving this policy space is essential for social and economic development.

It is essential for technological upgrading (UNTAD, 2006). It will also help to reduce the increasing suspicion by citizens of developing countries that the multilateral trading system has usurped from their governments the power of policy making. It will ensure national policy flexibility in the context of multilateralism as countries freely choose their applied levels of industrial tariffs within the limit set by an overall average bound tariff. However, that critical space is under serious attack and it does not look like it can survive the mercantilist zeal of the developed countries

It is difficult to be exact with the employment effects of these tariff cuts and the increase in binding commitments. But if the recent episodes of unbridled liberalisation across the developing world particularly in Sub-Saharan Africa is anything to go by then we can say with some level of confidence that the effect will be large and devastating. The intense competition that may follow tariff reductions could force many firms in developing countries into oblivion and throw many out of employment. Even if employment levels are not affected, the quality (of employment) as measured by the ILO Conventions may deteriorate as firms reduce costs in a desperate attempt to remain competitive (see Baah and Akorsu, 2007). The earlier push for liberalisation in SSA under Structural Adjustment which has led directly or indirectly to the collapse of several enterprises pushing up the unemployment rates and reduced the quality of employment strengthens the conviction that a further widening of the scope of liberalisation will exacerbate the development crisis on the continent.

In several countries in Sub-Saharan Africa, reckless liberalisation contentiously foisted on them by the Bretton Woods institutions has only succeeded in turning a bad situation into worse. Growth in per capita terms turned negative while manufacturing employment tumbled leading to unprecedented expansion of the informal sector. In Senegal, a third of all manufacturing jobs were wiped out

following import liberalisation in the second half of the 1980s. In Uganda, capacity utilization in the manufacturing sector declined to just 22 percent as import took over domestic production. The relatively success story of the IMF's star pupil, Ghana, only succeeded in ushering that country into the league of Heavily Indebted Poor Countries. According to African Development Bank (AfDB), Ghana's liberalisation of consumer imports reduced employment in the manufacturing sector from 78,700 in 1987 to 28,000 in 1993, as "large swathes of the manufacturing sector had been devastated by import competition".

Several studies including some from the World Bank and the IMF have generally affirmed the devastating impacts of unbridled liberalisation on employment. In a survey, the World Bank (2003) admitted, that "during the periods of trade liberalisation and more generally economic reform, job destruction rates can be expected to proceed at a much faster pace than job creation. Globalization could therefore be associated with higher unemployment rates."

On poverty, the nature of the linkage fostered between trade liberalisation on one hand and income and employment opportunities on the other will determine whether the former will raise or decrease poverty. Therefore, the assumption that a reduction in prices occasioned by import liberalisation will automatically benefit the poor, needs to be qualified. It depends on whether liberalisation creates employment opportunities that ultimately raises the income of the poor. As the World Bank reiterated in its Trade Policy chapter of the PRSP Sourcebook:

"In general, impact on the sources of income of the poor will be a more important determinant of the effect of liberalisation than the effect on the prices of the things that they consume."

Therefore, an import surge that reduces prices (as we have witnessed in Africa and for which the Doha round is seeking to accomplish) but which leads to the collapse of an entire sector (a familiar occurrence in most developing countries after structural adjustment) will leave the poor worse-off. In the words of Alan Winters, a trade economist, "a shock that completely undermines an important market – e.g., for a cash crop or a form of labour – is likely to have major poverty implications". According to UNCTAD, more extensive liberalisation has produced dramatic increases in the incidence of income poverty in the world's poorest countries over the 1990s. The IMF trade restrictiveness index shows that economies that have remained 'moderate' or even 'restrictive' have witnessed a decrease in the incidences of income poverty. All these illustrate the importance of exercising extreme caution as countries traversed the slippery road to liberalisation sequencing it in tandem with the country's development needs.

4.0 Conclusion

If the overall objective of the Doha round is to increase market access for product of all members, especially products of export interest to developing countries then the negotiations so far are headed in the wrong direction. Pursuing aggressive tariff cuts will not be sufficient to secure market access especially for developing countries. There are many substantial issues that limit market access for products of developing countries but which are likely to be grossed over. Among them are subsidies in developed countries and the whole range of issues regarding domestic support.

The OECD countries provide direct support of about **\$311 billion** a year to their farmers (the GDP of SSA is about **\$305 billion**). The EU provides an annual dairy subsidy of **\$913 per cow** and provides annual aid of **\$8 per African person**. Japan pays **\$2700 per cow** in annual dairy subsidy and provides some **\$1.47 as aid per person in Africa**. The US pays **\$10.7 million per day as cotton subsidy** and provides **\$3.1 million per day as aid to Sub-Saharan Africa** (UNDP Human Development Report, 2003). These are the real issues that limit market access and need to be tackled rather than the narrow focus on wrenching market access through aggressive and unwarranted tariff cut.

Tariffs and in particular industrial tariffs have been used repeatedly and successfully throughout the history of industrialisation to nurture infant industries. What has changed so dramatically to warrant a complete censure of policies that have worked so perfectly for others? Indeed, some countries are so rich today that they can afford to liberalise; for them liberalisation has become imperative as the home market which was secured long ago (for the American producer) is no longer adequate. But that is understandable. Just as individuals tend to seek their personal interests above everything else, nations and their leaders suddenly become free traders when they are in a position to compete and profit from the expansion of world trade.

Those whose interests are harmed by free trade are duty bound to resist it. It would be difficult to imagine the developed countries proposing anything different from what they have proposed; it serves their interests, especially when those countries are founded on capitalism whose underlying principle is that one has to grab as much wealth as one can. It is incumbent on the developing countries to assess their situation in the context of sweeping liberalisation by Africa in the past three decades and come to a conclusion of what is/are best for them. The experiences of the early and late industrialisers provide a useful guide.

References

- Baachetta, Marc, (2001), "Post-Uruguay Round Market Access Barriers for Industrial Products", UNCTAD Study Series No. 12
- Bairoch, Paul. (1993), "*Economics & World History: Myths and Paradoxes*", Chicago, the University of Chicago Press.
- Bhagwati, Jagdish, (2004), "In Defense of Globalisation, Oxford University Press
- Guarda, C.L., (2006), "State of Play: Negotiations on Market Access For Non-Agriculture Products"
- Ebrill, L., Stotsky, J., and Gropp, R., (1999), "*Revenue Implications of Trade Liberalization*", IMF Occasional Paper No. 180, Washington DC, International Monetary Fund
- Ellsworth, P.T., (1957), "The International Economy, Revised", New York: The Macmillan Company
- Hilary, J., (2005), "The Doha Deindustrialisation Agenda: Non-Agricultural Market Access Negotiations at the WTO"
- Khor, Martin, (2006), "A Development Assessment of the Current WTO Negotiations", Third World Network
- Rama, M., (2003), "*Globalisation and Workers in Developing Countries*", Washington DC, World Bank
- Sally, Razeen, (1999), "National Trade Policy Reform, The WTO and the Millennium Round: The Case Study of Developing Countries and Countries in Transition"
- Turner, Ted, (2006), "World Trade Organisation Public Forum, Geneva"
- UNCTAD, (2006), Trade and Development Report, 2006
- UNDP, (2003), Human Development Report, 2003

Winters, A., (2000), *Trade, Trade Policy and Poverty: What are the links?*, London Centre for Economic Research

World Trade Organisation: Negotiating Group on Market Access, (2006), "Towards NAMA Modalities", TN/MA/W/80, 19 July 2006

World Trade Organisation, (2003), World Trade Report, 2003

World Bank, PRSP Sourcebook, ch 13, available at <http://poverty.worldbank.org>

Appendix 1: Simulation Results

INDIA

Sector	Applied Rate ¹² (Average)	Bound Rate (Average)	New Bound Rate after Swiss Formula, C=15	New Bound Rate after Swiss Formula, C=30	% cut in Bound Rate after Swiss, C=15
Wood, pulp, paper & furniture	29	56.4	11.8	19.58	79.1
Textiles & Clothing	30	87.8	12.8	22.35	85.4
Leather, rubber, footwear and Travel goods	32	67.8	12.4	20.79	81.7
Metals	32	58.3	11.9	19.80	79.5
Chemicals & photographic Supplies	34	44.1	11.2	17.85	74.6
Transport Equipment	38	53.9	11.7	19.27	78.3
Non-electric Machinery	25	36.2	10.6	16.40	70.7
Electric Machinery	26	44.8	11.2	17.96	75.0
Mineral, prds, precious, stones And precious metals	29	47.2	11.3	18.34	76.1
Manufacturer Articles not elsewhere specified	29	72.4	12.42	21.21	82.8
Fish & Fish products	35	68.6	12.3	20.87	82.1

Source: World Trade Report, 2003; WTO and author's calculations

¹² Refers 2001 data

MEXICO

Sector	Applied Rate¹³ (Average)	Bound Rate (Average)	New Bound Rate after Swiss Formula, C=15	New Bound Rate after Swiss Formula, C=30	% cut in Bound Rate after Swiss, C=15
Wood, pulp, paper & furniture	16	34.0	10.40	15.9	69.4
Textiles & Clothing	24	35.0	10.50	16.15	70.0
Leather, rubber, footwear and Travel goods	21	34.8	10.48	16.11	69.9
Metals	15	34.7	10.47	16.06	69.8
Chemicals & photographic Supplies	13	35.2	10.51	16.19	70.1
Transport Equipment	18	35.8	10.57	16.32	70.5
Non-electric Machinery	12	35.0	10.5	16.15	70.0
Electric Machinery	16	34.1	10.41	15.95	69.5
Mineral, prds, precious, stones And precious metals	15	34.4	10.45	16.02	69.6
Manufacturer Articles not elsewhere specified	19	34.6	10.46	16.06	69.8
Fish & Fish products	28	35.0	10.50	16.15	70

Source: World Trade Report, 2003; WTO and author's calculations

¹³ Refer to 2001 data

ARGENTINA

Sector	Applied Rate¹⁴ (Average)	Bound Rate (Average)	New Bound Rate after Swiss Formula, C=15	New Bound Rate after Swiss Formula, C=30	% cut in Bound Rate after Swiss, C=15
Wood, pulp, paper & furniture	13	29.4	10	14.84	65.9
Textiles & Clothing	10	35.0	10.5	16.15	70.0
Leather, rubber, footwear and Travel goods	14	35.0	10.5	16.15	70.0
Metals	14	34.4	10.45	16.02	69.6
Chemicals & photographic Supplies	11	23.5	9.16	13.17	60.0
Transport Equipment	17	34.6	10.46	16.06	69.8
Non-electric Machinery	13	34.9	10.49	16.13	69.9
Electric Machinery	16	34.7	10.47	16.06	69.8
Mineral, prds, precious, stones and precious metals	10	32.8	10.29	15.66	68.6
Manufacturer Articles not elsewhere specified	17	33.7	10.38	15.87	69.2
Fish & Fish products	12	34.5	10.45	16.04	69.7

Source: World Trade Report, 2003; WTO and author's calculations

¹⁴ Refer to 2001 data

INDONESIA

Sector	Applied Rate¹⁵ (Average)	Bound Rate (Average)	New Bound Rate after Swiss Formula, C=15	New Bound Rate after Swiss Formula, C= 30	% cut in Bound Rate after Swiss, C=15
Wood, pulp, paper & furniture	5	39.6	10.9	17.06	72.5
Textiles & Clothing	11	39.9	10.9	17.12	72.7
Leather, rubber, footwear and Travel goods	8	39.6	10.9	17.06	72.5
Metals	7	36.4	10.6	16.44	70.9
Chemicals & photographic Supplies	5	37.4	10.7	16.64	71.4
Transport Equipment	8	58.5	11.9	19.83	79.7
Non-electric Machinery	6	36.6	10.6	16.48	62.6
Electric Machinery	7	38.7	10.8	16.89	72.1
Mineral, prds, precious, stones and precious metals	7	39.2	10.8	16.99	72.4
Manufacturer Articles not elsewhere specified	7	36.9	10.7	16.54	71.0
Fish & Fish products	5	40	10.9	17.14	72.8

Source: World Trade Report, 2003; WTO and author's calculations

¹⁵ Refer to 2002 data

BRAZIL

Sector	Applied Rate ¹⁶ (Average)	Bound Rate (Average)	New Bound Rate after Swiss Formula, C=15	New Bound Rate after Swiss Formula, C= 30	% cut in Bound Rate after Swiss, C=15
Wood, pulp, paper & furniture	13	27.7	9.7	14.40	64.9
Textiles & clothing	20	34.9	10.5	16.13	69.9
Leather, rubber, footwear & travel goods	17	34.7	10.5	16.06	69.7
Metals	14	33.4	10.4	15.80	68.9
Chemicals & Photographic supplies	11	22.7	9.0	12.92	60.4
Transport Equipment	18	33.6	10.4	15.84	69.0
Non-electric Machinery	14	32.6	10.4	15.62	68.9
Electric Machinery	17	31.9	10.2	15.46	68.0
Mineral products, precious stones & metals	10	33.5	10.4	15.82	68.9
Manufactured Articles not elsewhere specified	18	33.5	10.4	15.82	68.9
Fish and fish products	12	33.4	10.4	15.80	68.9

Source: World Trade Report, 2003; WTO and author's calculations

¹⁶ Refer 2001 data

PHILIPPINES

Sector	Applied Rate ¹⁷ (Average)	Bound Rate (Average)	New Bound Rate after Swiss Formula, C=15	New Bound Rate after Swiss Formula, C= 30	% cut in bound rate after Swiss, C=15
Wood, pulp, paper & furniture	6	31.8	10.19	15.43	67.9
Textiles & clothing	10	27.7	9.73	14.40	64.9
Leather, rubber, footwear & travel goods	6	32.7	10.28	15.64	68.6
Metals	4	22.9	9.06	12.98	60.4
Chemicals & Photographic supplies	4	22.6	9.01	12.88	60.1
Transport Equipment	8	26.1	9.50	13.95	63.6
Non-electric Machinery	2	22.0	8.90	12.69	59.5
Electric Machinery	4	26.2	9.53	13.98	63.6
Mineral products, precious stones & metals	4	28.5	9.80	14.61	65.6
Manufactured Articles not elsewhere specified	4	29.5	9.94	14.87	66.3
Fish and fish products	7	29.4	9.90	14.84	66.3

Source: World Trade Report, 2003; WTO and author's calculations

¹⁷ Refers to 2002 data

SOUTH AFRICA

Sector	Applied Rate¹⁸ (Average)	Bound Rate (Average)	New Bound Rate after Swiss Formula, C=15	New Bound Rate after Swiss Formula, C= 30	% cut in Bound Rate after Swiss, C=15
Wood, pulp, paper & furniture	8	9.2	5.7	7.04	38.0
Textiles & Clothing	15	27.7	9.73	14.40	64.9
Leather, rubber, footwear and Travel goods	14	23.1	9.09	13.05	60.6
Metals	5	14.1	7.3	5.59	48.2
Chemicals & photographic Supplies	3	13.9	7.2	9.49	48.2
Transport Equipment	7	23.3	9.1	13.11	60.9
Non-electric Machinery	2	12.0	6.7	8.57	44.2
Electric Machinery	5	17.4	8.1	11.01	53.4
Mineral prds, precious, stones and precious metals	4	11.5	6.5	8.31	43.5
Manufacturer Articles not elsewhere specified	4	14.8	7.4	9.91	50.0
Fish & Fish products	10	22.5	8.9	12.85	60.4

Source: World Trade Report, 2003; WTO and author's calculations

¹⁸ Refers to 2001 data

TUNISIA

Sector	Applied Rate (Average)¹⁹	Bound Rate (Average)	New Bound Rate after Swiss Formula, C=15	New Bound Rate after Swiss Formula, C= 30	% cut in Bound Rate after Swiss, C=15
Wood, pulp, paper & furniture	35	34.2	10.4	15.98	69.6
Textiles & Clothing	35	56.3	11.8	19.57	79.0
Leather, rubber, footwear and Travel goods	33	36.1	10.6	16.38	70.6
Metals	26	25.6	9.5	13.8	62.9
Chemicals & photographic Supplies	24	26.5	9.6	14.07	63.8
Transport Equipment	23	25.5	9.4	13.78	63.1
Non-electric Machinery	13	25.2	9.4	13.68	62.7
Electric Machinery	28	29.1	9.9	14.77	65.9
Mineral prds, precious, stones and precious metals	29	28.9	9.9	14.71	65.7
Manufacturer Articles not elsewhere specified	29	32.5	10.2	15.60	68.6
Fish & Fish products	41	41.2	11.0	17.35	73.3

Source: World Trade Report, 2003; WTO and author's calculations

¹⁹ Refers 2002 data, sourced from UNCTAD

UNITED STATES

Sector	Applied Rate²⁰ (Average)	Bound Rate (Average)	New Bound Rate after Swiss Formula, C=10	% cut in Bound Rate after Swiss, C=10
Wood, pulp, paper & furniture	0.8	0.6	0.56	6.7
Textiles & Clothing	10	8.9	4.7	47.2
Leather, rubber, footwear and Travel goods	5	8.4	4.7	44.0
Metals	2	1.8	1	44.0
Chemicals & photographic Supplies	4	3.7	2.7	27.0
Transport Equipment	3	2.7	2.1	22.2
Non-electric Machinery	1	1.2	1.1	8.3
Electric Machinery	2	2.1	1.7	19.0
Mineral prds, precious, stones and precious metals	2	3.3	2.5	24.2
Manufacturer Articles not elsewhere specified	3	3.0	2.3	30.4
Fish & Fish products	1	2.2	1.8	18.2

Source: World Trade Report, 2003; WTO and author's calculations

²⁰ Refers to 2001 data

EUROPEAN UNION

Sector	Applied Rate²¹ (Average)	Bound Rate (Average)	New Bound Rate after Swiss Formula, C=10	% cut in Bound Rate after Swiss, C=10
Wood, pulp, paper & furniture	2	0.7	0.65	7.1
Textiles & Clothing	8	7.9	4.4	44.3
Leather, rubber, footwear and Travel goods	4	4.8	3.2	33.3
Metals	2	1.6	1.4	12.5
Chemicals & photographic Supplies	5	4.8	3.2	33.3
Transport Equipment	4	4.7	3.2	31.9
Non-electric Machinery	2	1.8	1.0	44.4
Electric Machinery	3	3.3	2.5	24.2
Mineral prds, precious stones and precious metals	2	2.4	1.9	20.8
Manufacturer Articles not elsewhere specified	3	2.7	2.1	22.2
Fish & Fish products	12	11.8	5.4	54.2

Source: World Trade Report, 2003; WTO and author's calculations

²¹ Refers to 2002 data

CANADA

Sector	Applied Rate²² (Average)	Bound Rate (Average)	New Bound Rate after Swiss Formula, C=10	% cut in Bound Rate after Swiss, C=10
Wood, pulp, paper & furniture	2	1.3	1.2	0.1
Textiles & Clothing	12	12.4	5.5	55.6
Leather, rubber, footwear and Travel goods	6	7.6	4.3	43.4
Metals	2	2.8	2.2	21.4
Chemicals & photographic Supplies	3	4.5	3.1	31.1
Transport Equipment	6	6.8	4.0	41.2
Non-electric Machinery	1	3.6	2.6	27.8
Electric Machinery	2	5.2	3.4	34.6
Mineral, prds, precious, stones and precious metals	2	3.1	2.4	22.6
Manufacturer Articles not elsewhere specified	3	4.2	2.9	30.9
Fish & Fish products	1	1.8	1.0	44.4

Source: World Trade Report, 2003; WTO and author's calculations

²² Refers to 2001 data

Developing Countries (All Products)

Country	Applied Rate (simple average)	Bound Rate (simple average)	New Bound Rate after Swiss, C=15
Brazil	14.6	31.4	10.2
Argentina	12.7	31.9	10.2
Mexico	17.9	35.0	10.5
India	31.4	35.5	11.5
Philippines	5.7	25.6	9.5
Tunisia	33.9	57.8	11.9
South Africa	5.8	19.1	8.4
Indonesia	6.9	37.1	10.7

Appendix 2: Tariff Revenue as a Percentage of Tax Revenue

Tariff Revenue as a Percentage of Tax Revenues (Selected Developing Countries)

Import Market	Percentage	Import Market	Percentage
Bahamas	55.9	Maldives	28.3
Bangladesh	22.6	Mali	12.0
Barbados	11.2	Mauritania	30.1
Belize	49.2	Mauritius	25.0
Benin	56.0	Morocco	15.9
Botswana	12.4	Namibia	37.1
Burkina Faso	14.3	Nepal	27.2
Burundi	20.2	Niger	36.4
Cameroon	28.3	Pakistan	12.2
Central African Republic	39.8	Panama	10.7
Chad	15.3	Papua New Guinea	27.3
China	9.5	Paraguay	10.3
DR Congo	31.9	Philippines	17.2
Cote d'Ivoire	41.8	Rwanda	31.1
Dominica	19.6	Samoa	50.2
Dominican Republic	42.8	Senegal	36.5
Ecuador	11.3	Sierra Leone	48.6
Egypt	12.6	Solomon Islands	57.1
Ethiopia	26.0	Sri Lanka	11.3
Fiji	21.5	St Kitts & Nevis	37.0
Gabon	17.4	St Lucia	26.5
The Gambia	42.8	St Vincent & Grenadines	40.3
Ghana	26.8	Sudan	29.0
Grenada	18.2	Surinam	22.9
Guatemala	15.0	Swaziland	51.9

Guinea	76.6	Syria	9.9
Guinea-Bissau	37.1	Tajikistan	15.9
Haiti	21.4	Thailand	10.4
Honduras	42.4	Togo	35.4
India	18.5	Tonga	48.4
Jordan	16.8	Tunisia	11.5
Kenya	13.8	Uganda	49.8
Lebanon	28.1	Vanuatu	36.2
Lesotho	47.7	Vietnam	18.1
Madagascar	51.9	Yemen	10.3
Malawi	16.3	Zambia	15.8
Malaysia	12.7	Zimbabwe	20.5

Source: World Bank World Development Indicators, 2003

Tariff Revenue as a Percentage of Tax Revenues (Selected Developed Countries)

Import Market	Percentage
Canada	1.3
France	0.0
Germany	0.0
Japan	1.3
United Kingdom	0.0
United States of America	1.0

Source: World Bank World Development Indicators, 2003

Appendix 2: Binding Coverage

Binding Coverage of Non-Agricultural Tariffs in LDC WTO Members (% bound)

Import Market	Percentage	Import Market	Percentage
Angola	100.0	Maldives	96.7
Bangladesh	3.0	Mali	31.6
Benin	30.1	Mauritania	30.1
Burkina Faso	29.9	Mozambique	0.5
Burundi	9.9	Myanmar	4.7
Central African Republic	56.8	Nepal	99.3
Chad	0.3	Niger	96.3
DR Congo	100.0	Rwanda	100.0
Djibouti	100.0	Senegal	100.0
The Gambia	0.5	Sierra Leone	100.0
Guinea	29.6	Solomon Islands	100.0
Guinea-Bissau	97.4	Tanzania	0.1
Haiti	87.4	Togo	0.9
Lesotho	100.0	Uganda	3.0
Madagascar	18.9	Zambia	4.1
Malawi	20.7		

Source: WTO Secretariat note (TN/MA/S/14): Statistical Indicators Related to Unbound Tariff Lines

Binding Coverage of Non-Agricultural Tariffs in Paragraph 6 Countries (% bound)

Import Market	Percentage	Import Market	Percentage
Cameroon	0.1	Macao (China)	15.6
Congo	3.2	Mauritius	5.3
Cote d'Ivoire	22.9	Nigeria	6.9
Cuba	20.4	Sri Lanka	28.3
Ghana	1.2	Surinam	15.1
Kenya	1.6	Zimbabwe	9.0

Source: WTO Secretariat note (TN/MA/S/14): Statistical Indicators Related to Unbound Tariff Lines