

Barriers to prosperity – developing countries and the need for trade liberalisation

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Contents

Executive summary	4
Introduction	6
Tropical Beverages: Exports and Tariffs by Processing Level	9
Tariff Escalation	12
Non-Tariff Barriers	16
Conclusions and policy implications	23
References	24

Executive summary

- Non-tariff barriers are an important impediment to trade for less developed countries. Such barriers can be very high on both processed and unprocessed agricultural products. These barriers include:
 - o EU rules of origin and rules relating to traceability.
 - o The combination of these rules with preferential trade agreements which becomes more onerous as the degree of processing increases.
 - o Health and safety regulations.
 - o Labelling schemes such as fair trade and organic.
 - o Environmental standards, such as those relating to palm oil exports.
 - o Both export and import procedures imposed by developing countries themselves: for example, exporting in India involves 12 separate processes.
- Non-tariff barriers need to be brought to the forefront of the trade debate if developing countries are to move into the export of higher value added products.
- Currently, developing countries have a low share of exports of final processed products which normally have a higher value added than primary agricultural products. For example, developing countries account for 91 per cent of raw coffee exports but only 3 per cent of processed coffee exports.
- This situation is frequently blamed on developed countries applying trade barriers and escalating tariffs on processed commodities.
- However, there is little truth in this allegation, at least in relation to the important commodities of coffee, tea and cocoa. However, tariffs barriers do exist in relation to other commodities such as cotton, rice and so on.
- Not only are tariff barriers close to zero on coffee, tea and cocoa, there is also very little tariff escalation – that is the level of tariffs on processed products is not significantly greater than the level of tariffs on unprocessed products. Japan is the only major exception to this general pattern.
- On the other hand, tariff barriers between developing countries themselves can be very high. For example, tariffs on roasted coffee are 71 per cent in Mexico and 99 per cent in India. There is, however, little evidence of tariff escalation on trade between developing

countries: tariffs are often very high on both processed and unprocessed agricultural products.

- There may well be important tariff barriers with regard to higher degrees of processing of more complex products (such as chocolate). These are especially prevalent in product lines where there is competition between developed and under-developed countries or where developed countries produce some of the ingredients for these products (for example, milk and sugar for chocolate).
- Non-tariff barriers are often home grown within developing countries themselves. The experience of trade reform suggests that the benefits from their removal will mainly flow to developing countries. Non-tariff barriers must therefore be a clear priority in future trade policy and in domestic policy making in poor countries.

Introduction

While developing countries (DCs) are the major producers of primary agricultural products in their raw or semi-processed form developing countries do not dominate export markets. Developed countries account for about two-thirds of total world agricultural exports: see Table 1.

Period	Total world agricultural exports (annual average, \$billion)	Composition of total world agricultural exports (annual average, \$billion)		Share in total world agricultural exports (%)	
		Developing countries ¹	High income countries ²	Developing countries	High income countries
1980-89	238.87	72.58	166.29	30.4	69.6
1990-99	395.95	110.56	285.39	27.9	72.1
2000-09	665.65	220.96	444.68	33.2	66.8

Source: Averages based on data from TradeSTAT; FAO Statistical Yearbook (2007-08, 2010)

Notes:

1. Developing countries include 136 countries that belong to low and middle income categories as defined by the World Bank based on 2010 GNI per capita: low income is defined as \$1,005 or less; lower middle income, \$1,006 - \$3,975 and upper middle income, \$3,976 - \$12,275.
2. High income countries include 48 countries that belong to the high income category (\$12,276 or more), of which 31 are OECD members.

An important reason for DCs low share in total world agricultural exports is their low share in world exports of agricultural processed (or final) products. Table 2 shows that agricultural processed product exports constitute 41 per cent of total world agricultural exports, of which the share of high income countries is 72 per cent. DCs primarily specialise in exports of agricultural primary products while industrial countries specialise in processed products. A question relevant from the policy perspective “is why have DCs failed to increase their exports of agricultural processed products thereby moving up the value chain?”

Period	Total world exports of agricultural final products		Composition of world exports of agricultural final products (\$billion)		Share in the world exports of agricultural final products (%)	
	Value (\$billion)	Share in total agricultural exports %	Developing countries	High income countries	Developing countries	High income countries
1990-91	107.58	32.6	19.88	87.69	18.5	81.5
2000-01	157.77	37.3	37.14	120.63	23.5	76.5
2006-07	333.38	40.8	92.36	241.02	27.7	72.3

Source: Computations based on data from FAO Stat and Aksoy and Ng, 2010

The importance of improving market access for agricultural processed exports and encouraging DCs diversification into higher value-added production has been widely discussed (Diaz-Bonilla and Reza, 2000; Daviron and Ponte, 2005; Antimiani et al. 2009). Tariff escalation has been highlighted as a market access barrier that limits the ability of DCs to expand exports of their agricultural processed products (Cobban, 1988; Rae and Josling, 2003; Elamin and Khaira, 2004). Tariff escalation involves tariff rates that increase with the degree of processing. Tariff escalation has been raised as one of the important market access issues in the WTO negotiations on agriculture. Thirteen out of the 45 country negotiating proposals submitted in the context of the WTO negotiations on agriculture, asked for a substantial reduction in tariff escalation (UNCTAD, 2003).

This pattern of protection provides high rates of effective protection for developed countries' processing sectors and inhibits the expansion of such activities in DCs. Studies show that that import demand elasticities normally increase with processing, so lowering agricultural tariffs will have relatively larger trade effects on processed than on unprocessed products (Elamin and Khaira, 2004). However, there are some that do not perceive tariff escalation as a major market access barrier and suggest that, in the context of other trade distorting measures, tariff escalation does not appear to be a general problem across a wide range of agricultural products and markets (WTO, 2003).

This paper uses a case study of coffee, tea and cocoa - three main tropical beverage agricultural products – to examine whether tariff escalation constitutes a market access barrier that thwarts the diversification efforts of DCs into higher value added agricultural processed exports.¹ The paper also evaluates the non-tariff barriers faced by DC's agricultural processed exports. Our analysis shows that it is not tariff escalation but non-tariff barriers in developed countries as well as in developing

¹ We choose these products because they are the world's biggest trading commodities and are predominantly produced in DCs and constitute a very large share of their exports. For example, coffee is the developing world's second biggest trading commodity after petroleum, with 80 per cent of total output being exported (Russell et al., 2012).

countries themselves that limit the latter's ability to diversify into agricultural processed exports.

Of course, there are many other important issues in trade policy. According to Anderson *et al.* (2005), 63 per cent of the global gains from the complete liberalisation of trade would arise from the liberalisation of agriculture. This is remarkable, because agriculture accounts for only about nine per cent of the global merchandise trade and four per cent of global GDP. Furthermore, most of the gains accrue to the liberalising region itself.

The paper is organised as follows: the next section presents DCs tropical beverage exports by level of processing and the tariffs that are applied to them by selected developed and developing countries; the following section examines tariff escalation in tropical beverages and discusses implications for DCs agricultural processed product exports; we then examine non-tariff barriers and how these can potentially inhibit processed exports from DCs. We then conclude with policy implications.

Tropical Beverages: Exports and Tariffs by Processing Level

Table 3 reports developed and DCs' exports of tropical beverages by the level of processing for the year 2010.²

Period	Total world exports of agricultural final products		Composition of world exports of agricultural final products (\$billion)		Share in the world exports of agricultural final products (%)	
	Value (\$billion)	Share in total agricultural exports %	Developing countries	High income countries	Developing countries	High income countries
1990-91	107.58	32.6	19.88	87.69	18.5	81.5
2000-01	157.77	37.3	37.14	120.63	23.5	76.5
2006-07	333.38	40.8	92.36	241.02	27.7	72.3

Source: Computation based on trade data obtained from Trade Map (www.trademap.org) of the International Trade Centre (ITC) as accessed on 12-11-11; ITC figures are based on COMTRADE statistics.

Notes:

1. The data aggregated are mirror and direct data.
2. For countries that do not report trade data to United Nations, ITC uses the partner country data as mirror data. Mirror data is better than no data at all but there are a number of shortcomings. They do not cover trade with other non-reporting countries and invert the reporting standards by valuing exports in cif terms and imports in fob terms.
3. Developed countries include 39 developed market economies and Developing countries include 189 developing market economies. See Trade Map (ITC) for details.

The share of developed countries in world exports of roasted coffee is 98.6 per cent in 2010 despite the fact that almost no coffee is produced in developed countries.³ In the case of cocoa, the share of DCs in world exports of cocoa beans is 93.0 per cent, while the share in world exports of cocoa powder is about 40 per cent. Similarly, developed countries have a higher share in the world exports of processed tea. This suggests that, though DCs are the main producers of coffee, tea and cocoa in primary form, the bulk of the processing for manufacture of roasted or instant coffee, packaged tea, cocoa butter and cocoa powder is done in more developed countries. This deprives DCs of the

² See Appendix 1 for product description.

³ The EU is the largest re-exporter of coffee followed by the US and Japan (ICO, 2010).

advantages of moving up the global value chain (Diaz-Bonilla and Reza, 2000).

Table 4 reports applied simple tariff averages in selected developed and DCs for tropical beverage products at different processing (primary and processed) levels; figures in parenthesis in the table report final bound tariffs. The applied tariffs take into account tariff quotas (based on the in or out of quota tariff, depending on which one is binding), free trade areas and preferential regimes for each product. Tariffs applied on tropical beverage products are generally low or zero in all developed countries except Japan. Developed country tariffs are not the cause of low export levels from DCs in these product lines.

On the other hand, tariffs applied by DCs are generally high across all products and levels of processing. A possible explanation for very high tariffs on tea and coffee in India is the desire to try to “protect” the domestic industry in east and south India from competitive exporters such as Indonesia, Sri Lanka, Brazil and Vietnam.

Broad product group	Coffee		Black tea		Cocoa		
	Not roasted	Roasted	In packages > 3 kg	In packages < 3 kg	Beans	Butter, fat and oil	Powder, no added sugar
Developed countries							
Australia	0(1)	0(0)	0(0)	0(0)	0(1)	0(0)	0(0)
Canada	0(0)	0(1)	0(0)	0(0)	0(0)	0(0)	2(6)
EU	0(0)	1(8)	0(0)	0(0)	0(0)	1(8)	1(8)
Japan	0(0)	8(12)	5(7)	10(14)	0(0)	0(0)	8(13)
US	0(0)	0(0)	0(0)	0(0)	0(0)	0.3(0.3)	0(0.10)
Developing Countries							
Argentina	9 (35)	10 (35)	10 (35)	10 (35)	9 (35)	11 (35)	13 (35)
Brazil	10 (35)	9 (35)	10 (35)	10 (35)	9 (35)	11 (35)	13 (35)
China	13 (8)	22 (15)	24 (15)	24 (15)	5 (8)	26 (22)	17 (15)
Colombia	9 (70)	13 (70)	9 (70)	13 (70)	10 (70)	9 (70)	9 (70)
India	97 (100)	97 (150)	99 (150)	99 (150)	29 (100)	30 (100)	29 (150)
Indonesia	5 (47)	5 (40)	5 (40)	5 (50)	5 (40)	9 (40)	9 (40)
Iran	13 (NA)	22 (NA)	30 (NA)	50 (NA)	17 (NA)	17 (NA)	28 (NA)
Mexico	20 (36)	71 (72)	18 (25)	18 (25)	14 (37)	14 (37)	19 (37)
Pakistan	10 (100)	10 (100)	10 (150)	10 (150)	5 (100)	5 (100)	5 (100)
Sri Lanka	30 (50)	30 (50)	30 (50)	30 (50)	30 (50)	30 (50)	30 (50)

Source: Based on average tariff data obtained from Market Access Map (www.macmap.org) of the International Trade Centre (ITC) as accessed on 13/11/2011.

Notes:

1. Tariffs reported are ad-valorem equivalents (AVE), expressed in percentage, as defined in <http://www.macmap.org/Glossary.aspx> (rounded off to the nearest whole number)
2. Figures in parenthesis represent bound tariff rates. Bound tariffs reported are from the consolidated tariff schedule of WTO and may not represent the MFN tariff. NA stands for not-available.

Tariff Escalation

In agricultural trade, tariff escalation refers to zero or low tariff rates on primary products that increase with the degree of processing of the products such that the price of value-added imports relative to raw products increases. Tariff escalation is of particular relevance to DCs that are the main producers and exporters of agricultural products as it produces a trade bias against their agricultural processed products exports. The increases in nominal and effective duties from lower to higher stages of transformation create a discrimination against the processed exports.⁴

Past studies confirm the widespread incidence of tariff escalation in agricultural products both in developed and DCs. The FAO (2004) study reports that the highest incidence of tariff escalation is in meat, sugar, fruit, coffee, cocoa, skins and leather. Cernat et al. (2002) report that escalation in tariffs is a major problem for products exported mostly by DCs. Doanh and Kee (2007) compare trade barriers between Vietnam and Thailand in East Asia and report the use of cascading tariff structures and tariff escalation on agricultural processed products.⁵

In recognition of the widespread prevalence of tariff escalation in the post-Uruguay trade round, many negotiating proposals have called for the elimination or reduction of tariff escalation as an explicit goal within the market access pillar of the Doha Round negotiations.⁶ The Framework of Modalities on agriculture list detailed provisions on market access with specific mention on the problem of tariff escalation among tropical products.⁷ The modalities suggest that special tariff-cutting rules apply for products where tariff escalation applies. The general principle is that processed products that are subject to tariffs higher than the tariffs on the raw or intermediate forms are moved to the next higher tier that requires higher tariff cuts. If they are in the highest tier, the cut is increased by six percentage points over and above the normal tariff cut that applies to that tier. If the gap between the processed and unprocessed product is less than five percentage points, then the special tariff cutting rules are not applied (WTO, 2008).

A simple method for estimating the nominal tariff escalation (or de-escalation) is to calculate the tariff wedge (TW), which is the difference in nominal tariff between the output (processed) commodity and the input (primary) commodity, i.e.:

⁴ For example see Balassa (1968), Golub and Finger (1979); Cobban (1988); Beghin and Akshoy (2003); Rae and Josling (2003); Elamin and Khaira (2004); Panagariya (2005); Sharma (2006); Wainio and Vanzetti (2008); Laborde and Martin (2010) among others.

⁵ See also Laird and Yeats (1987), Safadi and Yeats (1993); OECD (1997); Burman et al. (2001); UNCTAD (2003); USDA (2001); Verkat (2001),

⁶ Colombia, Costa Rica, Guatemala and Panama have specifically proposed that "the modalities for tropical and alternative products subject to tariff escalation should provide for deeper tariff cuts for processed and semi-processed products than for primary tropical and alternative products", specifically 10 per cent greater than the maximum reductions foreseen in the formula (see WTO, 2006).

⁷ The Framework to Establish Modalities in Agriculture attached to the Doha Work Programme, generally known as the July Framework Agreement or "July Package", was agreed by the WTO General Council on 1st August 2005 (see WTO, 2004).

$$TW = t_p - t_{in} \quad (1)$$

where:

t_p = tariff (in ad-valorem terms) imposed on processed commodity

t_{in} = tariff (in ad-valorem terms) imposed on raw commodity

A $TW > 0$ denotes the existence of nominal tariff escalation.⁸

A limitation of the nominal tariff wedge is that it under-estimates the actual level of protection accorded to the final output. A better measure is the effective rate of protection (ERP), which is aimed at measuring the degree of protection afforded to the actual addition to the value of the product that is undertaken in the country (Greenaway and Milner, 1993). The additional tariff is then compared with the additional value added from the processing. However, although this is a better indicator for the purposes of evaluating the extent of protection, it suffers from methodological and theoretical shortcomings. The computation of ERP requires detailed data on prices and production of the many vertically linked production processes in order to calculate the value added at each stage. These are not easily available and simplifying assumptions are often made.⁹

An important advantage of the tariff wedge estimation is that it is straightforward and reflects the floor of the level of protection. Therefore, for the purpose of this paper, we compute the tariff wedge by making a selection of individual product pairs of coffee, tea and cocoa in order to identify nominal tariff escalation between processed and primary stages of production. Past studies have mostly used bound tariffs for determining tariff escalation. This has the advantage of providing an upper-limit measure of tariff escalation that WTO members have negotiated, but it does not reflect the actual level of tariff escalation. As such, we use applied tariffs as they are often considerably lower, particularly when tariff preferences are taken into account, and therefore they better reflect the actual level of tariff escalation.

Table 5 shows the tariff wedge between commodity pairs (one non-processed, one processed good) for selected countries. We ignore values below five percentage points on the ground that they do not imply a significant level of tariff escalation. As noted above, the WTO rule also states that if the gap between the processed and unprocessed product is less than five percentage points, then it is not treated as tariff escalation and the special tariff cutting rules are not applied.

⁸ $TW < 0$ denotes the existence of nominal tariff de-escalation and $TW = 0$ means tariff parity.

⁹ See Chevassus-Lozza and Gallezot (2003); Greenaway and Milner (2003); and Choudhury (2010) pp 11-14 for a review of the limitations of the ERP measure.

Countries	Coffee	Black Tea	Cocoa	
	(roasted and non-roasted)	(packages <3kg and >3kg)	(butter and beans)	(powder and beans)
Developed Countries				
Australia	x	x	x	x
Canada	x	x	x	x
EU	x	x	x	x
Japan	8	6	x	8
US	x	x	x	x
Developing Countries				
Argentina	x	x	x	x
Brazil	x	x	x	x
China	9	x	21	12
Colombia	x	x	x	x
India	x	x	x	x
Indonesia	x	x	x	x
Iran	9	20	x	11
Mexico	52	x	x	5
Pakistan	x	x	x	x
Sri Lanka	x	x	x	x

Source: Author's calculations based on data in Table 4.

Notes: X denotes nil value or value below five percentage points.

Tropical beverage products face zero or very low tariffs (Table 4). Tariff escalation (Table 5) in most developed economies, except in Japan, is also very low (or zero). These processed products also generally do not attract high trade-distorting subsidies and financial support in developed economies (Mohan, 2007a).

In contrast, we can see from Table 4 that DCs impose substantial tariffs on these products in many cases. However, Table 5 tells us that the incidence of tariff escalation is low in developing countries. This is because DCs, other than some exceptions, tend to apply the same tariffs irrespective of the level of processing. Whilst the high tariffs themselves can be harmful, it is certainly not clear from

this analysis that tariff escalation either amongst developed countries or DCs explains the lack of movement up the value chain.

A note of caution may be in order. These tariffs relate to recent years and do not imply that there was no incidence of tariff escalation previously. For example, FAO (2003) and OECD (2003) studies show significant reduction in tariff escalation during the post-Uruguay Round, but also find evidence of tariff escalation in cocoa, coffee and tea in major importing developed economies.¹⁰

If DCs were to reduce tariffs on both non-processed and processed foods, one effect might be that those enjoying high levels of protection may, in the short run, be hit by increased competition from imports or by reduced margins. This will lead to lower consumer prices along the processing chain, which can be expected to result in increased consumption. The extent of increased consumption will depend on how sensitive the market is to price changes. As a result such a policy may eventually lead either to an increase in imports or to the protected producers being forced to lower margins and eventually become more efficient, or both. The benefit of increased consumption and competition will go to the relatively more competitive producers, wherever they might be located.

Therefore, a reduction in tariffs is likely to result in increased exports of tropical primary products from DCs as they are the only producers. However, the same cannot be said for exports of products in the processed form. The benefit of increased exports of processed products will be most likely go to the more competitive processed product exporters in developed countries or DCs.

Nevertheless, the analysis above suggests that it is inappropriate to blame tariff escalation in developed or developing countries or tariffs on primary products *per se* as an underlying and primary factor for low levels of processing of cocoa, coffee and tea by DCs (which are the main producers of these primary products). Insofar as substantial tariff barriers exist, they are prevalent amongst the developing countries themselves. This suggests that the predominant refrain blaming developed countries for the poverty of developing countries as a result of their trade barriers imposed by the former on the latter is not true – at least in respect of tariff barriers on some of the most important primary products.

It may, however, be non-tariff barriers that potentially limit the ability of DCs to export tropical beverages and other agricultural products in processed or semi-processed form. We now move on to look at those.

¹⁰ Although a problem with most past studies is that they use bound tariffs while this study uses applied tariffs.

Non-Tariff Barriers

While tariffs on agricultural products have been declining in the past two decades, the use of non-tariff barriers in trade has increased worldwide, partially offsetting the advances brought about by lower tariffs.¹¹ Non-tariff barriers include quantitative restrictions, subsidies, anti-dumping and countervailing duties, customs valuations, product standards and technical regulations. These are measures, different from ordinary customs tariffs, that distort trade and reduce economic welfare (Baldwin, 1970).¹² Often such barriers are attributed to state activity and policy measures that typically have the potential to reduce the quantity of imports, increase the price of imports, change elasticity of demand for imports, and increase uncertainty in the implementation of tariff preferences (Deardoff and Stern, 1997; UNCTAD, 2005). Non-tariff barriers are not subject to reporting by the World Trade Organization (WTO) member countries, unlike tariffs. This means that they go unreported at the multilateral level.

Though several initiatives classify non-tariff barriers, any broad consensus on the typology is lacking at the international level (Donnelly and Manifold, 2005; OECD, 2005). The UNCTAD (1994; 2005; 2009) classifies non-tariff barriers according to the nature of the measure, for example whether they relate to price control, finance, automatic licensing, quantity control, monopolistic or technical measures. The WTO lists non-tariff barriers under the “market access” clauses of the WTO Agreements. These include participation in trade and restrictive practices by the government, customs and administrative entry procedures, technical barriers to trade, sanitary and phyto-sanitary (SPS) measures, specific limitations and charges on imports.¹³

Despite a general consensus on different types of non-tariff barriers, it is difficult to measure the degree of protectionism caused by them. There are a host of studies that employ economic models such as gravity models, price-wedge models, simulation and primary data analysis to measure the extent of trade restrictiveness of non-tariff barriers, but these suffer from limitations.¹⁴ Moreover, there is lack of reliable data on non-tariff barriers. As a result, it is not easy to quantify the coverage and extent of these barriers. This section presents the results of some of these studies, not because these provide accurate assessments of non-tariff barriers, but because they call attention to key points.

Studies find that the incidence of non-tariff barriers is higher on agriculture lines than on manufactured products.¹⁵ Andriamananjara et al (2003) estimate the welfare effects of eliminating all non-tariff barriers on footwear, wearing apparel and processed foods. They use 1997 as the base year and

¹¹ The term “non-tariff barrier” and “non-tariff measure” are often used interchangeably, the term “non-tariff barrier” is used in this paper.

¹² Carrere and De Melo (2009) study finds that in most cases the underlying motives for using non-tariff barriers are to promote economic, industrial, and regional development as well as to protect specified sectors from imports or from the dumping of subsidised imports. The objectives of “technical regulations” include protection of safety, human health, animal health and life, plant health, the environment and wildlife.

¹³ See Appendix 2 for a simple classification of the non-tariff barrier inventory.

¹⁴ For example see Otsuki et. al., (2001); Kox and Lejour, (2005); Mayer and Zignago, (2005); Maskus et al., (2005); Kee et al., (2006); Silva and Tenreyro, (2006); de Frahan and Vancauteran (2006); Graffham et al. (2007); Disdier et al. (2008); Helpman et al. (2008); Yue and Beghin (2009); Bradley and Lei (2011).

¹⁵ See also Bora, Kuwahara and Laird (2002); Cernat et al (2002); Dean et al (2003); ECLAC (2003); FAO (2004); Zarrilli & Musselli (2004); Donnelly and Manifold (2005); OECD (2005), Mehta (2005); Doanh and Kee (2007).

find that elimination of non-tariff barriers would have resulted in an annual increase in global welfare of almost US\$2.3 billion.¹⁶ Bora et al. (2002) find that agricultural products exporters in all countries report a high incidence of non-tariff barriers which increases production costs. The costs depend on the stringency of measures applied, their implementation, the nature of supply chain and the degree of conformity in the domestic market, which in most cases is weak in developing countries. Dean et al (2006) find non-tariff barriers such as regulations, standards and labeling lead to higher retail prices of processed food by as much as 87 per cent.¹⁷ Moreover, non-tariff barriers create potential entry barriers to foreign markets for new exporters (OECD, 2001).

Technical barriers, attributed to differences in technical standards between the exporting and importing country, are the most common type of non-tariff barrier in agricultural products. In particular, these include specific measures to regulate product characteristics, marking, labeling, packaging, testing, sanitary and phyto-sanitary measures, inspection and quarantine processes.¹⁸ Such measures particularly manifest themselves as trade barriers when standards vary between countries. The OECD (2005) report finds that tropical beverage products are notably affected by marking, labeling and packaging requirements, which make up 46 per cent of total complaints classified under technical barriers at the multilateral level. In a recent study Bradley and Lei (2011) report that between 1995 and 2009 there were 289 cases pertaining to meat, vegetable and fruit products reported as a Specific Trade Concerns (STCs) to the WTO; the STCs were mostly raised for reasons related to plant health, food safety and risk assessment.

The implementation of stringent technical requirements is attributed to risk-averse and quality-conscious consumer behaviour in developed countries. In this respect it has been argued that standards and regulations can be perceived to act as a catalyst to upgrade the production structures in the processing industries of developing countries to make them compatible with international standards (Henson, 2006). But this often does not happen as developing countries have limited capability and resources to fulfill stringent standards requirements, particularly when these require sophisticated detection and testing equipment and methods. A related problem is the requirement for internationally accredited agencies to certify standards, which increases total costs for developing country exporters. As a result, these requirements become non-tariff barriers and retard exports of processed products from developing countries. For example, in Uganda, robusta coffee is produced organically by default. Despite this, it is difficult for coffee producers in Uganda to get produce certified as organic due to the absence of locally accredited certification firms and this results in farmers missing out on premium prices (Bigirwa, 2004).

Non-tariff barriers reported on agricultural products also include measures needed to comply with EU regulation on traceability, which came into force in January 2005, and which requires all exporters to identify the origin of products.¹⁹ This imposes an additional cost burden on developing country exporters as the domestic regulations in developing countries do not require traceability of the supply chain. Regulations on environmental and labour standards have also been reported to impact adversely on agricultural exports, particularly agricultural processed exports from developing

¹⁶ This study employs the GTAP modeling approach using price data from Euromonitor and non-tariff barriers coverage information from UNCTAD for 14 product groups and 18 regions to simulate the impact of non-tariff barriers on exports, imports and the overall welfare using 1997 as the base year.

¹⁷ This study uses city-level retail price data for 2001 from the EIU CityData for 47 products in 115 cities in more than 60 countries.

¹⁸ Sanitary and phyto-sanitary measures are often guided by animal health and plant protection concerns in developed countries.

¹⁹ Regulation EC/178/2002 (European Parliament, 2002) defines traceability as the ability to trace and follow food, feed and ingredients through all stages of production, processing and distribution. The main objective is that when a risk is identified its source can be traced in order to swiftly act on the risk. Detailed information on traceability can be found at:

http://ec.europa.eu/food/food/foodlaw/traceability/index_en.htm

to developed countries.²⁰

Paradoxically, the manner in which developed countries allow tariff preferences to developing countries constitutes a form of non-tariff barrier. In the multilateral framework, the Generalised System of Preferences (GSP) scheme provide unilateral and non-reciprocal preferences which allow selected agricultural and industrial products originating in developing countries to come into developed countries at zero or reduced most-favoured-nation tariffs.²¹ Given that these schemes are autonomous and allowed at the discretion of the country offering the preference, studies show that most agricultural products that could benefit from preferential access do not do so in practice.²² For instance, developing countries have a total share of 27 per cent in cocoa butter imported by developed countries but only 2.3 per cent of this comes under the GSP preferences (Khorana, 2007).

A related issue is that strict rules of origin do not support exports of agricultural processed products from developing countries into markets such as the EU, US and Switzerland that should benefit from preferential tariffs.²³ For primary agricultural products, the rules of origin are normally easy to establish but it is more difficult for agricultural processed products. This is because, for many agricultural processed products, developing countries find it difficult to source intermediate goods locally and therefore have problems justifying that there is sufficient local content to allow the tariff preference. The rules of origin do allow for “cumulation”, but meeting the cumulation requirements do not help.²⁴ For instance, the EU and the US allow cumulation only between specific regional groupings, so GSP beneficiary countries that are not part of the specified regional groups do not benefit from preferences. The existing rules in Switzerland need a minimum content of 50 per cent domestic input requirement and do not allow cumulation among products from developing countries. More generally, the requirement to comply with stringent rules of origin and completion of customs documentation to prove exporters’ eligibility for preferences adds to the total cost, which often wipes out part or even the full preference margin and does not provide an incentive for developing countries to export under the preference schemes (Brenton and Ikezuki, 2005). An estimate of costs for the EU shows that the total costs of border formalities to determine the origin of a product amounts to at least 3 per cent of the total value of the product (Inama, 2003; Mattoo et al, 2003). For the USA, estimates show that the average compliance costs for developing countries to qualify for tariff preferences was 6.2 per cent in 2001 (Carrere and de Melo, 2004).

In recent years the agricultural food sector has witnessed a proliferation of private social labeling initiatives to promote “socially responsible” production that extend beyond organic production. Private sector bodies in the developed world such as the EurepGAP, the International Social and Environmental Accreditation and Labelling Alliance (ISEAL) and the Fairtrade Labelling Organisation (FLO) are engaged in developing codes for the design and implementation of social and environmental standards for the certification of final agricultural and other products around the globe.²⁵ The strategies, codes and auditing methods of private standards setters are often regarded by businesses in DCs as a subtle form of protectionism by developed countries.²⁶

²⁰ See Bhattacharya (1999); Chaturvedi and Nagpal (2002); Michalopoulos (1999); Bhattacharya and Mukhopadhyaya (2002).

²¹ The GSP scheme adopted through UNCTAD Resolution 21 (ii) states ‘...the objectives of the generalised, non-reciprocal, non-discriminatory system of preferences in favour of the developing countries, including special measures in favour of the least advanced among developing countries, should be: to increase export earnings; to promote their industrialization; and to accelerate their rates of economic growth.’

²² See Michalopoulos (1999); Panagariya (2002); Brenton and Ikezuki (2005); Khorana (2007); Hoekman and Nicita (2011).

²³ See Inama (2003); Mattoo et al (2003); Candau et al (2004); Khorana (2007).

²⁴ Cumulation refers to the degree to which inputs (processes and/or materials) wholly or partly originating from one preferential trading partner are allowed to count towards satisfying rules of origin governing processes carried out in another preferential partner.

²⁵ They are advocates for voluntary standards as an effective mechanism for achieving positive social and environmental change.

²⁶ For further details see Mohan (2010).

A recent study of Initiative for Public Policy Analysis (2012) reports that non-tariff barriers to trade are as much an impediment to trade than blanket prohibitions or tariffs. For example, environmental activists and industry groups are promoting sourcing policies and the application of standards designed to regulate trade in palm oil. They are campaigning for European and US markets to impose de facto trade bans on non-certified palm oil. These efforts, whatever their intention, are harmful because certification is costly. Whilst large companies may be able to accommodate the costs of auditing, independent small farmers without economies of scale are less capable of doing so. The report suggests that if certification is applied, it will make winners out of established vegetable oil producers in the West and harm small farmers in Nigeria and elsewhere in Africa by blocking them from international markets.

Non-tariff barriers may well impact on DCs' trade with each other. For example, Doanh and Kee's (2007) study on trade barriers between Vietnam and Thailand reports on the use of import licences and SPS measures by Thailand on agricultural imports from Vietnam. The OECD (2005) study highlights that customs and administrative procedures are non-tariff barriers which have an adverse effect on DCs' trade with each other.

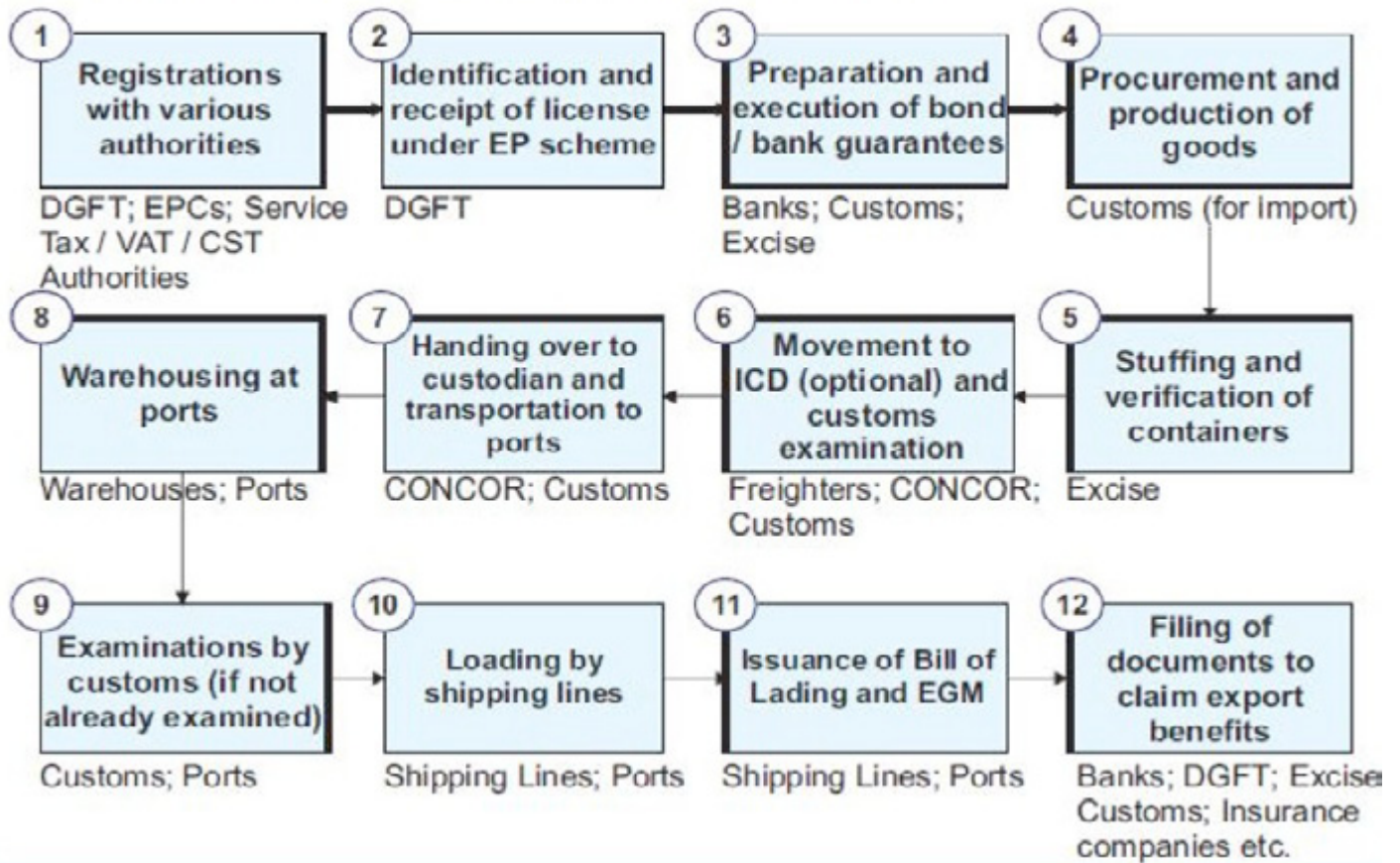
In addition to non-tariff barriers in foreign markets, there are domestic non-tariff barriers in DCs which are not often highlighted in the literature but nonetheless impede exporting activity in the host country.²⁷ The WTO groups domestic non-tariff barriers to trade, such as excessive customs documentation, import and export requirements, lack of co-operation among customs and other government agencies, inadequate use of information technology, information asymmetry and lack of transparency under trade facilitation issues. Extant literature finds that customs procedures and procedural delays at ports are the most common domestic non-tariff barriers followed by a host of administrative formalities and delays in various business and export registration procedures. These domestic non-tariff barriers increase transaction costs of exports which adversely affects export competitiveness.

A recent Government of India (2011) study on transaction costs for exports highlights the intensity and pervasiveness of domestic non-tariff barriers in DCs. An exporter in India needs to follow a tedious process (see Figure 1) and interact with a large number of agencies (see Figure 2) before being able to export. This, in effect, adds to the real resource cost of exporting in terms of an increase in the average number of documents and average time required for exports.

²⁷ For a discussion on domestic NTBs see Johanson and Weidersheim-Paul, 1975; Johanson and Vahlne, 1990; Daly and Kuwahara, 1998; Anderson and Wincoop, 2004; Mohan, 2007b; Kneller et al, 2008; Hoekman and Nicita, 2011

Figure 1: Schematic map of the process that an exporter needs to follow to export from India.

Illustrative view of the export process in India

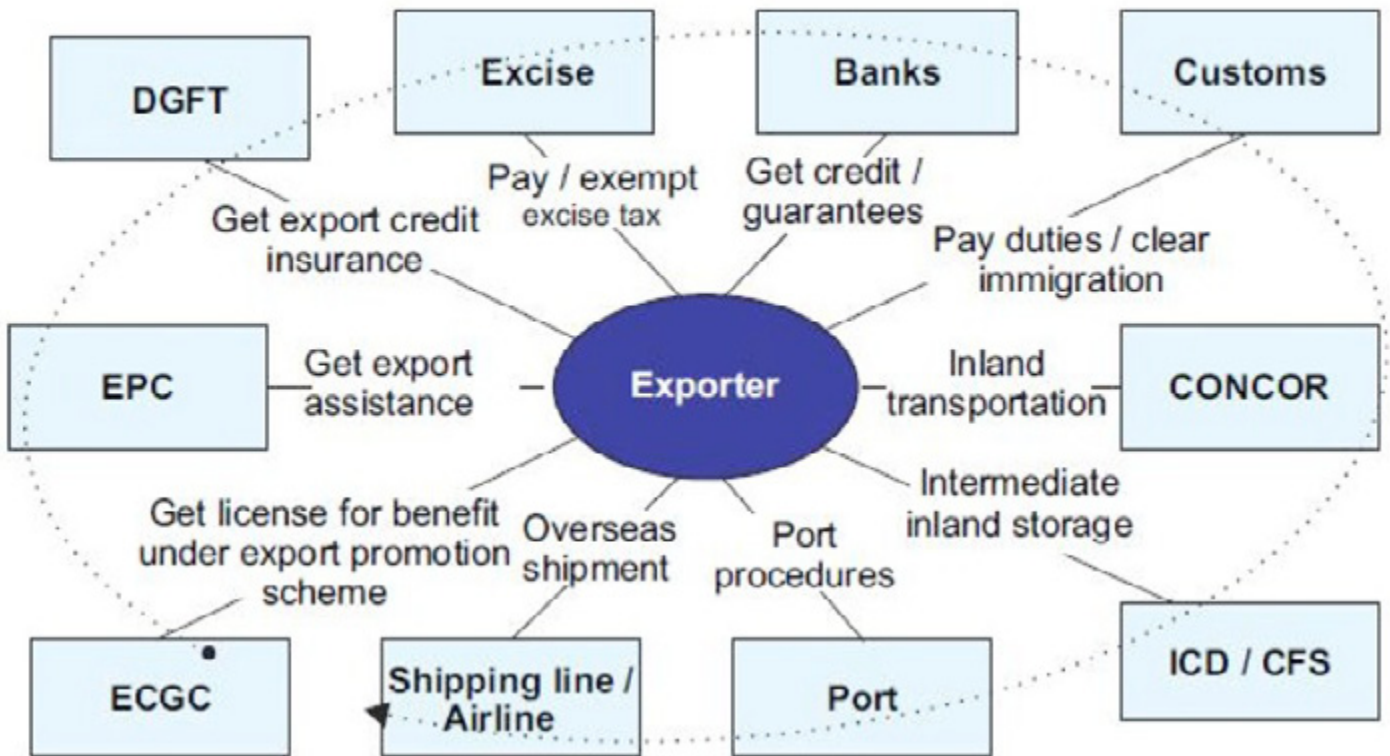


Source: Task force on transaction cost in exports - A report, Government of India (2011).

Note - the following abbreviations are used: DGFT: Director General of Foreign Trade; EPC: Export Promotion Council; VAT: Value Added Tax; CST: Central Sales Tax; CONCOR: Container Corporation of India Limited; and ICD: Inland Container Depot.

Figure 2: Various agencies involved in the export process in India

Various agencies involved in exports



Source: Task force on transaction cost in exports - A report, Government of India (2011).

Note - the following abbreviations are used: ECGC: Export Credit Guarantee Corporation of India Limited; CFS: Container Freight Stations; also see notes in Figure 1.

The World Bank (2010) calculates the average number of documents and the average time required for exports and imports for different countries. These are shown in Table 6. The requirement for higher numbers of documents and longer times to export for DCs relative to developed countries translates into domestic non-tariff barriers for exporters from developed countries. Furthermore, most export products have a component of imports, so ease of importing facilitates ease of exporting. Therefore, the requirement for a higher number of documents and a longer time to import for DCs relative to developed countries also translates – in effect - into domestic non-tariff barriers for DCs' exporters. As such, non-tariff barriers for imports not only affect consumers directly but also act to the detriment of export-oriented businesses in developing countries.

Countries	Documents to export	Time to export	Documents to import	Time to import
	(Number)	(Days)	(Number)	(Days)
Developed countries				
Australia	6	9	5	8
Canada	3	7	4	11
Japan	4	10	5	11
UK	4	7	4	6
US	4	6	5	5
Developing countries				
Argentina	9	13	7	16
Brazil	8	13	7	17
China	7	21	5	24
Colombia	6	14	8	13
India	8	17	9	20
Indonesia	5	20	6	27
Iran	7	25	8	32
Mexico	5	12	4	12
Pakistan	9	21	8	18
Sri Lanka	8	21	6	19

Source: Doing Business 2011: Making a difference for entrepreneurs, World Bank (2010)

The adverse effect of domestic non-tariff barriers for agricultural processed products exports from developing countries can be relatively high as DCs have to compete with developed countries in these markets. However, the effect of export barriers in the case of primary agricultural products, such as coffee, cocoa and tea, may not be as great because developing countries mostly compete for their exports with other developing countries which face more or less similar levels of domestic non-tariff barriers.

Conclusions and policy implications

The gains from agricultural trade liberalisation are potentially enormous. As noted above, Anderson *et al.* (2005) estimate that 63 per cent of the global gains from the complete liberalisation of all trade would arise from the liberalisation of agriculture. Furthermore, most of the gains accrue to the liberalising region itself.

This paper looks at three forms of impediment to trade in the tea, coffee and cocoa sectors: tariffs on primary products; tariff escalation on processed products; and non-tariff barriers. We seek to explain the reasons for the poor performance of DCs in agricultural processed product exports using the case study of tropical beverages.

It is clear that tariffs and tariff escalation are not the main reasons for poor performance – especially in respect of tariffs and tariff escalation in developed countries. We then review the coverage and extent of non-tariff barriers faced by agricultural exports in developed countries. The evidence clearly points to widespread prevalence of non-tariff barriers in developed countries restricting market access for agricultural processed products from DCs. These include, for example, rules of origin and traceability requirements in the EU combined with onerous health and safety requirements. The conclusions have important policy implications in terms of the priorities of trade negotiators. It also emphasises the need for collecting reliable data on non-tariff barriers in order to quantify their coverage and problems caused by them.

The analysis also highlights that home-grown non-tariff barriers are an important trade barrier for developing countries' agricultural processed products exports. This is an area where DCs must act urgently. The benefits from lowering domestic non-tariff barriers appear to be large and their lowering could add considerably to the export potential of DCs by lowering the transaction costs of their exports. This again has important policy implications.

It should be stressed that none of the analysis suggests that non-tariff barriers are the only reason for the inability of DCs to capture a large share of agricultural processed product world exports. There are many other reasons such as intrinsic supply-side constraints in DCs which limit their ability to diversify into processed products exports.²⁸ Nevertheless, the existence of supply-side constraints is not a justification for the prevalence of non-tariff barriers. The objective of this paper is to emphasise a neglected but important dimension of trade liberalisation, which is the need to ensure that the problem of non-tariff barriers is high on the agenda of trade negotiators and the need for developing countries' policy makers to pay more attention to addressing existing domestic non-tariff barriers.

²⁸ The supply side constraints in DCs include poor quality of physical and technical infrastructure, information bottlenecks, inadequate access to finance and relatively higher levels of corruption.

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Appendix 1: Product Description and HS 6-Digit Codes

Broad Product Groups	Processing Level	HS-Product Description	HS 6-Digit Code
Coffee	Not roasted	Coffee, not roasted, not decaffeinated	-90111
	Roasted	Coffee, roasted, not decaffeinated	-90121
Black Tea	In packages > 3 kg	Black tea in packages exceeding 3 kg	-90240
	In packages < 3 kg	Black tea in packages not exceeding 3 kg	-90230
Cocoa	Beans	Cocoa beans	-180100
	Butter, fat and oil	Cocoa butter, fat and oil	-180400
	Powder, no added sugar	Cocoa powder without added sugar/sweetening matter	-180500

Source: Trade Map (www.trademap.org), International Trade Center

Appendix 2: Classification of the NTB inventory

Type of NTB	Implementation of the NTB
Quantitative restrictions and similar specific limitations	Quantitative restrictions are implemented through import quotas, export quotas, licensing requirements for imports and exports, voluntary export restraints, prohibitions, foreign exchange allocation restrictions, surrender requirements, import monitoring, temporary bans aimed at balancing trade, discriminatory bilateral agreements, counter trade, domestic content and mixing requirements, mandatory certification and allocation processes for quantitative restrictions.
Customs procedures and administrative practices	Several customs procedures and administrative practices, such as customs surcharges, customs valuation, minimum import prices, customs classification procedures, customs clearance procedures, minimum customs value, excise and special customs formalities create barriers to trade.
Non-tariff charges and related policies affecting imports	Imports may also be affected by various policies and non-tariff charges, such as special sales taxes, variable levies, border tax adjustment, value added tax, anti-dumping and countervailing measures, cash margin requirements and rules of origin.
Government participation in trade, restrictive practices and more general policies	Governments often provide subsidies and other aids and allow for State trading. In addition, there are State procurement policies, tax exemptions for critical imports, and single or limited number of channels for imports of food and agricultural products.
Technical barriers to trade	Governments often set standards on grounds of health and sanitary regulations and quality standards, safety and industrial standards and regulations, packaging and labelling regulations, advertising and media regulations which act as non-tariff barriers to trade.

Source: Adapted from UNCTAD (2005) and Deb (2007)



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