

Developing Country Trade Policies and Market Access Issues

1990–2012

Constantine Michalopoulos

Francis Ng

The World Bank
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Trade and Integration Team
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Abstract

The study presents a comprehensive review of developing country trade policies and market access issues as they evolved over the period 1990–2012. The main findings are, first, that applied tariffs as well as traditional core non-tariff measures have declined significantly over time in both developed and developing countries. Second, the instruments of protection used by developed and developing countries are becoming increasingly similar: trade remedies, especially anti-dumping are the instruments of choice for all except low-income developing countries. Third, agriculture is the main sector where developing countries face access problems in OECD markets. Fourth, regional and other preferential trade agreements are both a result and a cause of the lack of progress in multilateral trade negotiations. They violate the basic World Trade Organization tenet of most favored

nation and thus pose a potential threat to the multilateral system and a potential stimulus to further multilateral collaboration. Fifth, sanitary and phytosanitary and technical barriers to trade are being increasingly used by both developed and developing countries but their protective intent is difficult to gauge. There is a need for increased vigilance, transparency, and reporting to ensure that they are not being used as a means of protection of economic interests. Sixth, the service sectors are the most promising area where efforts for further liberalization are needed and may produce significant benefits. And seventh, far less additional protection has been put in place following the 2008 financial crisis compared with what had been feared or what had happened in earlier crises.

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Constantine Michalopoulos and Francis Ng

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Constantine Michalopoulos is a former director at the World Bank and at present a visiting scholar at the School of Advanced International Studies of Johns Hopkins University. Email: c.michalopoulos@comcast.net.

Francis Ng is a senior economist of Trade and International Integration Team (DECTI) of Development Research Group in the World Bank. Email: fng@worldbank.org.

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I. INTRODUCTION

The remarkable expansion of developing countries' trade in the period 1980-2010 and especially in the last two decades (Michalopoulos and Ng 2013) was fueled in part by their introduction of more outward looking trade regimes, involving less domestic protection as well as by favorable developments in the access they enjoyed in developed country markets. Supply and logistics constraints continued to plague many low-income countries and LDCs. But the spread of off-shore production and the increased role played by value chains played an important role in the growth of many countries' trade.

This paper has four parts: the first examines the evolution of developing countries' own policies affecting merchandise trade; the second focuses on developed countries and the third examines policies affecting trade in services in both groups of countries. The last part discusses protectionism in both developed and developing countries since 2008.

No effort will be made to discuss other policies that affect trade performance, including exchange rate or macro-economic policies or domestic subsidies and taxes. We will also not review the huge theoretical and empirical literature on the relationship between trade and economic growth at the macro or micro level. The debate about the appropriate trade policy appears to have become increasingly academic as developing countries are revealing their preferences through their practices: very few countries have actually increased protection in recent periods; and the ones that did (Argentina) appear to have done so on a temporary basis for balance of payments reasons.

II. DEVELOPING COUNTRY POLICIES

The analysis in this section documents the great progress made by many developing country WTO members in liberalizing their trade regimes since the early 1990s (see also Drabek and Laird 1998; Finger and Schuknecht 1999). The liberalization has had several dimensions: (1) applied tariffs have been lowered; (2) the overall use of formal non-tariff barriers to trade has decreased in many countries; (3) services have been liberalized in many sectors; and (4) in general, the incidence of government intervention in trade has declined. The analysis also throws light on a number of outstanding issues in the reform agenda and some new challenges which have emerged. For example, unilateral liberalization has increased the gaps between tariff bindings and applied tariffs, increasing the uncertainty to exporters wishing to access these countries' markets as well as the opportunities for resurgent protectionism. Also, while the overall use of non-tariff measures has declined, the use of trade remedies, such as anti-dumping, as well as TBT and SPS controls on imports is on the increase.

The analysis of trade policies is based in part on information from 50 developing countries for which Trade Policy Reviews (TPRs) had been conducted under the GATT and the WTO¹. The group includes 15 economies in Latin America and the Caribbean, 17 in Asia, 13 in Sub-Saharan Africa and five in Europe, Middle East and North Africa.² They account for over 95 percent of the total trade of the developing members of the WTO. Their policies and problems can be taken to represent the developing countries as a whole. For 40 of these countries the TPRs go back to 1990 and give us a perspective on the evolution of their policies over more than twenty years.³

A. TRADE POLICIES THAT AFFECT MERCHANDISE IMPORTS

1. Tariffs

The simple average applied MFN tariff level and the standard deviation in the applied tariff level for the latest year available, as well as the average level of binding, the average difference between applied and Uruguay Round bound rates and the proportion of tariff lines unbound for the 50 developing countries in the sample are presented in Table 1. The table also contains a column that shows the average applied rates for the 1990s.

The average applied rates in the 50 countries range from zero in Hong Kong SAR, China and Singapore, to 5-10 percent in many countries in Latin America, to 10-20 percent in most of the rest of the countries except Tunisia, which has an average of over 20 percent. Tariff rates vary substantially within each country with overall standard deviations in excess of ten for several countries such as Egypt, India, Korea and Tunisia, and similarly high coefficients of variation.

Perhaps the most interesting aspect of the table is the comparison of the applied rates over time. Only three countries (Benin, Brazil and Senegal) had a higher average applied rate in the 1990s than in the 2000s and that by a small margin. Hong Kong SAR, China and Singapore with zero rates—showed no change. The remaining 45 developing countries showed a decline in their average applied rates, frequently by more than half. The simple average applied tariff rate for the 50 countries in the sample was 17 percent in the 1990s and 9.1 percent in the 2000s.⁴

Table 1: Bound and Applied Tariffs in Developing Countries

Country	Latest Year	Bound Rate (%)	Applied Rate (%)		Standard Deviation	Coeff. of Variation	Tariff Margin	% of unbound
			Mid 1990s	Latest Yr				
Argentina	2011	31.9	14.4	9.8	7.2	0.7	22.1	0.0
Bangladesh	2008	167.1	26.7	14.0	9.3	0.7	153.2	84.3
Benin	2011	28.3	12.3	13.3	7.1	0.5	15.0	60.9
Bolivia	2011	40.0	9.6	9.1	8.7	1.0	30.9	0.0
Brazil	2011	31.4	13.2	13.5	8.4	0.6	17.9	0.0
Cameroon	2011	79.9	21.0	18.9	9.9	0.5	60.9	86.7
Chile	2010	25.1	11.0	4.9	2.4	0.5	20.3	0.0
China	2011	9.9	22.0	7.8	6.9	0.9	2.1	0.0
Colombia	2011	42.8	12.2	6.8	5.4	0.8	36.0	0.0
Costa Rica	2009	43.0	9.7	4.7	6.9	1.5	38.3	0.0
Cote d'Ivoire	2011	11.1	21.0	12.9	6.9	0.5	-1.9	66.6
Dominican Republic	2010	34.9	20.0	8.3	9.0	1.1	26.6	0.0
Egypt, Arab Rep.	2009	36.8	24.3	12.3	130.0	10.5	24.4	0.7
El Salvador	2010	36.7	10.0	5.0	7.3	1.5	31.6	0.0
Fiji	2011	40.1	12.4	11.8	11.0	0.9	28.4	48.9
Ghana	2009	92.5	17.5	13.0	7.3	0.6	79.5	85.6
Honduras	2009	32.4	9.6	6.4	6.9	1.1	26.0	0.0
Hong Kong, China	2011	0.0	0.0	0.0	0.0	..	0.0	53.6
India	2009	49.4	37.0	10.1	14.5	1.4	39.3	25.6
Indonesia	2011	37.2	10.8	5.0	7.8	1.6	32.3	3.4
Jamaica	2011	49.6	21.1	8.4	11.2	1.3	41.3	0.0
Kenya	2011	95.1	32.1	12.3	11.2	0.9	82.8	85.2
Korea, Rep.	2010	15.8	15.0	10.1	43.4	4.3	5.7	5.4
Kuwait	2009	100.0	6.0	4.1	2.0	0.5	96.0	0.1
Malawi	2011	74.7	25.5	12.3	10.8	0.9	62.4	68.0
Malaysia	2009	14.6	8.9	5.3	9.8	1.9	9.3	15.9
Mauritius	2011	94.4	32.7	1.2	4.8	4.0	93.2	82.2
Mexico	2010	35.0	12.6	7.3	8.7	1.2	27.7	0.0
Morocco	2009	41.3	23.5	9.1	13.9	1.5	32.1	0.0
Mozambique	2010	97.5	15.6	7.7	7.5	1.0	89.8	86.4
Nepal	2011	26.0	14.8	12.3	9.1	0.7	13.7	0.6
Nigeria	2010	118.3	23.0	10.9	8.2	0.8	107.4	80.8
Pakistan	2009	60.0	50.1	14.7	12.3	0.8	45.3	1.3
Paraguay	2011	33.4	11.7	8.4	7.4	0.9	25.0	0.0
Peru	2011	30.1	16.2	3.1	4.1	1.3	27.0	0.0
Philippines	2010	25.6	19.8	5.3	7.1	1.3	20.4	33.2
Saudi Arabia	2009	10.7	13.0	4.0	2.1	0.5	6.7	0.0
Senegal	2011	30.0	12.3	13.3	6.9	0.5	16.7	0.0
Singapore	2010	7.0	0.0	0.0	0.0	..	7.0	30.0
South Africa	2011	19.2	15.0	7.0	10.7	1.5	12.3	4.0
Sri Lanka	2011	29.9	20.0	9.0	12.3	1.4	21.0	61.6
Taiwan, China	2011	6.0	7.8	4.2	7.2	1.7	1.8	0.0
Thailand	2009	25.7	21.0	10.5	12.2	1.2	15.3	24.6
Tunisia	2008	57.2	29.7	21.8	17.8	0.8	35.4	41.6
Uganda	2011	73.0	16.8	12.1	11.6	1.0	60.9	84.2
Uruguay	2011	31.5	12.7	9.5	7.9	0.8	22.0	0.0
Venezuela	2011	36.5	12.8	11.8	8.2	0.7	24.7	0.0
Vietnam	2010	11.5	13.0	7.1	11.0	1.5	4.4	0.0
Zambia	2011	106.0	14.7	10.6	10.3	1.0	95.4	83.2
Zimbabwe	2007	89.8	17.2	14.7	16.2	1.1	75.1	77.6
Average		46.3	17.0	9.1	11.6	1.3	37.2	27.7

Notes: Bound and applied tariffs are based on simple average in mid 1990s and the latest year data available.

For applied tariff rates in mid 1990s, detailed data available in each country can be found in Michalopoulos 2001, Table 4-1.

Coefficient of variation is calculated as standard deviation divided by applied rate.

Tariff margin is computed as the difference between bound and the latest applied tariffs.

% of unbound is the share of tariff lines unbound.

Sources: UNCTAD TRAINS (applied tariffs) and WTO IDB (bound tariffs) databases.

The table also shows significant variations in the proportion of total tariff lines developing countries have bound in the Uruguay Round: while all WTO Members have bound all their agricultural tariff lines, many developing country members have bound only a small proportion of the lines in the rest of their tariff schedules.

There is an apparent regional pattern. In Latin America all the countries analyzed have bound virtually all their tariff lines. But in Africa and Asia many countries have bound only a small proportion of tariffs outside agriculture. In Hong Kong SAR, China and Singapore, which are committed to zero applied tariff rates, 54 percent and 30 percent, respectively, of the tariff schedule is unbound. Their practice appears to be motivated primarily by a desire to use the portion of the unbound tariff as a bargaining chip in the multilateral trade negotiations. In other countries, for example, India, Nigeria, Pakistan, where an equal or even higher proportion of the tariff schedules are unbound, there may be a mixture of motivations including the desire to maintain the freedom to increase protection as needed, for development or other objectives.

Table 1 also illustrates the large differences, on average, between Uruguay Round bound and applied rates in most developing countries. Developing countries have bound their tariffs at substantially higher rates than those they apply, if they have bound them at all. For example, Brazil has bound its whole tariff schedule but at ceiling rates of 31 percent. Sometimes (for example, Nigeria) the differences are in excess of 100 percent. For countries which have bound the whole tariff schedule (Latin America, and a few others, for example, Morocco) the average difference between applied and bound rates is 30 percentage points. In some cases, such as, India, Nigeria and Pakistan, countries have bound a small portion of their tariff schedule and have used ceiling bindings with high average rates for that part which has been bound. In a very few

countries, for example, Ghana and Zimbabwe, a number of applied tariffs were higher than the bindings (TPRs, Ghana 2008, Zimbabwe 2010).

Ceiling bindings, just like unbound rates, allow flexibility in developing country policy, when governments feel the need to increase protection. Since 2008, a number of developing countries, notably Brazil and Indonesia but also Fiji and Sri Lanka increased their MFN tariffs (see Section V).

However, ceiling bindings also carry significant risks. First, domestically, they are an invitation to particular interest groups to exert pressure on governments to increase protection. Second, for foreign suppliers they reduce predictability and increase uncertainty in terms of the market access barriers they will be facing. This in turn impedes the activity of private agents, especially where investments are marked by a degree of irreversibility, and could result in reduced inflows of foreign financing. At the same time, their widespread existence undermines developing countries' arguments that their development requires intrinsically higher levels of protection than those agreed in the WTO.

The amount of actual policy flexibility ceiling bindings offer is much less than the formal difference between the MFN and the bound rates: some of the bound rates are so high as to be redundant and economically meaningless, in the sense that no imports would occur, even if the rates were substantially lower. Similarly, some of the applied rates are based on preferential agreements and thus cannot be increased without retaliation or other adverse trade repercussions. About a third of the difference between bound and MFN rates is thus not available policy space for low and middle-income developing countries (Foletti *et al.* 2009). Perhaps the greatest

usefulness of ceiling bindings is as part of developing country bargaining in multilateral trade negotiations.

Table 2 provides the same information as Table 1, but distinguishes between 'Agriculture' (HS 1-24) and 'Manufactures' (HS 25-97). The Table shows that for most countries average applied tariffs on agricultural products are higher than tariffs for the rest of the product groups - which include raw materials, fuels as well as manufactures. But there are many exceptions, especially in Latin America (Argentina, Brazil, and Chile) as well as South Africa and Malaysia. The exceptions are even fewer in the case of bound tariffs with only Malaysia and a number of countries which have chosen ceiling bindings at the same rates for both agricultural and other products.

Developing countries' average applied tariff rates are much higher than for developed countries both for agriculture and manufactures. Interestingly however, the variation in the applied tariff rate structure of the developing countries in the sample is lower than that from that of developed countries (see Table 2). This is true both in manufactures where there are many tariff peaks (see Section III) and in agriculture where the main reason was the developed countries' tariffication of non-tariff barriers in agriculture following the Uruguay Round.

Finally, Table 3 shows simple averages for applied and bound tariffs as well as for differences between the two for different developing country income groups and regions for agricultural and manufactured products and for total trade. The averages contained in this table should be used with caution for reasons discussed earlier (see footnote 4). It is important nonetheless, to note the pattern that both average bound and applied tariffs tend to vary inversely with per capita income: the poorer the country, the higher the tariffs. This holds for all sectors and

Table 2: Bound and Applied Tariffs by Sector in Developing Countries

Country	Latest Year	Sector (HS-2)	Bound Rate (%)	Applied Rate (%)		Standard Deviation	Coeff. of Variation	Tariff Margin
				Mid 1990s	Latest Year			
Argentina	2011	Agriculture	32.5	11.1	8.4	7.1	0.8	24.0
		Manufactures	31.8	14.7	9.9	7.3	0.7	22.0
Bangladesh	2008	Agriculture	192.3	30.0	18.5	8.9	0.5	173.8
		Manufactures	39.6	27.0	13.6	9.2	0.7	26.0
Benin	2011	Agriculture	61.8	17.0	15.9	7.1	0.4	45.9
		Manufactures	11.3	13.7	12.9	7.1	0.5	-1.6
Bolivia	2011	Agriculture	40.0	10.0	8.2	7.2	0.9	31.8
		Manufactures	40.0	9.6	9.2	8.8	1.0	30.8
Brazil	2011	Agriculture	35.6	11.7	9.9	7.0	0.7	25.7
		Manufactures	30.8	15.4	13.7	8.4	0.6	17.1
Cameroon	2011	Agriculture	80.0	23.9	24.4	9.9	0.4	55.6
		Manufactures	62.0	17.6	18.5	9.8	0.5	43.5
Chile	2010	Agriculture	26.1	11.0	4.4	2.7	0.6	21.7
		Manufactures	25.0	11.0	4.9	2.3	0.5	20.1
China	2011	Agriculture	15.8	34.9	13.4	10.9	0.8	2.4
		Manufactures	9.1	20.8	7.4	6.2	0.8	1.6
Colombia	2011	Agriculture	91.5	14.5	9.9	9.1	0.9	81.6
		Manufactures	35.4	12.1	6.6	5.0	0.8	28.8
Costa Rica	2009	Agriculture	43.2	15.6	7.8	13.6	1.7	35.4
		Manufactures	43.0	11.4	4.5	5.6	1.2	38.5
Cote d'Ivoire	2011	Agriculture	14.9	21.5	16.3	6.5	0.4	-1.3
		Manufactures	8.6	19.2	12.5	6.9	0.5	-4.0
Dominican Republic	2010	Agriculture	39.6	14.8	13.9	9.8	0.7	25.8
		Manufactures	34.2	8.9	7.8	8.8	1.1	26.4
Egypt, Arab Rep.	2009	Agriculture	98.9	35.9	57.1	428.0	7.5	41.7
		Manufactures	27.5	23.6	9.1	61.0	6.7	18.4
El Salvador	2010	Agriculture	42.8	14.5	10.7	13.8	1.3	32.0
		Manufactures	35.7	9.6	4.6	6.1	1.3	31.1
Fiji	2011	Agriculture	40.5	14.3	15.8	12.0	0.8	24.6
		Manufactures	40.0	12.4	11.3	10.7	0.9	28.7
Ghana	2009	Agriculture	97.2	20.6	18.1	4.9	0.3	79.1
		Manufactures	37.2	13.1	12.5	7.2	0.6	24.7
Honduras	2009	Agriculture	32.1	14.5	11.7	11.3	1.0	20.4
		Manufactures	32.5	9.1	5.9	6.1	1.0	26.5
Hong Kong SAR, China	2011	Agriculture	0.0	0.0	0.0	0.0	..	0.0
		Manufactures	0.0	0.0	0.0	0.0	..	0.0
India	2009	Agriculture	113.6	34.7	34.6	38.8	1.1	79.0
		Manufactures	34.4	28.6	8.5	6.6	0.8	25.9
Indonesia	2011	Agriculture	47.4	15.4	4.2	20.5	4.9	43.2
		Manufactures	35.6	10.4	5.0	5.9	1.2	30.6
Jamaica	2011	Agriculture	97.3	24.5	16.1	14.7	0.9	81.2
		Manufactures	42.5	20.5	7.7	10.4	1.4	34.8
Kenya	2011	Agriculture	100.0	35.2	18.7	12.9	0.7	81.3
		Manufactures	56.5	31.0	11.8	11.0	0.9	44.6
Korea, Rep.	2010	Agriculture	51.9	49.0	44.9	124.4	2.8	7.0
		Manufactures	10.2	7.7	6.7	4.6	0.7	3.5
Kuwait	2009	Agriculture	100.0	..	2.9	2.4	0.8	97.1
		Manufactures	100.0	..	4.2	1.9	0.5	95.8
Malawi	2011	Agriculture	121.3	24.5	16.5	10.5	0.6	104.8
		Manufactures	42.2	25.6	11.9	10.7	0.9	30.3
Malaysia	2009	Agriculture	12.4	4.8	2.2	5.9	2.8	10.3
		Manufactures	14.9	8.7	5.6	10.1	1.8	9.3
Mauritius	2011	Agriculture	119.6	28.8	0.7	4.1	5.5	118.9
		Manufactures	23.3	35.2	1.2	4.9	3.9	22.0
Mexico	2010	Agriculture	35.9	12.2	14.0	18.8	1.3	22.0
		Manufactures	34.9	12.4	6.9	7.8	1.1	28.0
Morocco	2009	Agriculture	54.4	33.3	26.2	27.9	1.1	28.3
		Manufactures	39.2	19.7	8.1	11.2	1.4	31.1

Mozambique	2010	Agriculture	100.0	26.1	10.1	8.9	0.9	89.9
		Manufactures	15.5	15.9	7.4	7.2	1.0	8.1
Nepal	2011	Agriculture	41.5	21.1	14.6	8.6	0.6	26.9
		Manufactures	23.6	21.8	12.0	9.1	0.8	11.6
Nigeria	2010	Agriculture	150.0	32.8	14.0	7.7	0.5	136.0
		Manufactures	48.9	22.3	10.6	8.2	0.8	38.3
Pakistan	2009	Agriculture	95.6	43.3	19.1	16.6	0.9	76.5
		Manufactures	54.8	50.6	14.4	11.9	0.8	40.4
Paraguay	2011	Agriculture	33.1	13.1	7.7	7.9	1.0	25.5
		Manufactures	33.5	11.5	8.5	7.4	0.9	25.0
Peru	2011	Agriculture	30.8	16.8	2.6	3.1	1.2	28.2
		Manufactures	30.0	16.2	3.2	4.2	1.3	26.9
Philippines	2010	Agriculture	35.3	27.2	8.6	10.7	1.2	26.7
		Manufactures	23.3	19.1	5.0	6.6	1.3	18.3
Saudi Arabia	2009	Agriculture	12.3	11.8	3.0	2.6	0.9	9.3
		Manufactures	10.5	12.4	4.1	2.0	0.5	6.4
Senegal	2011	Agriculture	29.8	15.6	15.7	7.0	0.4	14.2
		Manufactures	30.0	13.7	13.1	6.9	0.5	16.9
Singapore	2010	Agriculture	9.5	0.0	0.0	0.0	..	9.5
		Manufactures	6.4	0.0	0.0	0.0	..	6.4
South Africa	2011	Agriculture	41.5	10.7	6.4	10.0	1.6	35.1
		Manufactures	15.7	15.4	7.0	10.8	1.5	8.7
Sri Lanka	2011	Agriculture	49.8	29.9	21.8	14.9	0.7	28.0
		Manufactures	19.8	18.9	8.2	11.4	1.4	11.6
Taiwan, China	2011	Agriculture	14.0	19.4	8.7	13.3	1.5	5.4
		Manufactures	4.8	6.9	3.9	6.2	1.6	0.9
Thailand	2009	Agriculture	35.9	33.9	23.0	18.9	0.8	12.9
		Manufactures	24.1	20.3	9.7	11.1	1.1	14.5
Tunisia	2008	Agriculture	116.0	33.4	38.6	19.9	0.5	77.4
		Manufactures	40.1	29.5	21.0	16.6	0.8	19.1
Uganda	2011	Agriculture	77.4	21.7	18.1	14.1	0.8	59.4
		Manufactures	50.9	16.2	11.6	11.2	1.0	39.4
Uruguay	2011	Agriculture	34.0	12.1	6.2	7.0	1.1	27.9
		Manufactures	31.2	13.1	9.7	7.9	0.8	21.5
Venezuela	2011	Agriculture	55.2	13.7	13.9	10.5	0.8	41.4
		Manufactures	33.6	12.7	11.7	8.0	0.7	21.9
Vietnam	2010	Agriculture	19.0	30.0	13.5	14.9	1.1	5.5
		Manufactures	10.3	13.3	6.6	10.4	1.6	3.8
Zambia	2011	Agriculture	123.3	18.7	9.4	11.1	1.2	113.9
		Manufactures	43.5	15.1	10.6	10.2	1.0	32.9
Zimbabwe	2007	Agriculture	144.5	38.5	23.3	28.5	1.2	121.2
		Manufactures	10.4	40.8	14.2	14.3	1.0	-3.8
Average: All above developing countries		Agriculture	61.1	21.3	14.4	21.5	1.3	46.7
		Manufactures	31.7	17.2	9.0	8.9	1.1	22.7
Memo: Average: Developed countries		Agriculture	17.3	9.3	6.2	12.2	2.3	11.1
		Manufactures	6.6	5.5	3.2	4.5	1.9	3.4

Note: The classification of sector is defined as agricultural products HS 1-24 and manufacturing products HS 25-97.

Sources: UNCTAD TRAINS (applied tariffs) and WTO IDB (bound tariffs) databases.

groups with the exception of applied tariffs in agriculture, where there is little difference between the average for the low and middle-income developing countries. Similarly, the average differences in the margins between applied and bound tariffs tend to be highest in the low-income countries and lowest in the highest-income ones.

Table 3: Average Tariffs in Sectoral Product Categories by Income Group and Region

Country Group (No. of Countries)	Bound Rate			Applied Rate			Tariff Margin		
	All goods	Agric gds	Manuf gds	All goods	Agric gds	Manuf gds	All goods	Agric gds	Manuf gds
BY INCOME LEVEL									
Developed economies (21)	8.5	17.3	6.6	3.4	6.2	3.2	5.1	11.1	3.4
Developing economies (135)	43.2	59.3	32.8	9.8	13.6	9.5	33.4	45.7	23.3
High income Developing (18)	26.9	37.9	25.2	7.8	9.9	7.7	19.1	28.0	17.5
Upper Middle income (39)	37.0	57.6	31.1	9.5	12.4	9.2	27.5	45.1	21.9
Lower Middle income (46)	41.6	57.1	33.0	9.8	15.5	9.3	31.8	41.7	23.7
Low income (32)	62.1	76.2	38.6	11.5	14.5	11.3	50.5	61.7	27.3
Least Developed countries (42)	61.2	76.2	41.8	12.0	15.3	11.7	49.1	60.9	30.0
World (156)	39.0	54.3	29.6	9.0	12.6	8.7	30.1	41.6	20.9
BY REGION (Developing countries)									
Asia (36)	32.4	44.0	23.2	8.1	13.3	7.7	24.3	30.7	15.5
Latin America & Caribbean (34)	42.0	61.1	38.7	9.7	12.3	9.4	32.3	48.8	29.3
Europe and Middle East & N. Africa (21)	28.9	43.8	26.1	8.2	13.6	7.8	20.7	30.2	18.3
Sub-Saharan Africa (44)	57.4	74.5	37.0	12.2	14.9	11.9	45.2	59.6	25.0
Memo:									
BRICS (5)	27.5	51.6	22.5	9.2	14.3	8.8	18.3	37.3	13.6
OPEC (12)	47.1	55.9	37.7	8.5	10.4	8.4	38.6	45.5	29.4
WTO (50)	46.3	61.7	30.8	9.1	14.5	8.7	37.2	47.3	22.1

Sources: UNCTAD TRAINS (applied tariffs) and WTO IDB (bound tariffs) databases.

There are a few points to note in the regional breakdown as well. First, the few Sub-Saharan African countries that have bound tariffs have done so at levels on average higher than in the other regions. But this is due primarily because of higher bindings on agricultural products. On manufactures the highest average rates are in Latin America. Also, the simple average bound tariffs on agricultural products in Africa and Latin America tend to be much higher than in Asia.

For many developing countries tariff escalation is also an issue, as other developing countries are becoming more important as markets. Escalation is measured by calculating the average tariff rates applied to three groups of products, raw materials, intermediate products and final goods, which are defined at the BEC 2-digit level (Board Economic Categories). Table 4 summarizes the information. The table shows that by and large, and for most sectors escalation

seems to be inversely related to per capita income. With few exceptions, low-income countries and Sub-Sahara Africa tend to have the highest degree of escalation. In some cases however, (LDCs parts and accessories relative to capital goods) there is reverse escalation. Among sectors, automobiles and food processing have the highest escalation. By comparison, tariff escalation in developed countries, while still present in some sectors, is minimal compared to that of developing countries.

Table 4: Tariff Escalation in Developed and Developing Countries by Income Group and Region in 2010 (unweighted average in %)

Country Group	Food & Bev products			Industrial products			Capital goods			Transport equipment				Consumer goods			
	Final gds	Foodprim	Food proc	Final gds	Ind prim	Ind proc	All Cap	Cap gds	Pts & acc	All Transp	Auto	Others	Pts & acc	All Cons	Durable	Semi-Dur	Non-Dur
BY INCOME LEVEL																	
Developed economies	7.3	6.2	7.9	3.0	2.0	3.0	1.7	1.7	1.8	2.8	2.9	3.8	2.5	6.0	3.8	7.1	5.3
Developing economies	14.9	13.1	15.7	8.7	6.7	8.8	6.2	6.0	6.6	11.0	21.7	9.9	10.3	14.8	14.1	16.4	13.0
High income developing econ.	10.6	11.6	10.4	7.4	6.4	7.5	7.4	7.4	7.5	8.5	13.0	6.6	8.5	9.2	9.1	9.6	8.5
Upper middle income econ.	13.8	12.4	14.3	7.6	5.0	7.7	5.7	5.6	5.7	11.5	26.3	11.0	10.8	16.1	14.0	17.9	14.2
Lower middle income econ.	17.1	14.0	18.5	8.7	7.4	8.8	5.5	5.2	6.0	10.9	22.2	9.9	10.0	14.9	14.2	16.7	13.0
Low income economies	15.5	13.4	16.3	10.8	8.1	10.9	7.3	6.9	8.0	11.6	20.1	10.1	11.0	16.2	16.8	17.9	13.9
Of which: Least developed co.	16.4	14.6	17.0	11.7	9.8	11.7	8.0	7.6	8.9	12.4	20.8	10.7	11.7	16.6	17.1	18.1	14.3
BY REGION																	
World	13.9	12.2	14.6	7.9	6.1	8.0	5.6	5.4	5.9	9.9	19.1	9.0	9.2	13.6	12.7	15.1	11.9
Developing economies	14.9	13.1	15.7	8.7	6.7	8.8	6.2	6.0	6.6	11.0	21.7	9.9	10.3	14.8	14.1	16.4	13.0
Asia	14.5	13.9	14.9	7.4	6.7	7.4	5.4	5.1	5.8	11.1	28.0	10.3	10.1	11.4	10.3	12.6	10.2
Latin America & Caribbean	13.7	12.8	14.0	7.9	5.0	8.1	6.2	6.3	5.9	10.6	21.4	9.9	10.0	15.2	15.0	16.4	13.5
Europe, Middle East & N. Africa	15.4	10.2	17.8	6.9	5.7	7.0	5.6	5.4	5.9	8.7	12.9	8.1	8.4	12.8	11.6	14.5	11.2
Sub-Saharan Africa	15.9	14.1	16.5	11.2	8.6	11.3	7.2	6.7	8.1	12.2	21.8	10.4	11.5	18.2	17.4	20.3	15.6
Memo:																	
BRICS-5	15.9	12.3	17.5	7.7	4.4	7.9	6.1	6.2	6.0	10.2	34.1	13.1	8.1	13.6	10.0	15.4	12.2
OPEC-12	12.1	9.8	13.1	7.7	5.4	7.8	5.8	5.8	5.7	8.2	19.0	8.7	7.5	15.0	13.0	17.2	13.3
WTO-50	16.4	13.5	17.7	8.2	5.4	8.3	5.2	4.9	5.6	10.7	23.7	10.4	9.8	14.7	13.1	16.4	12.9

Note: The product categories are defined as BEC on food & beverages in Section 1 where food primary (111) and food processed (112); industrial products in Section 2 where industrial primary (221) and industrial processed (222); capital goods in Section 4 where capital goods (441) and parts & accessories (442); transport equipment in Section 5 where automobiles (551), other transport equipment (552), and parts & accessories (553); consumer goods in Section 6 where durable goods (661), semi-durable (662), and non-durable (663).

Data are based on the latest year available in applied rate from country.

Sources: UNCTAD TRAINS databases.

2. Non-Tariff Measures

The analysis of non-tariff measures (NTMs) has three main dimensions:

- The relative importance of the different policy measures employed by all developing countries in the sample, as measured by the frequency of their use.
- The main product categories whose importation is affected by non-tariff measures across the countries in the sample;
- The overall use of non-tariff measures by developing countries to control imports over the period 1990-2012, as measured by the overall frequency of application of such measures.

The analysis relies on frequency ratios as indicators of the existence and scope of protective measures on different products by various countries. The advantages and limitations of frequency ratios as indicators of protection are well understood (Nogues *et al.* 1986; OECD 1997). These ratios are indicators of the extent to which countries resort to particular measures and the proportion of total products in terms of tariff lines or product groups that are affected by such measures, irrespective of the value of the products actually imported. They do not necessarily capture the protective effect of the measures taken. The protective effect of a prohibition of the importation of a product into for example, Thailand is going to be completely different from the application of a variable levy in Uruguay or the use of a non-automatic license by India. The frequency ratios are presented here in order to give overall impressions of the trade regimes in place in individual countries, and the various measures used by different countries on different products -- not to measure the actual protection provided to each product or product group. A detailed discussion of the estimating procedures followed and their limitations is presented in Appendix B. It is important to bear in mind these limitations and use the estimates of the prevalence of non-tariff measures with caution. These indicators are more useful in tracing the

evolution of trade regimes within each country over time, than for making inter-country comparisons, especially when the differences in indicator values are small.

The non-tariff measures include non-automatic import licensing (and approvals), import prohibitions (partial or total), quotas, tariff quotas, variable levies and/or minimum pricing, and import monitoring. Frequency ratios were calculated for each measure as well as a total for each country.

The Relative Importance of Different Kinds of Non-Tariff Measures

The relative importance of different kinds of non-tariff measures employed by developing countries over time is shown in Table 5. The Table shows the product coverage of each NTM employed by each developing country relative to 97 product categories at the HS 2-digit level or for some countries and measures at the HS 6-digit level.⁵ Thus, for example, the line for Argentina shows that non-automatic licensing affected products in 3 percent of the 97 product categories during the GATT period (1992).

The data reveal that for developing countries non-automatic import licensing (including various forms of administrative approvals) continues to be the measure that affects by far the greatest number of products imported with prohibitions of various kinds ranking second. An effort was made to exclude from consideration in these calculations the large number of products which are subject to non-automatic licensing to ensure public health, safety, environmental and other standards. These are frequently justified by reference to GATT Article XX. Even so, during the early period considered (1990-1994) non-automatic licensing affected large proportions of developing country imports: non-automatic licensing was present in more about a quarter of the product categories. Several countries, such as Bangladesh, India, Nigeria and Pakistan have

indicated that the licensing and prohibition measures which they used were due to balance-of-payments difficulties.

Table 5: Non-Tariff Measures in Developing Countries

Country	Year	Non-Auto Licensing	Prohibition	Quotas	Tariff Quotas*	Other	Variable Levies	Surcharges
Argentina	2008	85 *	34 *	3 *				
	1999	1		1			1	
	1992	3		2				
Bangladesh	2012							17
	1992	34	43					
Benin	2010		1					
	1997		1					
Bolivia	2008	12 *	4 *					
Brazil	2009				1			
	1996	11	11	1				1
	1993	10	7			100**		
Cameroon	2007	3			1			
	1995	8						
Chile	2009				1		3	
	1997		1				4	
	1991		1				5	
China	2012	1			1			
Colombia	2012	19 *	4 *		3		6	
	1996	6	1				6	
	1990	55	7	3				
Costa Rica	1995	6			6			
Côte d'Ivoire	2012				1			
	1995	31		5				
Dominican Rep.	2008				0			
	1996	5	1			1**		
Egypt	2011							42 *
	1993	14	53					
El Salvador	1996	5	1	1				
Fiji	2009							4
	1997	5						
Ghana	1992		3					
Hong Kong SAR, China	1990					16**		
India	2011	4				4**	4	
	1998	94	3					
	1993	99	1					
Indonesia	2011	26 *						
	1998	31						
	1991	53	5	3				1
Jamaica	2011	4						
Kenya	2011	37 *						10 *
	1994	87						
Korea Rep.	2008			1	2		0.1	
	1996			1	25			
	1992	32		3	26			
Kuwait	2012	1						
Malawi	2010	4						

Malaysia	2010	6			3			
	1997	20	14	2	7			
	1993	55	4	2				
Mauritius	2009	14 *						
	1995	9	7					
Mexico	2008				2			
	1997	6	1		7			
	1993	28		2			2	
Morocco	2011	2 *		2 *				
	1996	13			1			
	1990	51					24	
Mozambique	2009						3	
Nepal	2012	1						
Nigeria	2011	17						
	1998	2	9					
	1991		14					
Pakistan	1995		17	1				
Paraguay	2008	1 *	1 *				1	
Peru	2008		1 *				2	
	1994						6	
Philippines	2012	5		1				
	1993	7	4	1				
Senegal	2011	2 *	1 *					
	1994	10		5				
Singapore	1996	1						
	1992	1						
South Africa	2009			1	5		3	
	1998	5		3				
	1993	36						
Sri Lanka	2010	4						
	1995	23						
Taiwan, China	2010				1			
Thailand	2007	3			8			
	1995	11	6	1	12			
	1991	36		2		2**	3	
Tunisia	2011							22 *
	1994	54					2	
Uganda	1995	3						
Uruguay	2012	3						
	1998					4**		
	1992			1	1		31	
Venezuela	2008	24 *	3 *	1 *				
	1996	2	3				13	
Zambia	1996		1					
Zimbabwe	2011					100***		
	1995	23						

Notes: Frequency ratio of percentage in HS 2-digit products affected by each NTM.

All countries report several product categories—usually 15-30% of tariff lines as subject to licensing and/ or prohibitions for health, sanitation, safety or defense reasons. Only licensing and/or prohibitions for economic reasons are reported here.

* in percent at HS 6-digit level; ** import monitoring; *** exchange control

Sources: GATT TPR (1989-1994); WTO TPR (1995-2012); UNCTAD/World Bank NTM database.

No effort was made in this study to determine the consistency of these licensing arrangements or for that matter, any other member policies with GATT provisions. The limitations of WTO's system of voluntary notifications are well understood (Bachetta *et al.* 2012). A significant part of the total membership has not provided information on the licensing procedures they use or notifications of quantitative restrictions they employ. Most of the members notifying the use of quantitative restrictions did so under GATT Article XX. Three members, India, Korea Rep. and Philippines also justified restrictions under the balance-of-payments provisions of Article XVIIIb.

While caution is needed in interpreting the findings on the evolution of policy over time because the sample of countries is partly different in the three sub-periods examined, the data strongly suggest that the utilization of all 'core' non-tariff measures with clearly protective effect, such as licensing, prohibitions, quotas, and variable levies/administrative pricing has declined over time. This is shown by the decreasing frequency ratios over time for the large majority of countries for which data are available. The only measure clearly showing an increase is the use of tariff quotas which is permitted under the Uruguay Round Agreement in agriculture.

The Main Products Subject to NTMs

The TPRs show that agricultural products (Group I-IV or HS 1-24) were the most subjected to overall controls especially in the earlier period. The number of countries imposing these controls has substantially declined in the period 1995-1998, following the tariffication in agriculture under the Uruguay Round Agreements (See Michalopoulos 2001, Table 4.6). In addition to agriculture, mineral products, in particular fuels (HS-27), rubber products (HS-40), machinery, especially Electrical Machinery (HS-85), and precious stones and metals continued to

be subject to controls, especially through licensing in a significant number of countries in all periods (see also Michalopoulos 1999b, Table A-3).⁶

The Uruguay Round Agreement on agriculture has been praised for subjecting the agricultural sector to the same trade disciplines that apply to other sectors. However, it has been criticized for not resulting in significant liberalization of developed country policies. At the time the agreements were being negotiated, the main developing country concerns focused on the market access issues -- and the benefits that some of the key agricultural exporters would obtain, as well on the possible adverse impact reduced export subsidies in developed countries would have on net food importing developing countries.⁷ Little attention was focused, until the decade of the 2000s, on the level of support and the kinds of measures appropriate for developing countries to implement in pursuit of their agricultural development which is essential to the elimination of poverty, itself very often mainly a rural phenomenon.

The Uruguay Round Agreement on Agriculture contains provisions which permit developing countries to increase their support to agriculture (and of poor consumers) through means not available to developed countries. For example, direct and indirect investment and input subsidies to poor farmers are excluded from the calculation of aggregate measures of support (AMS); reduction of the support commitments by developing countries may take ten years to implement while LDCs are totally exempt; and food subsidies to urban and rural poor are excluded from the calculation of AMS. However a number of critics have pointed to the 'unfairness' of the agriculture agreement as it still permits greater support levels for developed countries (which in the past have given a great deal of assistance to their agricultural sector) than developing countries which penalized agriculture in the base period (Das, 1998). Also, the Special

Safeguard Mechanism in the agreement was designed in such a way as to be of limited use to developing countries that had not tariffed their agricultural protection.

Following the launching of the Doha Round, developing countries focused without success on developing a viable Special Safeguard Mechanism that would cover all of their agricultural production, emphasizing special concerns that arise to the welfare of their poor farmers in the case of an import surge. In practice, the most common cause of import surges has been shortfalls in developing country domestic production. Developing countries which are keen to reduce the variability of food prices both to their poor consumers as well to their farmers have resorted to an extensive use of variable price supports and export taxes on agricultural commodities.

Trade Remedies

Trade remedies include anti-dumping, countervailing and safeguard actions. In principle, such actions are consistent with WTO provisions. The legal basis and procedures for the imposition of trade remedies in each instance are as various as are remedies, which usually do not involve quantitative restrictions but changes in duties and charges to address the problem appropriately in each case. In the case of anti-dumping and countervailing duties, these remedies are intended to correct for distortions that occur when exporters are obtaining subsidies and engaging in discriminatory pricing practices which result in injury to domestic producers. In the case of safeguards, the issue is simply injury to domestic producers, even if no unfair trade practices are involved.

Evidence regarding the frequency with which developing countries have taken trade remedy actions is presented in Table 6. As it has been argued that the mere initiation of an investigation on anti-dumping action tends to have a restraining effect on imports -- irrespective of the outcome

of the case (Finger 1993; OECD, 1997), the main indicator used in this table is the number of anti-dumping investigations that had been initiated each year going back to 1978. The table shows that the percentage of actions by the developing countries and against them changed spectacularly over the period of the last 30 plus years. Until 1986 no developing country had initiated an anti-dumping action—although they were subjected to some anti-dumping actions by the developed countries. Over time the situation was totally reversed: developing countries initiated the majority of the actions and were the subject of most of the anti-dumping actions-both by other developing countries and the developed countries (see Appendix Table B-4). 2002 was the peak year for anti-dumping investigations by developing countries (206), while 2001 was the peak year for investigations against them (227). Since that time anti-dumping investigations appear to have declined. The increased use of trade remedies by developing countries in recent periods has been extensively documented by Bown (see Bown, 2011 and Bown, 2013). Developing countries especially Argentina, China and India have increased both the average annual imposition of remedies, and the overall stock of products subject to such measures especially anti-dumping, and in particular against other developing countries.⁸

Table 6: Antidumping Investigations in Developed and Developing Countries, 1978-2011

Year	By Reporting Member (no. of cases)			By Exporting Member (no. of cases)		
	Developed Members	Developing Members	Developed as % of Total	Developed Members	Developing Members	Developed as % of Total
GATT:						
1978	6	0	100	5	1	83
1979	58	0	100	54	4	93
1980	72	0	100	66	6	92
1981	94	0	100	77	17	82
1982	221	0	100	174	47	79
1983	178	0	100	130	48	73
1984	159	0	100	119	40	75
1985	206	0	100	131	75	64
1986	156	5	97	105	56	65
1987	101	19	84	86	34	72
1988	112	12	90	78	46	63
1989	87	9	91	55	41	57
1990	149	18	89	80	87	48
1991	209	19	92	139	89	61
1992	260	65	80	167	158	51
1993	149	157	49	140	166	46
1994	138	91	60	96	133	42
WTO						
1995	78	79	50	71	86	45
1996	79	147	35	95	131	42
1997	127	119	52	125	121	51
1998	90	176	34	135	131	51
1999	176	182	49	154	204	43
2000	138	160	46	130	168	44
2001	179	193	48	145	227	39
2002	109	206	35	127	188	40
2003	86	148	37	90	144	38
2004	113	107	51	61	159	28
2005	62	139	31	44	157	22
2006	71	133	35	49	155	24
2007	61	104	37	38	127	23
2008	75	138	35	48	165	23
2009	64	145	31	48	161	23
2010	38	133	22	66	105	39
2011	63	92	41	44	111	28

Sources: GATT and WTO antidumping database.

Table 7 shows the number of anti-dumping, countervailing and safeguard measures taken by the 50 countries in our sample cumulatively over the period 1995-2011 as well the number products affected by these actions. The last four columns show the number of trade remedy

measures in place in each of country in mid-2011. The first thing to note about the table is that anti-dumping is by far the most popular instrument dwarfing countervailing or safeguard actions. Indeed out of 50 countries 24 initiated anti-dumping measures, 15 safeguards and only nine took countervailing actions. As of mid-2011, 19 developing countries had trade remedy measures in place involving at least some anti-dumping, and anti-dumping accounted for over 90 percent of the actions they took.

Among developing countries, anti-dumping is, for the most part, a middle and higher-income developing country practice. Argentina, Brazil, China, India, Korea Rep., Mexico and South Africa account for the bulk of developing country actions. Pakistan is the country with lowest per capita income (\$1,190 in 2011) that has an anti-dumping action.

India is the country that has taken the most measures over the period. It is also the country with the most measures in place in 2011. Mexico is the country that has used anti-dumping actions affecting by far the largest number of products over time (1,685), estimated at 19 percent of the tariff lines at the HS-6 digit level.⁹ The main reason for this is that it applied anti-dumping measures across broad categories of products – such as, all the tariff lines in several whole HS2 product groups, for instance, textiles against China. But a lot of these measures have expired recently.

Table 7: Trade Remedy Measures 1995-2011 and in Force 2011 by Developing Country

Country (No. of Countries)	Antidumping, 1995-2011		Countervailing, 1995-2011		Safeguards, 1995-2011		Total AD+CV+SG, 1995-2011		Measures in Force, 2011 *			
	No. of Measures	No. of Products **	No. of Measures	No. of Products **	No. of Measures	No. of Products **	No. of Measures	No. of Products **	Antidumping	Counter-vailing	Safeguards	Total AD+CV+SG
Argentina	206	1,075	4	32	4	82	214	1,189	96	0	0	96
Brazil	119	541	7	53	2	23	128	617	75	1	1	77
Chile	9	35	2	85	7	158	18	278	1	0	0	1
China	151	378	4	40	1	223	156	641	115	2	0	117
Colombia	24	196	..	..	1	7	25	203	12	..	0	12
Costa Rica	3	10	1	2	..	..	4	12	2	0	..	2
Dominican Republic	1	1	..	..	2	12	3	13	1	..	2	3
Egypt	53	69	..	..	4	25	57	94	15	..	0	15
India	478	1,465	..	..	13	108	491	1,573	206	..	2	208
Indonesia	42	288	..	..	10	60	52	348	16	..	9	25
Jamaica	4	15	..	..	..	..	4	15	..	..	..	..
Korea, Republic of	72	336	..	..	2	17	74	353	33	..	0	33
Malaysia	25	59	..	..	..	..	25	59	6	..	..	6
Mexico	85	1,685	8	65	..	..	93	1,750	38	0	..	38
Morocco	..	..	..	..	2	23	2	23	..	..	0	0
Pakistan	36	294	..	20	..	..	36	314	33	..	..	33
Paraguay	2	2	..	..	..	..	2	2	..	..	..	..
Peru	49	379	5	35	..	..	54	414	21	2	..	23
Philippines	11	51	..	..	7	18	18	69	1	..	5	6
Singapore	2	2	..	..	..	..	2	2	..	..	..	..
South Africa	128	460	5	20	1	2	134	482	33	1	0	34
Taipei, Chinese	15	172	..	..	..	..	15	172	6	..	..	6
Thailand	34	318	..	..	1	1	35	319	23	..	1	24
Uruguay	1	12	..	..	..	..	1	12	..	..	..	..
Venezuela	25	94	1	8	5	109	31	211	..	..	0	0
Memo Items:												
Other Developing (3)	9	37	..	38	16	87	25	162	1	..	3	4
Developed (13)	1,017	20,963	133	11,460	44	1,728	1,194	34,151	604	74	11	689
All countries (41)	2,601	28,937	170	11,860	122	2,683	2,893	43,480	1,338	80	34	1,452

Notes: .. = 0 or data not available

* Number of measures in force based on notifications to WTO as of June 30, 2011.

** Total products affected by AD, CV, and SG are based on number of products on raw data files at HS 6-, 8-, 9-, 10-digit level or mixed together in reporting countries.

Sources: WTO Antidumping database and Trade Profiles data; and Bown, C (2012), Temporary Trade Barriers (TTB) database (product data).

The Overall Use of Non-Tariff Measures

The overall use of non-tariff measures by developing countries during the GATT and WTO sub-periods is presented in Table 8. Column one shows country per capita income in 2011. Column two shows an openness index for each country calculated as the ratio of exports plus imports divided by GDP also in 2011. Column three shows the presence of tariff peaks in the latest tariff schedule. Column four shows the total number of non-tariff measures in place as of June 2011. The other columns show total frequency ratios (Tf_m) for 'core' non-tariff measures (see Appendix B for a discussion of the meaning of total frequency ratios) for different periods.

Core measures are defined as those that involve quantitative restrictions or price controls on imports, such as non-automatic licensing of any kind, prohibitions, quotas and tariff quotas as well as variable import levies and administrative/minimum pricing.¹⁰ As a particular product category may be affected by more than one NTM, duplicative measures have been excluded in this calculation.

The first point to note from the table is that in the GATT part of the period covered 1990-1994, the values of the total frequency ratios for NTMs were extremely high for several countries - covering more than 50 percent of products in such countries as Bangladesh, Colombia, Egypt, Kenya, India, Indonesia, Malaysia, Morocco and Tunisia. Without doubt NTMs at that time were an important feature of many developing countries in all regions. Subsequently, the data strongly suggest that the total frequency ratios have been substantially reduced. There are exceptions: for example both Argentina and Zimbabwe have introduced extensive foreign currency controls which *de facto* substantially limit trade. Tariff quotas have increased since the earlier period as a consequence of the implementation of the Uruguay Round provisions in agriculture.

Second, as with tariffs, there is a tendency for the total frequency ratios of non-tariff measures to be greater in countries with lower levels of per capita income and lower degrees of openness.

Third, the most important recent development is the very large increase during the period 1999-2011 in the use of trade remedies, especially anti-dumping, compared to the period 1990-1998. While strictly comparable data are not available, the tariff line frequencies of anti-dumping measures in the earlier period rarely exceeded one percent (with Mexico being the exception), while in the later period the number of products affected by trade remedies in countries like

Table 8: Trade Openness and Barriers in Developing Countries

Country	GDP Per Capita in 2011 (US\$)	Openness in 2011 (Trade/GDP)	Tariff Peak /a (as % of total tariff lines)	Share of Nonoil Imp in AD, CV, SG in 2007 /b	Share of Nonoil Imp in AD, CV, SG in 2011 /b	No. of Msre in Force on AD, CV, SG /d	Ratio of Core NTMs (in %) /e			
							Core NTMs		TQ/f 2005-11	Core NTMs 2005-11 /g
							1990-95	1995-98		
Kuwait	62,664	86	0.0	..	..	0	..	..	..	..
Singapore	46,241	386	0.0	..	..	0	1	2	..	..
Hong Kong, China	34,457	440	0.0	..	..	0	15	0	..	..
Korea, Rep.	22,424	102	6.4	0.5	0.4	33	50	25	2	1
Saudi Arabia	20,540	97	0.0	..	..	0	..	..	..	..
Taiwan, China	20,139	140	0.0	0.1	0.2	6	..	..	1	..
Chile	14,394	70	0.0	0.1	0.1	1	5	5	1	3
Uruguay	13,866	53	29.0	..	..	0	3	0	..	3
Brazil	12,594	23	27.5	1.8	1.7	77	17	2	0	..
Argentina	10,941	40	21.6	1.8	2.5	96	3	2	..	100
Venezuela	10,810	46	44.0	..	..	0	..	18	..	28 *
Mexico	10,064	62	5.8	0.7	0.3	38	28	13	1	..
Malaysia	9,656	177	15.9	0.3	0.2	6	56	19	3	6
Mauritius	8,797	116	6.0	..	..	0	..	17	..	1
Costa Rica	8,676	78	0.6	..	..	2	..	31	1	..
South Africa	8,070	55	22.6	1.0	0.3	34	37	8	5	3
Colombia	7,067	34	17.3	0.4	0.5	12	..	6	..	32 *
Peru	6,009	48	0.0	1.9	1.3	23	6	..	..	3
Jamaica	5,562	71	42.9	..	..	0	..	..	..	..
Dominican Rep.	5,530	56	30.4	..	..	3	..	6	0	..
China	5,445	55	13.3	3.0	3.2	117	55	10	3	6
Thailand	4,972	135	18.9	1.1	1.2	24	37	18	8	3
Fiji	4,391	117	36.8	..	..	0	..	5	..	4
Tunisia	4,297	103	57.0	..	..	0	54	..	..	..
El Salvador	3,702	69	1.7	..	..	0	..	5	..	..
Paraguay	3,635	112	20.2	..	..	0	..	..	..	3 *
Indonesia /c	3,495	47	7.4	0.3	1.2	25	54	31	..	26 *
Morocco	3,054	76	23.6	..	..	0	58	13	..	..
Sri Lanka	2,835	52	42.6	..	..	0	..	23	..	4
Egypt, Arab Rep.	2,781	47	18.4	..	..	15	57	..	..	..
Bolivia	2,421	76	17.5	..	..	0	0	..	..	16 *
Philippines	2,370	71	5.0	0.1	0.1	6	12	..	..	6
Honduras	2,226	108	0.5	..	..	0	..	..	..	..
Ghana	1,570	71	40.5	..	..	0	3	..	..	..
India /c	1,489	50	6.3	3.2	6.3	208	99	93	..	12
Nigeria	1,452	69	35.0	..	..	0	14	11	..	17
Zambia	1,425	79	48.6	..	..	0	..	1	..	..
Vietnam	1,411	165	23.1	..	..	0	..	..	..	..
Cameroon	1,271	61	54.1	..	..	0	8	..	..	..
Cote d'Ivoire	1,195	77	46.8	..	..	0	..	..	1	1
Pakistan	1,194	32	44.5	1.1	1.4	33	18	..	..	..
Senegal	1,119	68	50.1	..	..	0	10	..	..	..
Kenya	808	65	37.7	..	..	0	87	..	..	47 *
Benin	802	42	50.3	..	..	0	..	2	..	1
Zimbabwe	776	126	32.9	..	..	0	23	..	..	100
Bangladesh	735	43	38.0	..	..	0	54	..	..	17
Nepal	619	46	45.3	..	..	0	..	..	..	1
Mozambique	535	71	23.8	..	..	0	..	..	..	3
Uganda	487	58	37.7	..	..	0	..	3	..	..
Malawi	371	78	33.9	..	..	0	..	..	..	4

Notes: /a Number of tariff lines in percentage at HS 6-digit level with applied rate at 15% or above in 2011 or latest data available.

/b Trade-weighted share of nonoil imports in % subject to antidumping (AD), countervailing (CV), Safeguards (SG) and China-specific transitional safeguards.

/c Trade-wgted shares of nonoil imports in subject to AD only in 2011 for Indonesia and India are 0.8 and 5.8% respectively. All others are the same as total AD, CV, SG.

/d Number of measures in force by notifications to WTO in antidumping, countervailing duties, and safeguards as of 2011

/e Frequency ratio in percentage of core non-tariff measures (NTMs) in HS 2-digit product categories.

/f Tariff quota (TQ) data is computed in HS 6-digit products due to data available in WTO TPR reports.

/g * Other core NTMS are based on UNCTAD/World Bank NTM database, where figures are computed at HS 6-digit level.

Sources: World Bank WDI database (GDPPC, GDP and trade data), UNCTAD TRAINS database (tariff data), WTO Trade profiles and TPR reports (various issues);

and Bown, Chad (2013), "Emerging Economies and the Emergence of South-South Protectionism," Journal of World Trade, 47(1): 1-44.

Argentina, India, China, Korea Rep. and Chinese Taipei are likely to be much higher. In some cases, e.g. India, liberalization of the trade regime has taken the form of reducing licensing and increasing the use of trade remedies.

Overall, Table 8 suggests that high-income developing countries tend to have less overall tariff and non-tariff restrictions to trade; low-income countries have higher tariff barriers but limited use of trade remedies; while middle-income countries have significant of trade remedies and their tariff structure is somewhat in between that of the low and high-income developing countries. The results are consistent with the findings of Kee *et al* (2009) regarding the relationship between per capita income and total restrictiveness of the import regime.¹¹

Finally in some lower-income economies the greatest non-tariff measures have little to do with formal barriers. The latest TPR (2012) of the East African Community (EAC) is instructive in this respect. The EAC has no formal NTMs either with respect to the rest of the world or for internal trade. Yet in December 2008 the EAC Secretariat identified 35 NTMs that impeded Trade, of which 12 involved customs and administrative procedures, 11 business licensing and roadblocks and nine TBT and SPS (WT/TPR/S/271, p.8).¹²

3. SPS and TBT

The establishment of the SPS and TBT agreements has had a variety of implications for developing countries. Practically all developing-country Members of the WTO have institutions that deal with the maintenance of technical standards and enforce the health, sanitary and phytosanitary regulations, as agreed. However, there is serious doubt, about the capacity of many of these institutions to implement regulations. For example, most developing countries have legislation on national standards that are based on those of the International Standards

Organization (ISO), of which many are also members. But in some cases, for example, Zambia, there appear to be no government testing facilities. Most countries report that they have concluded numerous formal bilateral mutual recognition agreements on technical standards. But it is not clear whether these agreements provide adequate information to producers on the standards applicable in countries where they may consider marketing their products.

The situation regarding sanitary and phytosanitary measures appears to be quite similar. Countries have established regulations requiring sanitary or phytosanitary certificates for imported food, drugs and agricultural and veterinary products. Again, the standards used are supposed to be based on those laid down in international agreements such as the Codex Alimentarius. But it is difficult to judge the adequacy of the regulations or the effectiveness of the institutions entrusted with their implementation. The TPRs suggest that the situation in many low-income countries is far from satisfactory. For example, in Malawi, the SPS legislation is reportedly outdated and the country also lacks adequate facilities to test products for import or for export. Similarly, in Tanzania, “Due to these shortcomings, Tanzania has suffered some outbreaks of plant pests and diseases (including cassava green mite, large grain borer in maize, banana wilt disease and a variety of fruit fly) that infests citrus and mango-growing areas due to staff inadequacies” (Tanzania TPR 2012, p.A4-416).¹³

In recent periods, concern has been expressed by many that the TBT and SPS provisions are used by countries to camouflage protection (Gourdon and Nicita, 2012). This may well be the case in some situations. But it is difficult to discover protective intent when there are legitimate reasons to introduce more effective TBT and SPS controls. And the problem in some developing countries may be not that there too many controls but not enough.

B. MEASURES THAT AFFECT EXPORTS

There are clear links between a country's trade policies that affect its exports and those that affect its imports: for example, measures to control exports of raw materials that are used as inputs by domestic industries distort resource allocation in much the same way as import protection measures for that industry. Similarly, the imposition of measures that restrict the quantity and increase the domestic price of imports may adversely affect the profitability of exports and a country to take offsetting measures in favor of exporters.¹⁴ Thus, it is not surprising to find that over the period reviewed, developing countries liberalized their policies affecting exports in much the same direction as they liberalized policies affecting imports.

Developing countries' policies towards exports are characterized by the following broad tendency: they have tended to impose controls and taxes on their exports of primary products and foodstuffs while providing incentives and subsidies to their exports of manufactures. The control and taxation of exports of primary products have had two purposes: to capture some of the rents from the production and sale of raw materials; and to provide incentives for industrialization by taxing exports of raw material and other inputs, thereby making them available to domestic industries at lower than world prices. For foodstuffs, the main justification is the promotion of food security. Manufacturing or non-traditional exports (some of which may involve processed agricultural or agriculture-related products) are being backed by incentives because they are believed to contribute to long term growth and development, and because it is felt that, without government assistance exporters will have difficulty breaking into foreign markets due to externalities of various kinds. Also, some of the so-called incentives amount to no more than a government effort to offset the disincentives to non-traditional exports created by the import regime.

1. Measures Which Tend to Tax or Regulate Exports

Table 9 shows the frequency of developing-country use of various kinds of policy measures to tax or regulate their exports. The table is constructed much like those on imports and shows snapshots of the frequency of use of different measures by various countries in different time periods. The frequencies are defined in terms of the proportion of total product groups at the HS 2 level (and some at HS 6) which may contain products that are taxed or regulated by different measures in different countries. The measures include export taxes or similar levies, minimum export prices, non-automatic export licensing (or approval), export prohibitions (total or partial) and export quotas. The last column shows whether the country also uses export subsidies.

Just as with imports, export taxes are the most commonly used measure, although licensing used to be very important in earlier periods. The variation among countries, especially during the earlier periods is rather large, with some countries, such as Brazil, Indonesia, Malaysia controlling more than 20 percent of export product groups through licensing or other approval procedures, while many others limited such licensing to the implementation of health and safety standards and environmental obligations.¹⁵ There is no obvious pattern with respect to export taxes: their use has increased in some cases (Brazil, Sri Lanka) but decreased in others (India, Kenya).

The TPRs suggest that often a combination of measures - sometimes a quantitative measure, such as a license in combination with a price linked measure, such as an export levy -- would be used. A rather crude adding up of the number of countries and measures that are imposed by product group showed that the most frequently regulated/taxed product groups of exports by developing countries in 1990-1998, at the HS 2-digit level, were live animals, coffee, cocoa and tea, fuels, hides and skins, wood products, and cotton (Michalopoulos,2001 p.70). Much the same products appeared to be regulated in the period since 2000.

Table 9: Developing Country Policies on Exports

Country	Year	Export Taxes & Levies	Minimum Export Prices	Export Licensing	Export Prohibitions	Export Quotas	Export Subsidies
Argentina	2008		1		1		
	1999	2					x
	1992	1					x
Bangladesh	2012				3		x
	1992	3	1	20	9		
Benin	2010				4		
	1997	3		1	2		
Bolivia	2005	3					
	1999			1			
Brazil	2009	5					
	1996	3		1	1	3	x
	1993	1	1	29		3	x
Cameroon	2007	2			3		
	1995	6		3	1	2	
Chile	1997						x
	1991						x
China	2012	4*					xx
Colombia	2012	3					
	1996	3	3	2	1	1	x
	1990	1	2		1		x
Costa Rica	2007	2					
	1995	4	1			1	x
Côte d'Ivoire	2012	5		5			
	1995	5	9	2		3	
Dominican Rep.	2008	2					
	1996					1	
Egypt	2011	2 *	2 *	2 *			
	1993	1		1	4	3	x
El Salvador	2010						x
	1996				1	1	x
Fiji	2009	3		3			
	1997	2		7			
Ghana	2008	2					
	1992	1	24	3	1		
Honduras	2010	1		1			x
Hong Kong SAR, China	1990			1			
India	2011	9	3	3*	4	4	x
	1998	13	1	9	3	5	x
	1993	1	4	10	2	4	x
Indonesia	2007	5		4			
	1998	5		19			x
	1991	6		33	6	3	x
Jamaica	2011			4			x
Kenya	2011	4 *		18 *			
	1992	10		16			
Korea Rep.	2008					2	x
	1996					4	x
	1992			42			
Kuwait	2012			1	7		
Malaysia	2010	5*		1			
	1997	10		35			

	1993	9		15			
Malawi	2010	3		10	2		
Mauritius	2008				1		x
	1995	1		4	3		x
Mexico	2008	9					
	1997	14		7			x
	1993	3		24	9		x
Morocco	2011			2 *		2	
	1996	2		2			x
	1990	2		5			x
Mozambique	2009	5					
Nepal	2012			1			
Nigeria	2011	1			6		
	1998	1		2	5	1	
	1991			2	5		
Pakistan	2008	10		4			x
	1995	21	3	20	13		x
Paraguay	2005	2		1	1		
	1997			6	1	1	
Peru	2007			3			
	1994				1		
Philippines	2012	1	2	3	1		
	1993			26		15	
Senegal	2009	1		3			
	1994	1	3	4			x
Singapore	1995			2			
	1992	1		6			
South Africa	2009			1			
	1998	1		8	1		x
	1993	1		9	2		x
Sri Lanka	2010	14		3			
	1995	6	1	7	1		
Thailand	2007	2		7			
	1995	4		8	4	1	
	1991	3	2	11			x
Tunisia	2011	2 *					
	1994		1		1	1	
Taiwan, China	2010			1			
Uganda	2012	3					
	1995	1	1	4			x
Uruguay	2012	3					x
	1995	4					
	1992	3					
Venezuela	2002	10					x
	1996	1					x
Zambia	2009			3			
	1996			1			
Zimbabwe	2011	12		8	8		
	1995			9			

Notes: Frequency ratio of percentage in HS 2-digit products affected by each measure.

xx no export subsidies but extensive domestic supports.

* computed at the HS 6- or 8-digit level.

Sources: GATT TPRs 1990-1995; WTO TPRs, 1995-2012; and UNCTAD/World Bank NTM database.

2. Export Incentives

Practically all the countries reviewed have a variety of policies and institutional support measures for non-traditional exports. In some cases explicit export subsidies have been introduced—but their use is declining. Table 9 shows that about 17 percent of the 49 countries for which there are data provided export subsidies in the period 2005-2011, while 40 percent of the total gave subsidies in the 1990's. The experience in a number of countries with export subsidies suggests that they are frequently needed to offset incentives to sell to the domestic market that is created by protection. But when protection is relatively low and the exchange rate not overvalued, subsidies tend to be an expensive way of promoting exports whose main impact is to provide additional profits to established exporters.

More frequently the measures involve policies aimed at off-setting the impact of import controls as well as institutional support through the provision of export financing -- sometimes on concessional terms -- and insurance, marketing and the establishment of export processing zones (EPZs) or similar arrangements of temporary admission aimed at export promotion. In most cases the measures are not product specific but apply to broad categories of products -- usually defined as non-traditional or manufacturing exports. Sometimes, the incentives are available only to certain groups of producing/exporting units, such as small and medium sized enterprises. For these reasons it is not possible to undertake an analysis at the tariff line or product group level as has been done for other policies affecting imports or exports; rather, it is only possible to note the presence or absence of a particular kind of program and its main characteristics. While some TPRs have identified problems or constraints affecting the effectiveness of programs this has not been the general rule. Indeed a study of the effectiveness of export promotion agencies concluded

that they have had on the whole a positive impact on exports; but that there are diminishing returns to size—i.e. in export promotion small is beautiful (Lederman *et al* 2009).

Practically all countries have introduced some type of duty drawback system.¹⁶ In many of the countries the system is intended to cover both duties and other border taxes as well as domestic taxes such as VAT. In an increasing number of cases it also covers taxes on domestically produced inputs. Frequently, in order to facilitate administration, the actual tax rebate mechanism involves the reimbursement or credit for a certain percentage of the firm's overall tax liability, rather than a rebate of specific duties or taxes. As a consequence, some of these programs may contain an element of implicit export subsidy. On the other hand, this is one area where several of the TPRs reported problems and difficulties with delays in payment and rebates which result *de facto* in penalizing exporters relative to their overseas competitors (World Bank, 2000).

With few exceptions countries reported the existence of one or more export processing zones or temporary admission schemes. The importance of these zones varies tremendously: In Korea they amounted to \$4.6 billion of exports in 2008 compared to \$11 million in Nigeria in 2011. While EPZs are still large in countries like Costa Rica and India, they are declining in importance in a number of countries, for example Mauritius and the Dominican Republic, where they had played an important role in earlier periods. In Mauritius the government announced in 2008 that it was going to create an island wide-EPZ, at the same time unilaterally eliminating tariffs on a more than 1200 tariff lines (Mauritius TPR 2008).

C. REGIONAL PREFERENTIAL ARRANGEMENTS

In tandem with global integration, many developing countries have made intensive integration efforts at a regional level. Two types of measure can be distinguished in this regard: regional PTAs with other developing countries, and similar PTAs with developed countries. Examples of the former include the MERCOSUR customs union which involves several countries in South America, and the SADC a free trade area among 14 developing countries in South and East Africa. Examples of North-South regional integration include North America Free Trade Area (NAFTA) as well as the various regional agreements between the EU and different groups of ACP countries (WTO, 2011).

In the last decade there has been a large increase of both North- South and South-South PTAs. The total number of PTAs in place is estimated at 360 with over two-thirds of the agreements being among developing countries. Mongolia is the only WTO member which has not declared that it participates in a PTA. Chile is the developing country with the largest number of PTAs with 26. It is estimated that, as a result, 95 percent of Chilean trade is with PTA partners. But not all trade between PTA partners involves preferences. While more than 50 percent of world trade is among PTA partners only 16 percent of world trade involves PTA preferences. This is because for a lot of world trade the MFN tariffs are zero.

Although developing countries are involved in a lot of PTAs the total trade involved is relatively small: almost 50 percent of all trade among PTA partners involves the EU and another 13 percent involves NAFTA. The bulk of the PTAs involved preferential tariffs on merchandise trade; but there are also a few involving only services; and a growing number which involve both goods and services as well as other aspects of 'deeper integration' such as cooperation in competition policy, investment and protection of intellectual property rights.

The preferential margins on tariffs on average are small, only about two percent—as MFN tariffs have come down in many countries; and developing countries enjoy other unilateral preferences in developed country markets. Few tariff lines have preferential margins of more than 5 percentage points. However, for some countries, for example Mauritius, preferential margins in EU markets are high as a number of its products e.g. textiles and sugar are subject to substantial barriers. There are reports that in a number of preferential arrangements in Sub-Sahara Africa (WAMU TPR, 2011), non-tariff barriers in intra- regional trade may de facto negate the preferences accorded to regional partners.

The 2000s saw a veritable explosion of PTAs: in the 1990s on average WTO members were parties to two PTAs. In 2011 the average number of PTAs per WTO member rose to 13. Developing countries, especially in Africa, have committed to participate in a number of overlapping PTAs giving rise to the familiar ‘spaghetti bowl’ image. A huge literature has emerged to analyze the causes of this phenomenon and its implications for developing countries and the trading system. Some of the reasons for the increase, especially of PTAs with deeper integration commitments in Asia had little to do with the traditional preference motive and more to do with off-shoring and the establishment or safeguarding production networks. In other cases it may be economically advantageous to join a PTA or become part of a new one to offset the disadvantages of being excluded. In some other cases, such as PTAs involving developed with developing countries, the motivation for deeper integration may have been the desire to liberalize beyond what was possible to agree in the context of the WTO negotiations—with the anticipation of multi-lateralizing agreements at a later date, as the political economy of liberalization makes it easier to move forward through a PTA rather than through multilateral negotiation. In still other

situations, the main motivation for increasing regional integration may stem from political/security considerations.

The trend towards more PTAs by developing countries raises questions about the effects on the participants as well as third countries. There are also issues as to consistency with broader multilateral efforts to liberalize trade under the WTO.

First, regarding the effects on non-participants, there is some evidence that trade diversion effects in some cases, for example MERCOSUR, can be adverse and substantial. (Chang and Winters, 2002) But as more and more PTAs involve commitments toward greater integration, the traditional trade creation/ trade diversion analysis appears to be less relevant and more attention needs to be devoted to determining the impact of other PTA provisions. In this area, one of the important developing country issues has to do with commitments they have undertaken in PTAs with developed countries to impose less flexible intellectual property rights regimes than required under the TRIPS agreement (Nkomo, 2011). Also, a number of ACP countries have failed to implement PTAs concluded with EU in part because of concerns about the 'deeper integration' provisions of these agreements.

The question of consistency with the multilateral trading system has two aspects: a narrow (and less interesting) one which has to do with the consistency of the multitude of PTAs with Article 24 of the GATT and the Enabling Clause Provisions; and the broader one of whether the spread of PTAs benefits or hurts global welfare and whether it undermines future efforts to liberalize trade on a multilateral basis.

WTO has established a Committee to review the very large number of PTAs which have been notified to it in order to determine their consistency with WTO provisions. More than 400 PTAs have been notified and many dozens have been reviewed; but the Committee has not been

able to conclude definitively that any of these agreements are consistent with Article 24 provisions and the Enabling Clause. The problem derives from the fact that existing WTO provisions are broad enough to give considerable latitude of interpretation. And the Committee's work is bogged down by an inability to agree on any specific tightening in the interpretation of the existing provisions. Similar problems have been encountered in the Doha Round discussions of the issue. The lack of consensus results primarily from the desire of many members, including developing countries to have as much flexibility as possible in the conclusion of such agreements. There is thus a danger that the multiplicity of agreements will yield welfare reducing results both for the participants and for the rest of the world (Panagaryia, 2000). There is also the danger that the existing preferential arrangements will result in a reluctance to engage in multilateral MFN reductions on account of many countries losing preferences.

This concern has been voiced by a number of mostly low-income developing countries in the context of the Doha Round. But it is doubtful that this concern has been decisive in the failure to reach agreement on MFN tariff reduction. Indeed, it could be argued that some of the PTAs were put in place precisely because of the lack of progress in the Doha Round negotiations. Indeed PTAs among developing countries may be considered useful training grounds for those among them wishing to 'deepen' their integration in other spheres of economic co-operation beyond trade and thereby may strengthen their future participation in global co-operative efforts.

III. DEVELOPED COUNTRY POLICIES ON MERCHANDISE IMPORTS

Since the 1980s the role of developed countries' markets in determining demand for developing countries' exports has shrunk, as the role of the emerging economies increased, especially in the decade of the 2000s. However, developments in developed country markets

continued to be an important factor that shaped developing country trade performance. On the demand side, developed countries' GDP increased at a rate slightly lower than the long term growth trends in these countries – just under 2.5 percent for 1990-1999 and 1.7 percent for 2000-2010 in compared to 3.1 percent in the 1980s and 3.6 percent in the 1970s (OECD 2000, World Bank 2012). On the other hand, the market access conditions for developing countries improved, partly as a result of standstills and subsequent liberalization linked to the Uruguay Round agreements and reductions in tariffs following the Information Technology Agreement, and the termination the Agreement on Textiles and Clothing and partly as a result of numerous preferential arrangements concluded between developed and developing countries.

The implementation of the Uruguay Round agreements took a number of years to complete¹⁷ and there was some retrogression following the severe economic crisis of 2008. But there is little doubt that access to developed country markets was much better at the end of the period than at the beginning. Access continued to be impeded by high trade barriers in certain sectors, such as agriculture; and while progress was made on tariff escalation, the problem persisted in certain sectors, for example textiles and leather products. More barriers are also appearing connected to the implementation of the TBT and SPS agreements. Finally, as part of the Uruguay Round agreements, WTO members committed themselves to take several explicit additional steps in favor of developing countries in anti-dumping, whose implementation is important to review.¹⁸

A. TARIFFS

1. Overall Averages

The effects of the Uruguay Round agreements on the MFN tariffs of the developed countries have been extensively considered in other studies whose main findings will be

summarized here (Martin and Winters, 1996; UNCTAD/WTO, 1997; OECD, 1997). Broadly speaking, MFN tariffs on imports of manufactures into the major industrial countries markets were reduced by an average of 40 percent from a trade weighted average of 6.3 percent before the Round to 3.8 percent after the Round, with the reductions to be phased in over five years and the first installment to be put in place on January 1, 1995.¹⁹ Countries have reduced their tariff rates accordingly since then. Moreover, in 1997, following the Information Technology agreement, the duty on a number of products in this sector was reduced to zero on an MFN basis (Finger and Schuknecht, 1999). Canada undertook a further unilateral liberalization of about 1,800 lines of MFN tariffs in 2008-2009 (WTO TPR, Canada 2011). Applied rates are even lower, averaging 3.2 percent reflecting various preferential arrangements (Table 3).

MFN tariffs on products other than agriculture range, for example, from an average of 0.8 percent in Japan to 3.7 percent in the US and 4.0 percent in the EU (UNCTAD/WTO, 1997, Annex Table 1). But the rates are higher on products of interest to developing countries such as textiles and shoes (Hertel and Martin, 1999). At the same time, for the Quad countries (Canada, EU, Japan, US), one third of all MFN tariff lines are duty free.

The tariffication of various measures of support and protection in the agricultural sector resulted in substantial increases in the initial tariffs on a wide range of agricultural products in some major markets. Thus, the average applied MFN rate for agricultural commodities (production weighted) in 1996 ranged from 7.9 percent in the U.S to 10.7 percent in the EU (OECD, 1997, Table 3.1). Subsequently, developed countries were to reduce agricultural tariffs by 36 percent across the board, at the same time as access for agricultural products would be enhanced by reductions in domestic support measures.

The problem was that developed (and developing) countries chose to bind their tariffs at higher rates than the actual tariff equivalents during the years just before the conclusion of the Uruguay Round agreements (1989-1993). For example the final bindings for the EU were almost two-thirds higher than the tariff equivalents for 1989-1993 (Binswager and Lutz, 2000 p.9) and for the U.S., they were more than three quarters higher. Binding the tariffs at such high levels allowed countries to vary actual tariff rates according to the results they wished to achieve in protecting their domestic markets -- much as the EU used to do with the variable levies, which have been prohibited since the Uruguay Round. The result of this so called 'dirty tariffication' has not been improved market access merely that protection has become more transparent. Similarly, commitments to reduce export subsidies were made relative to a base period in the early 1990s when these subsidies were at very high levels.

During the 2000s aggregate measures of support (AMS) to agriculture as well as export subsidies by the two major developed WTO members, the EU and the US, fell significantly from 1990 levels both because of budgetary constraints and because of rising prices for many agricultural commodities (Blandford, Josling and Orden 2011; Gorted, Ruis and Ingco 2003; WTO/TPR/OV/W/6, June 2012). But the overall structure of protection negotiated in the Uruguay Round agreements has remained intact- despite strong efforts by developing countries during the Doha Round discussions to obtain better treatment in agricultural products such as cotton of critical importance to some of the poorest and LDCs.²⁰

2. Preferences

The actual tariff rates applied to imports from individual developing countries tend to be even lower than the abovementioned MFN rates, however. There are two main reasons for this: because the generalized system of preferences (GSP) further reduced tariffs on selected

commodities and countries; and because of the existence of preferential arrangements for particular countries in specific developed-country markets, for example, the preferences afforded to the ACP countries in the EU market, the ones enjoyed by Mexico as part of NAFTA and the Caribbean and Central American countries' preferential treatment in the US market as a consequence of the Caribbean Basin Initiative and the AGOA initiative affecting low-income countries in Africa. In addition, individual developed countries have granted even more preferential treatment to LDC imports following the WTO High Level Meeting on Trade-related Measures for LDCs in 1997 (see below).

The overall margin of unilateral non-reciprocal preferences for developing countries as a group is of the order of 3.5 percentage points, (Hoekman *et al* 2009) but varies significantly for different groups and in different markets from 6.6 points for LDCs in the EU to 0.5 for low-income countries in the US. The various GSP programs have narrower coverage and lower margins of preferences than regional non-reciprocal programs (see Table A-1). Among the regional *preferential* programs the ones in Latin America and the Caribbean contain larger preference margins than the ones in Sub-Saharan Africa.

Given the complexity of the various preferential systems in place, it is difficult to assess their overall effect on the average tariffs applied and most importantly on the exports of eligible developing countries. An earlier study suggested that the GSP remains a valuable tool for promoting developing country exports' (UNCTAD/WTO 1997, p.9). More recent estimates suggest that the regional non-reciprocal programs are much more important than the GSP for individual countries.

A number of these programs had been especially beneficial for particular countries and products because of quotas in various export markets, for example bananas and sugar in the EU and textiles in the US. The reduction of MFN rates, the spread of reciprocal preferential arrangements, the liberalization of the EU banana and sugar regimes in 2009, the termination of the Agreement on Textiles and Clothing in 2005 and the increasing limitations on product and country eligibility imposed by the 'graduation' features of various programs, have all resulted in reducing the value of the non-reciprocal preferential programs offered by developed countries.

Still, the programs can be useful to individual developing countries and individual products. It is estimated (Hoekman *et al* 2009, p.20) that “US preferences are equal to 5 percent or more of dutiable exports for 27 countries, while in the EU case the value of non-reciprocal preferences exceeds 6 percent of dutiable exports for 16 countries.” Countries benefiting in particular include Malawi (tobacco), and Lesotho (textiles). Notwithstanding such benefits, the GSP as well as other unilateral preferential schemes may offer the wrong types of 'dependency' incentives to developing countries and retard rather than promote their integration into the international trading system (Finger and Winters, 1998; Srinivasan, 1998).

3. Peaks

Despite the overall decline in the average applied MFN tariffs since the Uruguay Round, there are a number of sectors and product groups in various developed countries where tariffs are substantially higher, thus limiting market access. The Uruguay Round agreements increased the tariff dispersion in some developed country markets and decreased it in others (OECD 1997, p.18; Daly and Kuwahara 1998, p.223). But in all countries there are many products and product groups in which the average MFN applied tariff level exceeds 12 percent, or roughly three times the

overall average MFN applied tariff level of developed countries. These products and groups can be defined as having tariff 'peaks'. They exist in both agriculture and manufactures in a number of developed country markets. But the very high rates typically have been the consequence of tariffication in agriculture.²¹ The main products in which such tariff peaks can be observed in various markets are the following:

- Major staples, such as meat, sugar, milk and dairy products and cereals, where the tariffication of quantitative restrictions has resulted in tariff rates frequently exceeding 100 percent and ranging, for example up to 550 percent for rice in Japan.²²
- Cotton and tobacco: for similar reasons similarly high rates are applied to these products, with the rate on tobacco reaching 350 percent in the US.
- Fruit and vegetables, including 180 percent for above-quota bananas in the EU, and 550 percent and 132 percent for shelled groundnuts in Japan and the US respectively.
- Processed food products, including fruit juice, canned meat, peanut butter, and confectionery with rates exceeding 30 percent in several markets and rising to 230 percent for grape juice in the EU.
- Textiles and clothing: tariff rates are in the 12-30 percent range for a large number of products in Canada, the EU and the US.
- Footwear and leather products, with tariff peaks in excess of 35 percent for 10 percent of products in Japan (rising to 160 percent for shoes) and 17 percent of products of Australia (Smeets and Fournier 1998).
- Selected automotive and transport sector products (trucks in the US and the EU, ships and boats in Canada) with rates exceeding 20 percent.

The GSP and other preferential schemes operated by the various developed countries tend to reduce, in some cases significantly, the tariff rates applicable to imports of these products from developing countries. However, in almost all cases where tariff peaks are present, the sensitivity of the domestic industry to imports has resulted in the exclusion of various products from the schemes or in some type of limitation being imposed either on the amount that can be imported under the preferential rates or the countries that are eligible. For example, the US excludes most textile products from its GSP scheme, the EU limits preferential margins and imposes country/sector quotas. Quota limitations also exist for non-traditional suppliers of various fruits and vegetables to the EU market and in Japan's market for leather goods and footwear. Some of the more recent schemes favoring LDCs however, do provide virtually total duty free and quota free (DFQF) access to a number of developed country markets.

4. Least Developed Countries

The international community has made special efforts to address the market access problems faced by the LDCs. Following the 1997 WTO high level meeting on the LDCs developed countries (and some developing countries) have made additional preferential market-access commitments to LDCs. The developed country commitments were legally permissible under the GATT Enabling Clause of 1979. Those of the developing countries were formalized through a ten year waiver under the WTO decision of 15 June 1999 (WT/L/304) and extended for another ten years in 2009.

At present, LDCs enjoy essentially duty-free-quota-free (DFQF) market access to Australia, the EU, New Zealand, Switzerland and Turkey. Canada offers a DFQF scheme that covers 99 percent of tariff lines, Japan 98 percent and the US somewhat less, with 34 Sub-Saharan African LDCs having a duty free but quota limited access to 96 percent of tariff lines while Asian LDCs

much less—as the program excludes textiles. Brazil, China, India and Korea Rep. also operate LDC preference schemes, which are considerably more restrictive than those offered by developed economies (Laird, 2012).

The average tariff rates LDCs face in developed country markets generally average about 2 percent, about half those facing other developing countries. Tariffs in other developing country markets against LDC products are much higher, 14.5 percent (WTO 1997).

The low average tariff rates in developed country markets reflect primarily the fact that the bulk of LDC exports are primary commodities where tariffs are low or non-existent and less the extensive preferences they obtain in these markets—which on average offer no more than few percentage points of advantage.

On the other hand, the dutiable products in which LDCs tend to have comparative advantage, namely agriculture, textiles, and footwear are subject to tariff peaks and tariff escalation. For a number of products (beef, asparagus, cigarettes, processed wood, clothing and footwear) are amounting to about 10 percent of their total exports, tariffs in the Quad, Australia, Norway and Switzerland ranged between 5 and 15 percent (WTO 1997).

In these cases DFQF can be meaningful as preference margins may be substantial. But for LDCs to exploit these they need to have relatively simple qualification requirements regarding rules of origin. The requirements for such rules can be prohibitive if they require substantial value added in the country benefitting from the preferences. LDCs typically do not have enough industrial capacity or the investment climate to attract the upstream suppliers needed to produce sufficient domestic value added or to transform inputs into a processed product (Francois and Hoekman et al 2009, p.7). The evidence from DFQF programs which offer both a significant

margin of preference and relatively liberal rules of origin (Canada, Australia and US- AGOA) show that eligible LDCs have expanded their exports significantly following the establishment of the programs (Francois and Hoekman 2011, p.9).

In sum, market access problems for LDCs are concentrated in a few products and tend to be greater in developing than in developed country markets. In the course of the Doha Round negotiations a variety of proposals have been made aimed at enhancing the existing preferential arrangements benefiting the LDCs. Some focus on expanding the coverage in the US and major developing country markets. Others emphasize the importance of simplifying rules of origin. In all cases a key prerequisite is the need to address LDCs supply side constraints that limit their capacity of using fully existing preferential arrangements.

5. Escalation

Tariff escalation is a matter of concern for developing countries in the context of market access because it tends to increase the rate of effective protection at higher stages of processing, thereby making market access more difficult for finished manufactured products, which in turn can adversely affect on developing countries' industrialization efforts. As a consequence of the Uruguay Round agreements the degree of overall escalation has decreased. Also, escalation is more pervasive in developing countries than in developed (see Table 4). But it continues to be a matter of concern for many developing countries and their exports of specific products, such as processed foods (wheat flour, orange juice, vegetable oils, dairy products), clothing, leather and wood products (Lindbland 1997; WTO 1998c; UNCTAD 1997a). These results should be interpreted with caution because data limitations as well as the continued existence of quantitative restrictions in some of these product chains make it difficult to calculate the effective rates of protection. But they do suggest that tariff escalation -- as with tariff peaks -- in certain products,

though reduced by the Uruguay Round agreements, continues to be an area of concern in respect to market access for developing-country exports.

B. NON-TARIFF MEASURES

Since the Uruguay Round and until about 2009 it is probably fair to say that the pervasiveness of core non-tariff measures in developed country trade regimes had fallen to its lowest point in more than 50 years. By core non-tariff barriers, we mean the use of non-automatic licensing, quotas and tariff quotas and voluntary export restraints as well as price control measures such as variable charges, minimum prices or voluntary export price restraints. Since 2009 there has been some resurgence of protectionism, but much less than had been feared, given the depth of the economic recession in developed countries. The key issues for the future relate to the use of trade remedies i.e. anti-dumping, countervailing and safeguards—all of which are permitted under the WTO agreements, as well as the expanding use of SPS and TBT measures which have an impact on trade.

As noted earlier, there are considerable limitations in the data that can be used for assessing coverage and frequency ratios of the incidence of non-tariff barriers in developed or developing countries over time.²³ But the available data suggest that these barriers have declined over time. Voluntary export restraints were phased out by the end of 1998—although there have been some reports of their “informal” re-emergence in recent periods. The termination of the Agreement on Textiles and Clothing in 2005 as well as the end in 2008 of the special quantitative restrictions applied to imports from China as part of its WTO accession ended the last vestiges of formal ‘legal’ quantitative restraints in manufactures.²⁴

Non-tariff measures have been drastically reduced in agriculture, where only tariff quotas exist in a number of products in some of the major developed markets. These range from a few tariff lines in the US and Australia up to 1.5 percent in Japan and 4.9 percent in the EU (see Table 10).²⁵ At the same time, the use non-automatic licensing has been reduced in all major developed country markets, and is now focusing primarily on restraints linked to the maintenance of sanitary and phytosanitary standards, technical standards or protection for the environment. Concerns however, have been raised as to whether the implementation of WTO agreements in these areas has been motivated by protection of domestic industries and a number of disputes have arisen regarding the compatibility of certain measures implemented by some countries with these agreements.

The reduction of NTMs in agriculture after the conclusion of the Uruguay Round does not seem to have resulted in significant improvements in market access for developing countries for a variety of reasons. First, there were problems with the way tariffication' was implemented, as discussed earlier. Second, the reductions of AMS have not affected the significant supports to products of interest to developing countries such as cotton, sugar and dairy products. Third, despite the commitments to reduce export subsidies, these were maintained at such high levels in 1990s as to continue to undermine incentives provided to developing country producers. Examples of the adverse effects of EU export subsidies on developing-country producers abound: subsidies in dairy products have hurt production in a large range of countries including Brazil, Jamaica and Tanzania; subsidies on tomato concentrate impact especially West Africa countries like Burkina Faso, Mali and Senegal; support for beef has undermined efforts to raise livestock production in some of the same countries; and EU beef has come to dominate the markets of Benin and Ivory Coast for which Burkina Faso and Mali were once been important suppliers.

These subsidies were significantly reduced in the 2000s primarily due to budgetary pressures within the EU. Still overall, there was far less ‘real’ improvement in the agricultural sector than developing countries anticipated.

C. TRADE REMEDIES

Over the last thirty years, as the incidence of quotas and other explicitly protective quantitative controls has diminished, the importance of trade remedies—anti-dumping, countervailing and safeguards has risen in both developed and developing countries. However, there is no evidence that their use has increased in absolute terms during the most recent financial crisis relative to what happened in 1992-1993: during those two years there were 326 and 299 total anti-dumping investigations respectively, while the peak number of investigations during the most recent crisis was 215 in 2008. In the US, which over the years has instigated the largest number of total anti-dumping investigations and still has some measures in place which were instituted more than 40 years ago, only 1.1 percent of total imports are affected by trade remedies (Table 10). At the same time, as discussed earlier the evidence is extremely clear that the share of developing countries in the total remedies has increased dramatically.

Table 10 also contains some scattered information that permits us to gauge the evolution of trade remedies in major developed countries over time. In the US, the tariff line frequencies of anti-dumping, countervailing and safeguards have declined from five percent in 1996 to 1.1 percent in 2011. For the EU over a comparable period, but measured in total number of cases, it appears that there has been little change in the totals. It is also interesting to look at the situation in 2003. At this intermediate point, the number of anti-dumping measures in place for both the US and the EU as well as Canada was higher than in 2011. Japan is the only country which

unambiguously increased its use of trade remedies over this period. But its total use of these instruments is minimal.

Table 10: Non-Tariff Measures (NTMs) and Trade Remedies by Selected Major Developed Country, 1996-2011

Trade Measure	Australia		Canada **		EU **		Japan		Norway		Switzerland		United States **	
	1996	2011	1996	2011	1996	2011	1996	2011	1996	2011	1996	2011	1996	2011
NTMs (in % of total tariff lines)														
Licensing, Non-Automatic	0	X	0	X	0.8	X	1.3	X	2.6	X	0	X	0	X
Tariff Quota	0	*	0	2.2	0	4.9	0.6	1.8	0	0.4	0.2	3.5	0	*
AD/CV and VEPRs	0.4	..	0.7	..	0.2	..	0	..	0	0	0	0	5	1.1
Trade Remedies (no. of measures in Force)														
Antidumping	..	22	..	33	143	140	0	6	0	0	0	0	..	253
Countervailing	..	3	..	9	2	11	0	0	0	0	0	0	..	50
Safeguards	..	0	..	0	0	0	0	0	0	0	0	0	..	0
Total AD/CV/SG	..	25	..	42	145	151	0	6	0	0	0	0	..	303
Trade Measure	Australia		Canada **		EU **		Japan		Norway		Switzerland		United States **	
	2007	2011	2007	2011	2007	2011	2007	2011	2007	2011	2007	2011	2007	2011
Trade-Weighted Share of Non-oil Imports (in %) ***														
Antidumping	..	0.4	..	0.7	..	1.7	..	0.1	0	0	0	0	..	3.9
Total AD/CV/SG	0.5	0.5	0.7	0.7	3.8	1.8	1.1	0.1	0	0	0	0	3.3	4.0

Notes: X = licensing for health, sanitary, safety, environmental and/or defense.

* = less than 1%.

** = antidumping measures in effect in 2003 for Canada, 91; EU, 156; and US, 279.

*** = Data are taken from Bown, C. (2012), Emerging Economies and the Emergence of South-South Protectionism, PRD #6162, World Bank. (Table 1 and Appendix Table A.1)

.. = data not available

Sources: WTO Trade Profiles database, WTO TPRs, and OECD, 1997 (table 5.1); and Bown (2012).

The lower panel of Table 10 shows the changes that have been in the use of trade remedies by developed countries over the period 2007-2011. The trade weighted share has increased in this period for the US primarily because of the use of additional countervailing measures, but has decreased both for the EU and Japan.²⁶

The overall conclusion from this analysis of the frequency of use of trade remedies by developed countries is that, while still substantial, it is certainly not more extensive than in the nineties. Combined with the earlier discussion of the declining trends in the use of other core non-

tariff measures, it would appear that developed country markets in 2011 were definitely no less and probably more open than they were in the mid-1990s.

The major product groups which are the object of anti-dumping investigations are much the same for developed as for developing countries: Table 11 shows that Basic Metals, and Chemicals, are the two sectors which account for the bulk of anti-dumping investigations, between 40 and 50 percent, of all anti-dumping investigations in both developed and developing countries. Over the last thirty years, little has changed in this respect which may simply reflect generic pricing practices by firms operating in these sectors.

Table 11: Sectoral Distribution of Antidumping Initiations by Developed and Developing Countries

HS Section	1987-1994				1995-2001				2002-2011			
	Developed Countries		Developing Countries		Developed Countries		Developing Countries		Developed Countries		Developing Countries	
	No. of Cases	% Share	No. of Cases	% Share	No. of Cases	% Share	No. of Cases	% Share	No. of Cases	% Share	No. of Cases	% Share
I Animals and products	8	0.6	17	2.2	11	1.3	13	1.2	10	1.6	20	1.4
II Vegetable products	11	0.8	18	2.3	12	1.4	16	1.5	8	1.2	20	1.4
III Fats, oils and waxes	4	0.3	13	1.7	2	0.2	2	0.2	3	0.5	7	0.5
IV Prepared foodstuff and tobacco	52	3.7	9	1.2	17	2.0	20	1.9	5	0.8	13	0.9
V Mineral products	41	2.9	11	1.4	20	2.3	26	2.5	9	1.5	18	1.2
VI Chemical products	210	15.0	157	20.2	140	16.4	183	17.1	154	25.0	348	23.6
VII Plastics and rubber articles	147	10.5	102	13.1	105	12.2	130	12.2	81	13.2	197	13.4
VIII Hides, skins and leather products	8	0.6	1	0.1	1	0.1	2	0.2	0	0.1	2	0.1
IX Wood and pulp	16	1.1	8	1.0	13	1.5	15	1.4	18	3.0	45	3.0
X Paper, paperboard and articles	65	4.6	47	6.0	42	4.9	48	4.5	36	5.8	82	5.6
XI Textiles and articles	95	6.8	55	7.1	61	7.1	77	7.2	43	7.0	122	8.3
XII Footwear and headgear	24	1.7	9	1.2	8	0.9	10	0.9	4	0.6	10	0.7
XIII Glass, stone and ceramic	59	4.2	15	1.9	26	3.0	31	2.9	29	4.7	67	4.6
XIV Pearls and precious stones	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0
XV Base metals and articles	374	26.7	178	22.9	274	32.1	342	32.0	148	24.1	339	23.0
XVI Machinery and electrical equipment	212	15.2	83	10.7	82	9.6	103	9.6	44	7.1	120	8.2
XVII Vehicles, aircraft and vessels	27	1.9	7	0.9	9	1.0	11	1.0	6	0.9	15	1.0
XVIII Instruments, clocks and recorders	19	1.4	21	2.7	12	1.4	13	1.2	6	1.0	17	1.1
XX Other miscellaneous manufactures	27	1.9	27	3.5	20	2.3	25	2.3	12	1.9	29	2.0
Total – above all sectors	1,399	100.0	778	100.0	855	100.0	1,068	100.0	615	100.0	1,472	100.0

Note: Exclude arms sector XIX

Source: WTO antidumping database.

It is important to recall that during the Uruguay Round and in the context of the Agreement on the Implementation of GATT Article VI on anti-dumping, the developed countries committed themselves, to give special regard to the special situation of developing country Members when considering anti-dumping measures under the Agreement. Article 15 urges the use of the constructive remedies provided for in the agreement before applying anti-dumping duties that will affect the essential interests of developing-country members.

There is no guidance regarding how this article is to be implemented, particularly in respect of the way in which 'the special situation of developing country members is to be taken into account'. The article does not appear to commit developed countries to do anything more than make use of the 'constructive remedies' mentioned in the agreement before applying anti-dumping duties. But presumably, they would have to do this in all cases, not only those involving developing countries.

In practice the results have been mixed. Most of the developed country anti-dumping investigations and definitive measures against developing countries have been directed at higher and middle-income developing countries – (often the same countries that have themselves made increasing use of anti-dumping measures themselves) -- and non-WTO Members (see below). China and Chinese Taipei in particular have been a target both before and after their accession to the WTO, both by developed and other developing countries. Bangladesh is the only LDC to have been subjected to anti-dumping investigations and definitive measures on three occasions, in 1992 (see Miranda *et al*, 1998).

Table 12 shows that developing countries are more frequently the target of anti-dumping actions by both developed and by other developing countries. Developed countries, on the other

hand, are the least targeted group both by other developed countries and developing countries. In particular, the share of overall investigations in which developing countries are affected is much higher than the share of developing countries in world exports (see Table 12).

The ratio of the two shares, R_{ad} , (the share of total anti-dumping investigations against a particular country or group relative to its share of world exports) should be interpreted with care because the proportion of measures may not accurately reflect the actual amounts of exports affected. Nevertheless, it would be difficult to conclude from the data in Table 12 anything other than that the developing countries have sustained a disproportionate amount of anti-dumping measures over the last twenty years. R_{ad} investigations for developing countries had a value of 1.5 compared to a R_{ad} of 0.6 for the developed countries for the period 1987-1994. The value of the ratio progressively increased for developing countries in the period 1995-2001 and 2002-2011, while it decreased for developed countries. This means that developing countries, over the last twenty five years, were more than twice as likely to have their imports affected by an anti-dumping investigation (relative to their share in international trade) than developed countries (see also Table B-4).

Table 12: Antidumping Measures by Affected Country

Affected Country / Group	1987-1994			1995-2001			2002-2011		
	AD Msre (%)	World Exp Share (%)	Ratio of Rad	AD Msre (%)	World Exp Share (%)	Ratio of Rad	AD Msre (%)	World Exp Share (%)	Ratio of Rad
WTO Members	74	88	0.8	63	89	0.7	93	98	0.9
Developed countries	41	66	0.6	33	68	0.5	23	62	0.4
Developing countries	33	22	1.5	30	21	1.4	70	36	1.9
Developing co. excl. China	..	..	..	..	..	..	39	27	1.5
Non-WTO members	26	12	2.2	37	11	3.4	7	2	3.5
Memo Items									
China **	..	..	..	17	3	5.7	31	9	3.4
Chinese Taipei **	..	..	..	5	2	2.5	6	1	6.0
Former FSU	..	..	..	10	2	5.0	5	3	1.7
TOTAL: All countries	100	100		100	100		100	100	

Notes: .. = data not available.

** China and Chinese Taipei became WTO members after 2001 accordingly.

Rad = the ratio of share in total antidumping investigations relative to the share in world exports.

Sources: WTO antidumping database and World Bank WDI database (trade data).

The Table also shows the very large incidence of anti-dumping actions taken against China, Chinese Taipei and non-WTO members, especially so called 'non-market economies' mostly countries other than the Baltics that emerged from the former Soviet Union, in particular Russia, Ukraine, Belarus and Kazakhstan which have seen their exports being targeted for anti-dumping measures at a far greater rate than their share in world trade. Indeed, controlling for the value of total exports over the last three decades anti-dumping measures were at least four times more likely to be directed against a product from a non-market economy which is not a WTO Member than a product from a developed market economy. These conclusions are entirely consistent with the Bown's findings (Bown, 2013, p21) regarding the changing use of trade remedies against different countries over time. He shows a decreasing but still substantial use of trade remedies against countries like Ukraine, Russia and Kazakhstan between 2001 and 2011 and an increasing use against China and Korea.

China's and Chinese Taipei's situation is even more pronounced as it has been a target of anti-dumping measures much more often than other countries or its share in world trade would justify. The situation has not changed after they became WTO members, unlike a country like Ukraine which had been targeted a great deal before its accession and much less afterward.

Table 12, suggests that countries taking anti-dumping action may feel less constrained when taking action against non-WTO Member countries. And with respect to so called non-market economies, there is evidence indicating that the procedures used tend to be more opaque and may well lead to a greater incidence of definitive findings than those against other economies (Michalopoulos and Winters 1997).

What can be concluded from this analysis of the prevalence of anti-dumping actions against developing countries as an indicator of market access to developed- country markets? There appears to have been an improvement in recent years, because in general fewer anti-dumping actions have been taken by developed countries; but the developing countries' share of these actions, taking account of the value of their exports, has not changed and tends to be disproportionately high. This reflects an insufficient response by the developed countries to their commitment 'to give special regard to the special situation of developing countries'. Similarly, there is no evidence that the Article 15 on using constructive remedies before applying anti-dumping duties on imports from developing countries has been employed.

D. SPS AND TBT

The implementation of the SPS and TBT agreements has raised two sets of issues for developing countries: First, standards along with testing and certification represent between 2 and 10 percent of overall product costs (Maskus *et al* 2005). Thus, they impose a burden on

developing country exports -- even when the standards are used for legitimate reasons and the countries are able to meet them. Second, while the two agreements may make developed countries actions more transparent and force a degree of accountability they may also serve to legitimize developed country non-tariff measures that unnecessarily restrain developing countries' trade.

The pioneering work of Otsuki, *et al.* (2001 and 2002), estimated that a 1998 EC regulation that imposed more stringent controls on the maximum level for certain types of aflatoxin, (a toxic substance) found in foodstuffs and animal feed, than those required by the *Codex Alimentarius*, would cost close to \$700 million in lost revenue to African exporters of groundnuts. Wilson *et al* (2003) found that the stringency of antibiotics regulation in developed countries significantly reduced bovine meat exports for Argentina, Brazil and South Africa. And several studies have concluded that SPS regulations inhibit developing-country agriculture and food exports (Cadot and Malouche 2012, p.6).

Early complaints by developing countries that developed countries may be using the SPS agreement as disguised protection had focused on meat (Burkina Faso), fresh fruits and vegetables (Kenya), canned tuna (Papua New Guinea), fish (Uganda). In 2001-2012 more than one thousand notifications of new SPS measures and a slightly larger number of TBT notifications were submitted to the WTO. About 60 percent of the SPS notifications and the bulk of the TBT notifications came from developing countries. As the overall developing-country share of world trade as well of SPS and TBT notifications is increasing, it is clear that this may not be a North-South problem but a general NTM issue.

WTO members have an opportunity to complain about the introduction of new SPS and TBT measures in the respective WTO Committees by raising specific trade concerns (STCs). The

STCs submitted to the TBT Committee per annum more than quadrupled (from 17 to 76) in the period 2000-2011. 14 new STCs were raised in the SPS Committee in 2011 about half by developing countries. Some of these concerns were left unresolved and have led to cases going to WTOs dispute settlement although the number of cases in dispute settlement which specifically refer to SPS and TBT is relatively small (WTO 2012, p.111).

In light of the increased use of SPS and TBT measures, it has been argued that all of the measures imposed on these grounds could be considered as NTMs similar to quantitative restrictions and trade remedies (Gourdon and Nicita, 2012). If such a definition were used, then SPS and TBT measures would constitute the bulk of developed (and developing country) NTMs. On average countries apply TBT measures on approximately 30 of products and trade and SPS on 15 percent of products and trade. Taken together these measures would cover almost half of a typical country's trade. And they are likely to be much more extensive than core non-tariff barriers such as quotas, trade remedies and non-automatic licenses.

But it would not be useful to lump together TBT and SPS measures together with other non-tariff barriers for two reasons: first, it is quite clear that there are very legitimate reasons for introducing such measures for health and safety reasons; and when they are abused there is a process for seeking redress—even though this process poses some constraints for developing countries. Second, it is possible that the establishment of standards can actually benefit developing country exporters. A study of Chinese exports of agricultural products showed that the adoption of more stringent standards had a positive effect as the signaling of enhanced food safety and quality in foreign markets apparently surpassed compliance costs (Manzelsdorf, Perez and Wilson 2012). Similarly a recent study by Xiong and Beghin (2011) found that the predictions by Otsuki *et al.* of a dire effect of the introduction of EU regulations on aflatoxin content on West

African groundnut exports did not materialize. Instead, they posit that the main constraints on these exports came from the supply side and that in the case of edible groundnuts the regulations may have actually stimulated trade by enhancing the safety of the products in the eyes of EU consumers.

Thus, while the impact of SPS and TBT regulations on developing country exports is quite complex and they cannot all be considered as NTMs used for protection of domestic industry, these regulations certainly have the potential of doing so. The problem is that in defining these as NTMs it is necessary to identify intent—which is inherently difficult to demonstrate, as well as resolve a variety of complex scientific issues.

The WTO undertook an exhaustive analysis of NTMs and especially SPS and TBT measures in its 2012 annual trade report. Its conclusions are important to report here. It states (p.143) “The existing empirical literature finds that at the aggregate level TBT/SPS measures may not be associated with lower trade”, (also p.153) “TBT/SPS measures do not unambiguously increase or decrease trade. In general TBT/SPS measures have positive effects for more technologically advanced sectors, but negative effects on trade in fresh and processed goods.” Given these difficulties, it is important not to lump TBT and SPS measures with other non-trade barriers which quite unambiguously restrict trade such as quotas or trade remedies. To do so will result in ‘crying wolf’ too often and missing true increases in protection. The only recommendation is for continued vigilance, monitoring and transparency through timely reporting and discussion in the WTO and other relevant international bodies entrusted with the setting of these standards.

IV. SERVICES

A. Conceptual and Measurement Issues

There are no comparable international data that permit a systematic examination of the state of policies regarding restrictions on trade in services in developing or developed countries. The reasons are well known: because many of the modes of delivery of services are intangible, there are no barriers that take the form of tariffs. Barriers take the form of quantitative restrictions -- sometimes involving complete bans, and many times government regulation.

Some of the latter may be explicitly discriminatory against imports of services or foreign providers; others may be of a general regulatory nature that applies equally to national and foreign services providers. And to date no general description of the barriers to trade in services that cuts across all four modes of delivery (cross border supply, consumption abroad, commercial presence, temporary entry) and all sectors has been attempted -- and may not be feasible with the present state of data collection.

Some general impressions can be obtained as to what the actual policy situation tends to be by using a recently developed World Bank data base whose results are summarized in Table 13. This database describes a new initiative to collect comparable information on services trade policies for 103 countries, five sectors (telecommunications, finance, transportation, retail and professional services) and the key modes of service supply. It contains richly textured policy information as well as a preliminary quantification of policy measures across a range of service sectors and the relevant modes of service delivery (Borchert, Gootiiz and Mattoo, 2012). The first impression from the existing data is that developed countries have liberalized far more than developing countries, especially in the financial, telecom and retail services sectors. The differences are smaller in the transport sector and even less in the professional services—which

frequently requires the movement of natural persons. The resultant database reveals interesting patterns in policy. Across regions, some of the fastest growing countries in Asia and the oil-rich Gulf states have the most restrictive policies in services, whereas some of the poorest countries are remarkably open. Across sectors, professional and transportation services are among the most protected in both industrial and developing countries, while retail, telecommunications and even finance tend to be more open.

Service protection in developing countries can have serious implications on efficiency and growth: protection causes high cost expensive service inputs which result both in waste of resources and adverse effects on export performance of both goods and other services. A protected and inefficient banking sector can be as damaging to profitability of exportables as the imposition of high tariffs on imported components used in the production of these same exportables.

Among developing countries, there is strong evidence that countries in Latin America and Caribbean have liberalized far more than developing-country regions in all sectors. In retail and transport their liberalization is at least as great as that of developed countries. There are few differences in the degree of service liberalization by sector in other groups of developing countries classified by region or income level. Some low-income developing countries, such as Ghana and Nigeria have relatively liberal regimes while several economies in Asia with fast growing export sectors such as China, India, Indonesia, Malaysia and the Philippines have restrictive service sectors (see Table 13).

In telecommunications, most countries have introduced some competition by private providers in both mobile and fixed services, although foreign providers are often limited in Asia.

State ownership of banking is being reduced, but the allocation of licenses “remains opaque and highly discretionary” (Borchert, Gootiiz and Mattoo 2011, p121).

As to the trend over time, it is clear that developing countries are moving, in general, towards more liberal regimes in services. A large number of developing countries made forward liberalization commitments in the Uruguay Round agreements on Financial Services and Telecommunications with many of the commitments to start in 2000. Later year TPRs confirm the liberalizing trend for most countries.

Table 13: Sectoral Service Trade Restrictiveness Indices (STRI) in Developing Countries

Country	STRI (0 = open; 100 = close)					
	Overall	Financial	Telecom	Retail	Transport	Professional
Argentina	17	10	0	0	22	49
Bangladesh	44	46	63	25	63	35
Benin	..	..	..	..	..	..
Bolivia	14	19	25	0	10	21
Brazil	23	36	0	0	10	58
Cameroon	26	21	0	25	30	43
Chile	23	22	25	25	19	27
China	37	35	50	25	19	66
Colombia	18	25	50	0	4	34
Costa Rica	29	29	38	0	30	60
Cote d'Ivoire	26	14	25	0	31	68
Dominican Rep.	12	3	0	0	22	33
Egypt	52	43	25	50	50	82
El Salvador	..	..	..	..	..	..
Fiji	..	..	..	..	..	..
Ghana	18	25	25	0	6	44
Honduras	21	7	50	0	35	34
Hong Kong, China	..	..	..	..	..	..
India	66	48	50	75	62	88
Indonesia	50	23	25	50	66	76
Jamaica	..	..	..	..	..	..
Kenya	30	23	25	0	31	73
Korea, Rep.	23	2	50	0	21	66
Kuwait	52	42	75	50	50	57
Malawi	34	35	50	25	32	38
Malaysia	46	45	25	25	55	73
Mauritius	17	9	0	0	31	42
Mexico	30	15	38	0	62	43
Morocco	21	14	25	0	28	46
Mozambique	19	17	75	0	6	30
Nepal	43	23	50	25	56	76
Nigeria	27	26	25	25	24	36
Pakistan	28	49	13	0	25	48
Paraguay	16	22	38	0	5	25
Peru	16	42	0	0	3	28
Philippines	54	45	50	50	44	80
Saudi Arabia	43	46	25	25	39	72
Senegal	19	16	25	0	25	37
Singapore	..	..	..	..	..	..
South Africa	35	20	25	25	41	62
Sri Lanka	38	24	50	25	46	57
Taiwan, China	..	..	..	..	..	..
Thailand	48	49	50	25	47	74
Tunisia	45	33	25	25	55	79
Uganda	35	28	25	50	21	38
Uruguay	28	45	63	0	41	11
Venezuela	35	23	25	25	32	69
Viet Nam	42	41	50	50	39	32
Zambia	21	8	75	0	10	44
Zimbabwe	64	56	63	75	68	60
Average	32	28	35	19	33	51
Memo Items:						
EU-20	26	4	0	25	37	54
United States	18	21	0	0	8	54

Note: Data is based on the latest year available from 106 countries in the database.

Source: World Bank, DECTI Service Trade Restrictions database.

Following the Uruguay Round agreements, the situation regarding the formal commitments of developing countries to maintain a liberal services trade regime parallels the situation with respect to tariffs: in both cases the actual policies are far short of the commitments. Except in the case of services the difference is often greater. Table 14 shows that actual policies in developing countries in all major regional groupings restrictive as they may be, are still far more liberal than their commitments—just like applied tariffs are far lower than bindings. As with tariffs, developing countries argue that this is needed to maintain policy flexibility – and the possibility of pursuing other social objectives. But the cost, as with tariffs, is the increased risk of policy change which often inhibits foreign investment.

Table 14: Services Trade Liberalization Commitments by Income Group and Region

Country Group (No. of Co.)	Actual Policies	Overall Offer Improvement		Overall Binding Gap		Total Services Liberalization Commitments at UR	Financial Services (No. of commitments as % of max.)
		(UR Commit - Doha Offer)	As % of UR Commitments	(UR Commit - Actual Policies)	As % of Actual Policies		
INCOME GROUP							
Developed countries (27)	18.0	6.6	18%	18.9	105%	57.8%	..
Developing countries (65)	29.5	5.5	8%	42.6	144%	16.5%	24.0%
High income Developing (7)	38.7	3.7	5%	30.1	78%	18.9%	23.4%
Upper middle income (21)	29.2	8.7	12%	40.5	139%	25.5%	26.4%
Lower middle income (18)	27.8	-2.5	-4%	43.4	156%	14.4%	27.8%
Low income (19)	28.2	..	..	48.8	173%	14.7%	27.6%
Of which: LDCs (13)	27.8	..	..	57.1	206%	3.0%	15.0%
World	21.0	6.4	13%	27.2	130%	21.7%	..
REGION							
OECD (20)	14.0	9.4	46%	13.1	88%	..	..
East Asia (7)	36.8	1.7	3%	26.0	71%	..	..
South Asia (3)	36.0	15.5	18%	47.8	133%	..	..
Latin America (9)	16.6	6.3	10%	48.2	290%	..	..
Other Europe & C. Asia (5)	10.6	5.4	19%	9.8	93%	..	..
Middle East & N. Africa (5)	36.9	3.8	7%	21.2	57%	..	..
Sub-Saharan Africa (6)	16.9	0.7	1%	53.6	318%	..	..

Sources: World Bank Services Trade Restrictions database and Gootize & Mattoo (2009), Services in Doha: What's on the Table?

World Bank PRD Working Paper, no. 4903.

Looking at the pattern of commitments in the UR by the range of commitment and degree of development, a similar pattern develops to that observed in trade policy on goods: the degree of liberalization appears to increase with the level of income -- as shown in Table 14. Lower-income countries appear to have committed to much less liberalization than higher-income ones. The same conclusion can be drawn by looking at the commitments of the fifty developing countries whose trade regimes were analyzed more systematically. Indeed, the pattern in Table 14 has a striking parallel to the pattern in Table 3 above, with the lower the developing country income, the lower the number of commitments and hence the highest the remaining protection. (See also Borchert, Goortiiz and Mattoo 2011, p.123.) The basic justification low-income countries make for not liberalizing their service sector is the same infant industry argument used for so very long in the areas of merchandise trade. There are obvious dangers and limits to such a strategy as many developing countries have realized in the areas of goods. These dangers have to be seriously evaluated by low-income developing countries which continue to protect their service sectors.

On the other hand the table shows that this relationship between the extent of liberalization and the level of development did not hold true for the financial services sector which includes banking and insurance. In this case there is basically no pattern discernible, with most groups of countries liberalizing about a quarter of the maximum possible -- if one weighs partial restrictions in each of the modes of supply. Again the LDCs made the fewest commitments. Only nine of the twenty nine LDC made any commitments. But those which did, on average made greater liberalizing commitments than other developing countries.

Earlier analysis (Mattoo 1998) suggests that in the area of commitments on commercial presence for financial services, Latin American countries tend to limit the number of suppliers, while Asian economies limit either solely the percentage of equity or both equity and the number

of suppliers; and they are both more restrictive than African countries in this respect. This is actually an encouraging sign for African countries, especially if the pattern is repeated for other sectors, because of the implications it has for attracting FDI more generally.

There are no systematic investigations of developed country policy regarding trade in services and the implications of restrictions they impose on potential exports from developing countries. Existing data suggest that their overall policies on service imports are more liberal than those of the developing countries and that the gap between actual policies and Uruguay Round commitments is smaller. But, there is one mode of delivery, the movement on natural persons, in which they tend to be more restrictive than developing countries regardless of the sector. Liberalization in this area would be of considerable benefit to developing countries because of the latter's comparative advantage of providing labor intensive services across all modes of supply. In addition, there is one sector, maritime services, where international competition is extremely limited and there are serious constraints deriving from national legislation that actively discriminate against foreign suppliers.

While some progress has been made regarding the movement of qualified professionals to work abroad, developed country restrictions inhibit increased service earnings for developing countries through this mode of supply. The commitments on trade in services have tended to emphasize measures regulating commercial presence -- which is important for foreign direct investment, rather than 'mode four' involving movement of natural persons.

There are various kinds of restrictions involving, quantitative restrictions on the number of persons that are provided with visas annually. There are also restrictions deriving from the existence of qualification and licensing requirements of professional organizations formally discriminating against foreign qualified professionals. Still other barriers involve wage matching

requirements such as those requiring wages paid to foreigners to be the same as those to nationals or providing for local training.

Also, the commitments made regarding the movement of natural persons have primarily involved intra-corporate transferees and business visitors and, to a lesser extent, independent professionals, including those providing services within a service contract. One of the limitations imposed by a large number of countries is an economic needs test (ENT). This typically involves judgments by government agencies based on non-transparent criteria, as to market conditions, availability of local service providers and so on, regarding which foreign service providers to permit and which not. Indeed of the 54 countries which have made commitments subject to a needs test, only three have stated criteria for the ENT. Frequently, the result is to nullify access commitments involving 'Mode Four' supply of services.

There are many sectors in which developing countries have a comparative advantage, usually based on labor costs, and which can benefit from developed country liberalization, in particular, software development and construction services. The former is an area where developing country exports, for example from India, have been expanding very rapidly in recent periods. A lot of these exports involve on-shore delivery because of the importance of the need for continuous contact between client and programmer. While technological and managerial innovations may result in the share of on-shore delivery to decline, and the increases to come mainly through cross border trade, the increases in software demand from developing countries may be so high as to require continued liberalization of existing limitations in 'Mode Four' restrictions. Similarly, several developing countries, especially in Asia, have the capacity of exporting construction services based on their comparative advantage in labor intensive activities which are constrained by developed country restrictions on 'movement of natural persons'.

In maritime services there are extensive government restrictions in cabotage and cargo handling. At the same time oceans continue to be populated by cartels known as shipping conferences. These cartels set prices and pursue other collusive activities in the substantial portion of maritime services they control and they are often exempted from antitrust law in developed countries (Francois and Wooton, 1999). Their impact in raising transport costs to poorer developing countries, especially to low volume, high distance destinations -- in Africa and poorer island economies can be even more important than further tariff liberalization: shipping margins on merchandise trade in Sub-Saharan Africa exceed 6 percent compared with OECD tariffs (after preferences are taken into account) of less than 2 percent (Francois and Wooton, 1999). Liberalization in this sector, which would lead to increased competition and reduced margin may be of great importance to many of the small economies members of the WTO.

V. THE WORLD SINCE 2008

In October 2008, with the world gripped by financial panic WTO Director General Lamy decided that the WTO Secretariat would monitor trade restrictive measures taken in response to the crisis using the WTO Trade Policy Review Mechanism. In November 2008, just after the US presidential election, leaders of the then new G-20, fearing a repetition of the experience of the great depression and its transmission across frontiers by trade restricting beggar-thy-neighbor policies, promised to refrain from imposing new import barriers, export restrictions and WTO-inconsistent measures. Subsequently the G-20 also promised to minimize the negative impact of stimulus measures on trade and asked the WTO to monitor and publicize the extent to which they adhered to their promises.

In this manner a new reporting system of trade measures taken by both developed and developing has emerged. The WTO has produced a number of reports on new trade restrictive as well as trade liberalizing measures undertaken by WTO members worldwide. Initially, quarterly reports were prepared. In more recent periods they have been produced on a semiannual basis. The sources for the reports are official notifications as well as press stories and third party complaints. The Secretariat attempts to verify each measure and reports, both those that it has been able to verify-- which are the vast majority-- and those it has not (See WTO 2009 and WTO 2012).

In parallel with the WTO a private data base has been developed by Global Trade Alert (GTA), an independent group of experienced analysts who have published regular reports on trade measures: They classify them in three groups: *Green Alerts* are measures that increase liberalization or improve transparency; *Amber Alerts* are measures which have the potential of being discriminatory against trade; and *Red Alerts* which involve measures that discriminate against or restrict trade (Evenett 2009 and 2012).

The novel feature of both sets of reports is that they extend the definition of trade measures far beyond the traditional border actions involving tariffs or other restraints. Both include for example measures that aim to provide general economic stimulus or strengthen the financial system especially as such measures may discriminate against foreign suppliers or banks.

GTA also includes on occasion, but not always, TBT or SPS measures as well as migration measures. In both cases the result may be restrictive—but it is unclear whether the action was justified by a health or other hazard or in the case of migration whether they should be included at all. Similarly giving the same weight to a German ‘Rescue aid scheme for the

manufacturing industry' amounting to a grand total of 5 million Euros for six months and to the US Trade Adjustment Assistance Act which affects tens of millions of workers for years makes a mockery of any quantitative analysis of this information. At the same time there are very few reports on actions that inhibit trade in services.

Both sets of reports suffer from a shortcoming which is also part of their strength: in an effort to be all inclusive they contain a number of notifications which are temporary in nature: for example, as part of the WTO agreement on agriculture, many countries impose seasonal or temporary tariffs on imports of various fruits and vegetables as well as other foodstuffs, which they subsequently reduce: all these show up as trade restrictive or liberalizing measures-although in fact nothing has changed in the underlying policy or regime. The other shortcoming is that they both focus on *changes in policy*, not on the overall policy set—which can be obtained, albeit with some delay only through each country's TPRs.

The number of measures counted by the two sets of reports, as well as their conclusions tend to be similar, though their tone is very different: The GTA reports tend to be far more alarmist while those of the WTO are much more measured (see Wolfe 2011). Since the actual situation has evolved much more in keeping with the WTO reports and because they contain an effort to verify reported measures, they are to be preferred and their findings are used as a basis of the remaining discussion.²⁷

Over the whole period 2008-2012 more than 1000 verified trade measures were reported by the WTO and the GTA. Of these more than 60 percent were trade-restrictive. When these measures are cumulated over time they are estimated to impact about 4 percent of world trade. It is impossible to say how *much* of an impact. Also, note that this 4 percent has not been offset by

the amounts of trade that has benefited from liberalizing measures. For example, a number of the reported 'measures' took the form of termination of anti-dumping measures previously in place.

The actual measures taken in the early part of the period did not appear to have a major impact on trade "to date we have not observed large scale increases in the level of discrimination by major trading states" (Evenett, Hoekman and Cattaneo 2009, p.5). Similarly Messerlin writing in late 2009 cautioned that "evoking a rise in protectionism in April 2009 was premature—still is" (Messelrin 2009, p.25). He goes on to argue that raising the fear of protectionism when few protectionist measures have been taken makes it harder to resist true protectionist measures when they actually materialize. Another writer (Wolf 2011, p.13) concluded that the great collapse of trade in 2008 was not due to any failings in the trading system and 'the amount of trade affected in relation to actual trade flows was trivial'. Dadush *et al* (2011) have similar views.

Finally, it appears that the trend, at least until the end of 2012 was towards greater rather than less liberalization: in the period mid-May 2012 to mid-October 2012, there were more liberalizing measures reported than restrictive ones. This does not mean that all is well in the trading system: a number of countries continued to take additional trade restrictive steps: Argentina has been the chief offender in recent periods resulting in a number of new complaints in the DSM. And in the United States there is an anti-dumping measure – which was supposed to be 'temporary' which has been in place for over forty years.

As in previous years trade remedies are the main restrictive measures reported. In the period between 2007 and 2009, there was an increase of about 25 percent in remedies. The amount of trade affected was only 0.3 of total world trade. And it was directed on developing countries by developing countries; and the focus was on China (Bowen 2010, p.81). Even here the

news was not all bad: In the last two years, anti-dumping investigations have fallen back to levels much lower than before. There were a total of 155 AD investigations reported in 2011, which was the lowest number since 1989! And in the period May-Oct 2012 there were 46 new investigations and other trade restrictive actions but an almost equal number 44 liberalizing ones (WTO 2012). Similarly, there were export restraining actions and a significant number of tariff reductions, especially of capital goods and intermediates by Brazil. But there was no evidence that developed countries were more responsible for trade restrictive measures than developing ones.

In sum, the increasing attention devoted to trade policy is likely to increase awareness and transparency which is a good thing not only in developed but increasingly in developing economies. But care should be taken to focus more explicit attention to specific obviously restrictive measures. Enlarging the scope of the definition of non-tariff measures is not likely to be helpful unless detailed information about the motivation for the measures and the manner in which they are implemented is available. There is no way to inoculate the population against the protectionist virus which infects many with the notion that a specific measure would help “us” against “them” while undermining the health of the whole economy. And in keeping with the theme of the whole study, it is important to look with care at explicit practices in the service sector. It is the most important sector in developed economies and the most rapidly expanding sector of developing ones. Yet the information about recent measures taken by governments that limit competition with foreign providers is very limited.

As this is being written, the future trade environment is clouded by the obvious slowdown in trade during 2012 and weak economic prospects in major economies, including especially the EU but also China and India. So far the experience with increased protection has not been too bad. Whether it will continue in the future remains to be seen.

The other, somewhat disquieting trends, is the increased emphasis being placed on new preferential arrangements especially among major economies as opposed to a serious effort to conclude the Doha multilateral agreement in the WTO. Three major agreements are at various negotiating stages in the first quarter of 2013: (a) a preferential agreement among 46 countries, mostly OECD members but with the participation of a number of developing countries from Asia and Latin America; (b) the Trans-Pacific Partnership (TPP), a preferential trade agreement with major participation from North and South America, Australia, and East Asia, including probably Japan; and an EU-US trade and investment agreement.

VI. CONCLUSIONS

Several policy conclusions have emerged in the last decade that deserve international attention.

First, the traditional developed-developing country issues are becoming far less important by comparison to issues that arise from the emergence of China as a very important low cost supplier of products worldwide.

Second, applied tariffs as well as traditional core non-tariff measures such as non-automatic licensing have declined significantly over time as instruments of protection in both developed and developing countries. But low-income countries tend to have more restrictive merchandise trade regimes.

Third, the means of protection used by developed and developing countries—especially, middle and high-income ones are becoming increasingly similar: trade remedies, especially anti-dumping are becoming the instruments of choice for all except for low-income developing countries.

Fourth, low-income countries have to give the highest priority to strengthening their institutional capacity and address supply constraints. With the exception of agriculture, the main problems they face in international markets are protection in other developing countries rather than in the OECD countries.

Fifth, SPS and TBT are being increasingly used by both developed and developing countries but their protective intent is difficult to gauge. This implies the need for increased vigilance, transparency and reporting to ensure that they are not being used as a means of protection of economic interests as opposed to their original intent.

Sixth, it is quite obvious that liberalization in services has lagged much behind liberalization in goods; and that commitments countries have been willing to make in this sector are even less than in goods. This suggests that the service sectors are the most promising area where efforts for further liberalization may produce results.

Seventh, regional and other partial preferential arrangements are both a cause and a result of the lack of progress in multilateral trade negotiations. But whatever their origin and motivation they violate the basic WTO tenet of MFN and thus pose both a potential threat to the multilateral system and a potential stimulus to further multilateral collaboration.

APPENDIX A

COUNTRY GROUPINGS

There is no formal ‘developing country’ definition in any of the major international organizations such as the World Bank or the World Trade Organization. The former uses for statistical purposes a per capita income grouping which does not distinguish between developed and developing countries which is used in part in this analysis. The WTO has no official breakdown of developed versus developing countries. For operational purposes ‘developing’ countries use the principle of self selection. The breakdown between developed and developing countries used in this analysis follows roughly the breakdown used by the WTO for statistical purposes with a few changes to be noted below.

Developed countries in our analysis include 47 countries in all of Europe (including Belarus, Kazakhstan, Russia and Ukraine, but not Armenia, Azerbaijan, Georgia, or Moldova), Australia, Canada, Israel, Japan, New Zealand, Turkey and the US. This is pretty close to the WTO definition with the exception that South Africa, which the WTO classifies as ‘developed’ in our case is in the developing country group—while Turkey, classified by WTO as developing is in our analysis with the developed—as it is applying for association with the EU. Also, Armenia, Georgia and the Kyrgyz Republic classify themselves in the WTO as ‘transition’ economies- a category that had been used in the past but which is of doubtful usefulness in this analysis. All three countries are classified as ‘developing’ as is Moldova, Tajikistan, Turkmenistan and Uzbekistan.

All remaining countries and territories are considered developing. For merchandise trade, the analysis has data for 145 countries. 46 are in Sub-Sahara Africa, 42 in Asia, 35 in Latin

America and Caribbean, and 22 in Europe, Middle East and North Africa. The latter region includes the five North Africa countries (Morocco, Algeria, Tunisia, Libya and Egypt) and stretches all the way East to include Iraq and Iran (but not Afghanistan -- which is in Asia). It also includes Armenia, Azerbaijan, Georgia and Moldova. Far less service data are available for developing countries. In this case our analysis includes information for 132 developing countries, 46 in Sub-Sahara Africa, 33 in Latin America and the Caribbean, 33 in Asia, and 20 in Europe, Middle East and North Africa.

OPEC consists of 12 members as follows: Algeria, Angola, Ecuador, Libya, Nigeria, Iran, Iraq, Venezuela, Kuwait, Qatar, Saudi Arabia, United Arab Emirates.

The income level analysis uses the same definition for developed countries as above. Developing and transition economies are then grouped into five categories using basically the World Bank definitions of groupings and per capita income in 2012 for 192 economies/countries, except that the Least Developed countries (LDCs) which are the 48 countries in the UN list are shown as a separate category; Low-income countries -- those with per capita income less than \$1,025 (except the LDCs); lower middle-income, \$1,026-4,035; upper middle-income, \$4,036-12,475; and high-income, \$12,476 or more. (See details in Appendix Table A.1.)

For merchandise trade sectoral breakdown data are available for 161 countries from UN COMTRADE with 42 LDCs (6 LDCs are missing data); but information for service sectors is available for 173 countries in 2010, only 46 for developed countries and 127 for developing economies. Similarly, the low-income group includes 22 countries for merchandise trade but 32 for services. The number of developing countries in the other groups is as follows: lower middle-income: 41 for merchandise trade and 44 for services; upper middle-income, 34 and 37 and; high-income, 17 and 14 respectively.

Appendix Table A.1: Classification of Country Groups

Developed Economies (48)	High Income Developing Econ (20)	Upper Middle Income Developing Econ (39)	Lower Middle Income Developing Econ (54)	Low Income Developing Econ (34)	Least Developed Economies (48)	WTO TPR Developing Economies (50)	OPEC Member Counties (12)
Albania	Aruba	Algeria	Angola	Afghanistan	Afghanistan	Argentina	Algeria
Andorra	Bahamas, The	Antigua and Barbuda	Armenia	Bangladesh	Angola	Bangladesh	Angola
Australia	Bahrain	Argentina	Belize	Benin	Bangladesh	Benin	Ecuador
Austria	Barbados	Azerbaijan	Bhutan	Burkina Faso	Benin	Bolivia	Iran, Islamic Rep.
Belarus	Bermuda	Botswana	Bolivia	Burundi	Bhutan	Brazil	Iraq
Belgium	Brunei Darussalam	Brazil	Cameroon	Cambodia	Burkina Faso	Cameroon	Kuwait
Bosnia and Herzegovina	Equatorial Guinea	Chile	Cape Verde	Central African Rep.	Burundi	Chile	Libya
Bulgaria	French Polynesia	China	Congo, Rep.	Chad	Cambodia	China	Nigeria
Canada	Hong Kong SAR, China	Colombia	Cote d'Ivoire	Comoros	Central African Rep.	Colombia	Qatar
Croatia	Korea, Rep.	Costa Rica	Djibouti	Congo, Dem. Rep.	Chad	Costa Rica	Saudi Arabia
Cyprus	Kuwait	Cuba	Egypt, Arab Rep.	Eritrea	Comoros	Cote d'Ivoire	United Arab Emirates
Czech Republic	Macao SAR, China	Dominica	El Salvador	Ethiopia	Congo, Dem. Rep.	Dominican Rep.	Venezuela, RB
Denmark	New Caledonia	Dominican Rep.	Fiji	Gambia, The	Djibouti	Egypt, Arab Rep.	
Estonia	Oman	Ecuador	Georgia	Guinea	Equatorial Guinea	El Salvador	
Finland	Qatar	Gabon	Ghana	Guinea-Bissau	Eritrea	Fiji	
France	Saudi Arabia	Grenada	Guatemala	Haiti	Ethiopia	Ghana	
Germany	Singapore	Iran, Islamic Rep.	Guyana	Kenya	Gambia, The	Honduras	
Greece	Taiwan, China	Jamaica	Honduras	Kyrgyz Republic	Guinea	Hong Kong SAR, China	
Hungary	Trinidad and Tobago	Jordan	India	Liberia	Guinea-Bissau	India	
Iceland	United Arab Emirates	Lebanon	Indonesia	Madagascar	Haiti	Indonesia	
Ireland		Libya	Iraq	Malawi	Kiribati	Jamaica	
Israel		Malaysia	Kiribati	Mali	Lao PDR	Kenya	
Italy		Maldives	Kosovo	Mozambique	Lesotho	Korea, Rep.	
Japan		Mauritius	Lao PDR	Myanmar	Liberia	Kuwait	
Kazakhstan		Mexico	Lesotho	Nepal	Madagascar	Malawi	
Latvia		Namibia	Marshall Islands	Niger	Malawi	Malaysia	
Lithuania		Palau	Mauritania	Rwanda	Mali	Mauritius	
Luxembourg		Panama	Micronesia, Fed. Sts.	Sierra Leone	Mauritania	Mexico	
Macedonia, FYR		Peru	Moldova	Somalia	Mozambique	Morocco	
Malta		Seychelles	Mongolia	Tajikistan	Myanmar	Mozambique	
Montenegro		South Africa	Morocco	Tanzania	Nepal	Nepal	
Netherlands		St. Kitts and Nevis	Nicaragua	Togo	Niger	Nigeria	
New Zealand		St. Lucia	Nigeria	Uganda	Rwanda	Pakistan	
Norway		St. Vincent & Grenadines	Pakistan	Zimbabwe	Samoa	Paraguay	
Poland		Suriname	Papua New Guinea		Sao Tome & Principe	Peru	
Portugal		Thailand	Paraguay		Senegal	Philippines	
Romania		Tunisia	Philippines		Sierra Leone	Saudi Arabia	
Russian Federation		Uruguay	Samoa		Solomon Islands	Senegal	
Serbia		Venezuela, RB	Sao Tome & Principe		Somalia	Singapore	
Slovak Republic			Senegal		Sudan	South Africa	
Slovenia			Solomon Islands		Tanzania	Sri Lanka	
Spain			Sri Lanka		Timor-Leste	Taiwan, China	
Sweden			Sudan		Togo	Thailand	
Switzerland			Swaziland		Tuvalu	Tunisia	
Turkey			Syrian Arab Rep.		Uganda	Uganda	
Ukraine			Timor-Leste		Vanuatu	Uruguay	
United Kingdom			Tonga		Yemen, Rep.	Venezuela, RB	
United States			Turkmenistan		Zambia	Vietnam	
			Tuvalu			Zambia	
			Uzbekistan			Zimbabwe	
			Vanuatu				
			Vietnam				
			Yemen, Rep.				
			Zambia				

Note: The classification of income country groups is based on GNIPC in World Bank WDI 2012 that high income is \$12,476 or more, upper middle income is \$4,036-12,475, lower middle income is \$1,026-4,035, and low income is \$1,025 or less.

APPENDIX B

METHODOLOGY IN ESTIMATING FREQUENCY RATIOS

The TPR data permitted us to estimate frequencies, in the applications of these non-tariff measures at the Harmonized System (HS) 2-digit level involving 97 product categories. Thus, the frequency ratios (f) calculated from the TPR relate to the proportion of HS2 product categories out of the total which is affected by a particular measure. The weakness of this indicator is that it gives equal weight to the presence of a measure in a country that could affect only one or a few lines in an HS2 category, for example HS72, Iron and Steel, with the presence of the same measure in another country which affects a large number of tariff lines or, for example all steel products.

Formally, let N_{qm} be a non-tariff measure imposed by country m on a product or group of products Q_m . Then the frequency ratio is measured as

$$f_{nm} = \Sigma N_{qm} / \Sigma Q_m$$

Where Q_m is the total number of products, measured in total tariff lines or product groups. Thus, for the calculation of (f), using the HS2 product breakdown employed in most of the analysis for the $Q_m = 97$. Where tariff line information was available, as for example in the case of tariff quotas for the calculation of (f'), a standard HS 6- digit tariff line classification of approximately 5200 lines was used.

It may appear at first glance, that f would always be larger than f' . This is not the case, however. The two different frequency ratios show different aspects of a country's trade regime: if a specific non-tariff measure involves a large number of tariff lines concentrated in one or two groups of products, f may be smaller than f' ; the converse will be the case if a particular measure

applies to a few products in a large number of groups. A simple example from one of the countries, Thailand, in which tariff line and broader category measures are available for the same year, can be used to illustrate this point: In 1997 Thailand applied non-automatic licensing on a total of 25 product categories, involving 713 tariff lines. In this case, $f = \Sigma N_{qm} / \Sigma Q_m = 25 / 97 = 26\%$ while $f^* = 713 / 5200 = 14\%$. For the same year, Thailand's prohibitions were concentrated in 6 product categories involving 613 tariff lines. In this case, the computations are as: $f = 6 / 97 = 6\%$ while $f^* = 613 / 5220 = 12\%$.

Appendix Table B.1: Average Preferential Tariffs (GSP) of Major Sectors in OECD Markets by Exporter in 2010

Country Group	Importer (OECD Markets) GSP Rate (Simple Average of %)											
	Canada			European Union			Japan			United States		
	All gds	Agric gds	Indus gds	All gds	Agric gds	Indus gds	All gds	Agric gds	Indus gds	All gds	Agric gds	Indus gds
BY INCOME LEVEL												
Developed economies	1.9	1.9	2.0	0.5	2.3	0.4	2.8	4.5	2.0	0.8	1.0	0.7
Developing economies	0.2	0.3	0.2	0.7	1.5	0.6	2.0	3.9	1.4	0.7	2.0	0.6
High income Developing	0.1	0.2	0.0	1.2	3.6	1.1	2.5	7.2	2.4	0.6	0.3	0.6
Upper Middle income	0.0	0.1	0.0	0.8	1.8	0.7	2.8	5.7	1.9	0.5	0.9	0.3
Lower Middle income	0.0	0.0	0.0	0.7	1.3	0.7	2.3	3.8	1.4	0.9	2.1	0.7
Low income	0.0	0.0	0.0	0.3	0.3	0.2	0.4	0.5	0.4	0.9	4.1	0.6
Of which: LDCs	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.4	0.7	2.4	0.4
BY REGION												
World	0.2	0.3	0.2	0.7	1.5	0.6	2.0	3.8	1.4	0.7	2.0	0.6
Developing economies	0.0	0.0	0.0	0.7	1.4	0.6	2.0	3.8	1.3	0.7	2.1	0.6
Asia	0.0	0.0	0.0	1.6	2.1	1.6	1.7	3.0	0.9	1.0	3.9	0.9
Latin America & Caribbean	0.0	0.1	0.0	0.4	0.9	0.4	3.3	4.7	2.3	0.6	1.0	0.5
Europe, Middle East & N. Africa	0.0	0.0	0.0	1.0	3.8	0.9	2.4	5.9	2.0	0.8	1.1	0.7
Sub-Saharan Africa	0.0	0.0	0.0	0.1	0.4	0.1	1.1	2.8	0.8	0.6	2.6	0.3
Memo:												
No. of total countries/econ. received pref. tariffs	69	57	69	146	144	145	125	88	114	153	111	153

Note: Empty space indicates data not available or no GSP rate.

Source: Based on UNCTAD TRAINS databases through WITS.

Appendix Table B.2: Antidumping Initiations and Measures by Developing Country, 1995-2011

Country (No. of Countries)	Antidumping by Exporting Country								Total ** Product
	No. of Cases				No. of Measures				
	Total	1995-01	2002-06	2007-11	Total	1995-01	2002-06	2007-11	
Argentina	35	13	14	8	19	8	5	6	1,075
Bangladesh	2	1	0	1	2	1	0	1	..
Brazil	114	64	28	22	82	47	23	12	541
Chile	29	19	6	4	18	9	7	2	35
China	853	265	281	307	630	182	201	247	378
Colombia	5	4	1	0	2	2	0	0	196
Costa Rica	2	2	0	0	..	..	..	..	10
Côte d'Ivoire	..	..	..	..	..	..	..	..	..
Dominican Republic	3	1	0	2	1	0	1	0	1
Egypt	12	10	2	0	5	4	0	1	69
El Salvador	3	0	0	3	..	..	..	..	..
Honduras	1	1	0	0	1	1	0	0	3
Hong Kong, China	28	16	6	6	16	8	4	4	..
India	155	70	58	27	94	39	37	18	1,465
Indonesia	165	79	51	35	101	33	40	28	288
Jamaica	..	..	..	..	..	..	..	..	15
Kenya	2	0	0	2	..	..	..	..	..
Korea, Republic of	284	148	87	49	171	77	66	28	336
Kuwait	2	0	0	2	1	0	0	1	..
Malawi	1	1	0	0	1	1	0	0	..
Malaysia	104	36	38	30	65	21	22	22	59
Mexico	55	28	12	15	32	16	10	6	1,685
Morocco	..	..	..	..	..	..	..	..	..
Mozambique	1	1	0	0	..	..	..	..	..
Nepal	2	2	0	0	2	0	2	0	..
Nigeria	1	0	1	0	1	0	1	0	..
Pakistan	13	5	5	3	6	3	3	0	294
Paraguay	2	1	0	1	3	2	0	1	2
Peru	4	2	0	2	1	0	0	1	379
Philippines	12	4	7	1	7	2	5	0	51
Saudi Arabia	24	10	5	9	10	4	2	4	..
Singapore	46	23	19	4	32	6	17	9	2
South Africa	60	36	18	6	40	19	15	6	460
Sri Lanka	5	0	1	4	2	0	1	1	..
Taipei, Chinese	211	96	75	40	140	57	49	34	172
Thailand	164	72	49	43	109	41	36	32	318
Tunisia	..	..	..	..	..	..	..	..	..
Uruguay	4	2	1	1	3	1	1	1	12
Venezuela	20	14	4	2	12	8	4	0	94
Viet Nam	30	3	15	12	22	3	9	10	..
Zimbabwe	2	2	0	0	1	1	0	0	..
Total above countries (41)	2,456	1,031	784	641	1,632	596	561	475	7,940
Memo Items									
Developed countries (45)	1,470	855	371	244	931	510	293	128	21,016
Other developing co. (21)	84	37	19	28	38	11	21	6	37
All countries (107)	4,010	1,923	1,174	913	2,601	1,117	875	609	28,993

Note: ** Total products affected by antidumping are based on number of products on raw data files at HS 6-, 8-, 9-, 10-digit level or mixed together in the exporting or reporting countries.

Sources: WTO Antidumping database and Bown, C (2012), Temporary Trade Barriers (TTB) database (product data).

Appendix Table B.3: Antidumping, Countervailing and Safeguard Measures by Reporting Developed Country, 1995-2011

Country	Antidumping		Countervailing		Safeguard		Total AD+CV+SG	
	No. of Msre 1995-2011	Total Affected Products **						
Australia	89	857	4	34	..	..	93	891
Bulgaria	..	..	..	..	2	35	2	35
Canada	96	3,947	17	417	..	..	113	4,364
Czech Republic	1	..	..	..	5	90	6	90
European Union	282	2,879	30	238	3	518	315	3,635
Hungary	..	..	..	..	3	57	3	57
Japan	7	10	1	3	..	..	8	13
Latvia	2	..	1	1	2	108	5	109
Lithuania	7	..	..	..	1	1	8	1
New Zealand	24	216	4	5	..	..	28	221
Poland	9	..	..	..	4	171	13	171
Slovak Republic	..	..	..	..	2	4	2	4
United States	305	12,055	73	10,757	6	644	384	23,456
Memo Items:							0	0
Israel	22	105	2	2	1	4	25	111
Turkey	145	894	1	3	13	53	159	950
Ukraine	28	..	..	..	2	43	30	43

Note: ** Total products affected by AD, CV, and SG are based on number of products on raw data files at HS 6-, 8-, 9-, 10-digit level or mixed together in reporting countries.

Sources: WTO Antidumping database and Bown, C (2012), Temporary Trade Barriers (TTB) database (product data).

Appendix Table B.4: Antidumping Investigations by Initiating v.s. Exporting Country, 1995-2011

Against	By -->	All Countries (46)	Developed Countries (15)	Developing Countries (31)
Numbers of Antidumping Initiations				
All Countries (102)		4,010	1,609	2,401
Developed Countries (45)		1,470	589	881
Developing Countries (57)		2,540	1,020	1,520
Of which: China		853	360	493
Percentages of Antidumping Initiations by Affected Co.				
All Countries (102)		100.0	40.1	59.9
Developed Countries (45)		100.0	40.1	59.9
Developing Countries (57)		100.0	40.2	59.8
Of which: China		100.0	42.2	57.8
Percentages of Antidumping Initiations by Exporter				
All Countries (102)		100.0	100.0	100.0
Developed Countries (45)		36.7	36.6	36.7
Developing Countries (57)		63.3	63.4	63.3
Of which: China		21.3	22.4	20.5
Percentage of Export Share by Exporter				
All Countries (102)		100.0	100.0	100.0
Developed Countries (45)		69.2	75.4	53.3
Developing Countries (57)		30.8	24.6	46.7
Of which: China		4.4	3.6	6.4
Ratio of Antidumping Initiations to Export Share				
All Countries (102)		1.0	1.0	1.0
Developed Countries (45)		0.5	0.5	0.7
Developing Countries (57)		2.1	2.6	1.4
Of which: China		4.8	6.2	3.2

Sources: WTO antidumping database and UN COMTRADE data (trade).

ENDNOTES

¹ With the exception of Vietnam.

² For a list of the countries see Appendix A

³ The GATT/WTO published findings of TPRs, conducted on a regular basis since the beginning of the 1990s, are a useful source of information regarding the evolution of developing country policies (Cadot, Malouche and Saez 2012, p.12). The main objective of the review mechanism is to 'contribute to improved adherence by all WTO Members to rules, disciplines and commitments under the Multilateral Trade Agreements by achieving greater transparency and understanding of the trade policies and practices of members' (WTO, 1995, p.434). The reviews contain detailed information on policies and institutions affecting both imports and exports on a consistent basis over time. All this information has been reviewed and discussed by the countries in question and the WTO Members (and previously, the GATT Contracting Parties) and can therefore be considered accurate and authoritative. While various aspects of the reviews could be strengthened, (Keesing, 1998), there is little dispute over the accuracy of the information they provide.

⁴ The simple arithmetic average should be interpreted with care: the data refer to different years in each of the decades. Some rates may have also increased since the data were collected.

⁵ These estimates have been obtained from the UNCTAD/World Bank NTM data base.

⁶ Table 11 suggests that the product groups which is the focus of anti-dumping actions, both in developed and developing countries tend to be somewhat similar and include especially basic metals and chemicals.

⁷ It should be recalled however, as part of the URA and previous negotiations, there were significant reductions in tariffs on horticultural and floricultural products of interest to developing countries.

⁸ Bown's country classification differs from the one presented in this paper as he treats Turkey as a developing country and Korea and Taiwan, China as developed thus making overall comparisons between 'developed' and 'developing' countries' averages difficult.

⁹ Based on the UNCTAD/World Bank NTM data base. It was estimated at 28 percent at the HS 2-digit level in Michalopoulos (2001).

¹⁰ See Noguez *et al*, 1986 and OECD, 1997 on the definition of 'core' non-tariff measures.

¹¹ The results of this methodologically innovative study are based on earlier data, tariffs 2001-2004 and NTBs in the 1990s; unfortunately the NTB data used are not reliable (see Michalopoulos 2001).

¹² Given that EAC has few formal NTMs, the NTMs reported for Kenya in Table 8 may well be of the administrative kind reported in the TPR.

¹³ “The Plant Health Service (PHS) has 165 inspectors based at 28 entry points (out of 51). However, most entry post are poorly equipped for pest inspection, staff often do not have specific training in phytosanitary matters and have little or no direct communication with PHS headquarters. Hence pest surveillance capacity is severely constrained.”

¹⁴ The broad theoretical point is covered in the so called Lerner symmetry theorem on the equivalence of import and export taxes (Lerner, 1936).

¹⁵ Just like the estimates of non-automatic licensing affecting imports, the analysis has attempted to exclude licensing which the authorities state they undertake in order to meet health, environmental and safety standards, national security reasons.

¹⁶ The only economies in which such a program was not reported to exist were Hong Kong SAR, China (which has no import duties), three African countries (Benin, Cameroon, Ivory Coast) and the Dominican Republic, where the export incentives focus on the EPZ.

¹⁷ Reportedly Japan did not finish implementing its commitments until 2009 (Japan TPR, 2011).

¹⁸ See Article 15 of the UR Agreement on the Procedures for Implementation of GATT Article VI.

¹⁹ The EU advanced from January 1, 1997 to January 1, 1996 its schedule of implementation of the third stage of tariff reductions for most non-agricultural products as part of its compensation for the EU enlargement through the accession of Austria, Finland and Sweden (WTO, TPR, European Union, 1997, p.15).

²⁰ With the exception of the ‘Peace Clause’, under Article 13, , a provision which expired in 2003 and which had constrained members from taking action under the DSM in connection with their commitments on domestic support, market access and export subsidies in agriculture

²¹ Some writers speak of ‘mega-tariffs’ for tariff lines in excess of 100 percent. According to one report, in agriculture alone the US has 24 mega-tariffs, the EU 141 and Japan 142

²² These are estimates reported in UNCTAD/WTO, 1997 and UNCTAD, 1997. It is difficult to estimate accurately the ad valorem tariff equivalents for many agricultural commodities where tariffication involves the adoption of specific duties often combined with quotas.

²³ There is a major effort currently undertaken by the World Bank in co-operation with UNCTAD and WTO. The UNCTAD TRAINS data base has been in place for some time but it is not considered reliable and complete.

²⁴ The special safeguards against China are supposed to expire in 2013.

²⁵ See TPRs for EU (2004), US (2004), Canada (2004).

²⁶ Caution should be used in reaching conclusions based on the evolution over time of the trade weighted share of trade remedies excluding oil. This share depends very much on the dependence of a country on oil imports—which in the US has declined over this period.

²⁷ The GTA reports suffer from some additional shortcomings noted in (Wolf, 2011).

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