RESEARCH ARTICLE

The WTO Agreement on Agriculture and Tropical Commodities: A Study in the Context of South India

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Abstract: This paper examines the globalisation of agriculture as reflected in the Agreement on Agriculture (AoA) and preferential trade agreements on trade in selected tropical commodities. The paper examines tariff rates under the ASEAN-India Free Trade Agreement (AIFTA) and finds a reduction in rates for several commodities in relation to WTO bound rates. The fall in tariff rates reduces the ability of a country to check price falls and price volatility. In a period of fragmentation of land holdings, atomisation of farming, and weakening of the bargaining power of producers, state intervention has encouraged competition among producers at the upstream end and limited competition at the downstream end. Evidence for this is provided by calculating intra-industry trade indices for India and rest of the world for natural rubber and related products. The paper argues that commodity problems cannot be addressed without changes in policy and cooperation among commodity producing countries.

Keywords: Agreement on Agriculture, preferential trading agreements, tropical commodities, volatility, terms of trade, globalisation and atomisation, value chain, collective action, coffee, tea, pepper, rubber.

Introduction

The last decade of the previous century witnessed some major breaks in agricultural policy both within nations and at the level of multilateral institutions, so much so that the producers of tropical commodities now find themselves in an entirely different social organisation of production, the nature and implications of which are not yet fully understood. This study is an attempt to understand and characterise the new regime governing tropical commodities in the present century. Even though

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our broad concern is with tropical commodities in general, the paper focuses on a selected group of commodities, viz., coffee, cocoa, tea, rubber, spices, and vegetable oil. The selection of commodities is purposive: they are among the leading exports of India and are grown mostly in the southern States, especially Kerala.

Although tropical commodities have features in common with primary commodities, they constitute a distinct subset of the latter, with clearly delineable properties that are important in the context of policymaking (see Appendix). Tropical commodities are cultivated almost exclusively in tropical regions of the world (and hence mainly in the less-developed nations), but are consumed mostly in the developed countries (and hence mainly in temperate zones). The location of processing may differ among commodities, but a significant part, especially the stages involving advanced processing and value addition, is situated in the developed countries. Such distinct spatiality with respect to the cultivation, processing, and consumption of tropical commodities has had a major influence on policymaking at the level of nation-states and in the inter-state system. Unlike temperate-zone products, tropical commodities, especially in their raw form, have generally been accorded free and uninterrupted access to developed-country markets (Yeats 1979, pp. 79–103). Tariff escalation has been a problem, but only when less-developed nations have attempted to upgrade their position in the processing chain (i*bid.,* Duncan and Lutz 1983). While agriculture in the temperate zone receives huge domestic state support, tropical commodities, primarily because of the inherent character of the concerned governments, have received far less, if not negligible, domestic support. The inter-state difference has been equally sharp in the case of export subsidies: while the advanced countries extended substantial state support to offload surplus agricultural production, less-developed countries did not have the wherewithal to support exports by way of subsidies (Hoekman and Kostecki 2001, pp. 208–26). The Agreement on Agriculture's (AoA) triad of "domestic support," "market access," and "export competition," which forms the basis of World Trade Organisation (WTO) policy towards establishing free trade in agriculture, does not, therefore, have much relevance in the context of tropical commodities. Even before the signing of the original General Agreement on Tariffs and Trade (GATT), tropical commodities were traded much more freely and with far less state intervention than were agricultural products or manufactured goods from the temperate zone.[2]

Tropical commodities suffer from typical commodity problems, such as short-run instability in prices and long-term deterioration of the terms of trade. These commodity problems have been of concern to several generations of social

[2] Even though the Agreement on Agriculture is credited with bringing agriculture into the framework of free-trade disciplines, tropical agricultural products were very much a part of multilateral arrangements even prior to the Uruguay Round negotiations. But it may be noted that although tropical products were characterised by freer trade, the producing countries were allowed to intervene in the markets in order to mitigate price volatility. Most of the measures thus used were designed to correct market failure, especially excess supply.

scientists.[3] Short-run price instability is attributed primarily to the relatively low price elasticity of demand and supply, because of which supply and demand fail to respond adequately to changes in prices. On account of such an inadequate response, even small initial changes in prices, which might occur for various reasons, tend to get magnified into sharp upturns and downswings. The problem of volatility is more acute in the case of tropical perennial crops such as coffee, tea, cocoa, rubber, spices, and coconut, where supply responds with a fairly long lag. To this we must add the impact of speculation and financialisation of commodity markets (Newman 2009). Markets fail in the case of tropical commodities, and the freer the markets, the deeper the failures. Vicissitudes in prices and associated uncertainties can lead to inefficient and unsustainable allocation of resources, besides producing socially undesirable outcomes.

The tendency for the terms of trade to deteriorate is also related to the nature of demand and supply. The demand for primary commodities, especially in their raw form, does not grow as fast as income does. If supply fails to adjust, prices tend to decline over time *vis-á-vis* other commodities. The way out suggested is either upward mobility along the commodity chain or diversification of the production structure into manufactures and services (Page and Hewitt 2001). Tropical products therefore require a mechanism that corrects the possible flaws of free trade. It was this conviction that prompted the global community to support interventionist policies, national and international, that sought to insulate both producers and consumers from the vagaries of the market (ECOSOC 1946). The corrective mechanism included, besides national regulatory mechanisms, multilaterally supported and managed international commodity agreements. Admittedly, the track record of the interventionist mechanism differed significantly across commodities. The corrective mechanism has always been a realm of struggle between different interests, including those of wage-workers, cultivators, processors, traders, retailers, and consumers, with an obvious bias in favour of the powerful and those who profit from uncertainties in the market. The WTO regime with respect to tropical commodities is best seen as a culmination of a long-drawn-out struggle for control over the market, marked as it is by a clear turn against the upstream participants of the relevant commodity chains. According to value-chain studies on tropical commodities, the number of actors/firms declines and their size increases as we move downstream. Consequently, downstream nodes are characterised by monopsonistic buyer power and upstream nodes by intense competition among a large number of small players (Harilal *et al.*

[3] The interest in commodity problems can be traced to the days of classical political economy. See, for an interesting review, Emmanuel (1972, pp. vii–xlii). Commodity problems were brought to centre stage in debates on international policy by the contributions of Singer (1950) and Prebisch (1950) who, along with many others, argued in favour of policy intervention to correct markets (Page and Hewitt 2001).

2006, Gereffi *et al.* 2005, Vorley 2003).[4] The Agreement on Agriculture tends to worsen this imbalance in the system by working against all forms of collective action upstream to correct the anomaly.

The Agreement on Agriculture (AoA) and the New Tropical Commodities Regime

The agricultural policy regime of the new century is characterised by two complementary processes unfolding parallel to each other: the globalisation of agriculture and the atomisation of farming. Among the different means of intervention by the state in the market, those that directly distort trade deserve to be mentioned first. Tariff and non-tariff barriers belong to this group of directly trade-distorting measures. The manifestation of globalisation, however, is not restricted to liberalisation of trade barriers. It is reflected in domestic policies as well. Policies intended to protect domestic markets from international markets, including state intervention to ensure fair product prices, input subsidies, easy credit, and extension services, have also been weakened.

Running parallel to globalisation, there has been a process of atomisation of farming, especially in less-developed countries. The atomisation of farming has two related dimensions. First, the average farm size and the average size of plots on which specific crops are grown has come down quite drastically in most regions. The second dimension of atomisation is seen in the destruction or weakening of possible cooperation and collective action by farmers in the product, input, credit, and other markets. It is not as if farmers, even the bigger ones, enjoyed much market power during the pre-globalisation period. But collective organisation of various types, when adequately backed by state intervention, did help farmers gain better deals than at present in the various markets they entered.

The Globalisation of Agriculture

Even though trade in agricultural products was not subjected to GATT disciplines, and was, by and large, bypassed in the first seven rounds, the impact of the Uruguay Round agreements has been so profound that the liberalisation process in this sector has almost caught up with liberalisation in the manufacturing sector. The International Trade Organisation (ITO) and GATT recognised the need to intervene in trade so as to correct agricultural commodity markets (ECOSOC 1946, Hoekman and Kostecki 2001, pp. 208–26). The WTO's AoA, however, is against any such intervention in trade. This is a major difference between the AoA and earlier multilateral accords

[4] The arrangement of the value chain varies among commodities, especially in the case of manufactures and services. But there are remarkable similarities in the patterns among tropical agricultural products. It is hard to find producer-driven chains among them; it is also hard to find tropical commodity chains without disproportionate buyer power. This is borne out by a large number of case studies across commodities and continents: see, for instance, Chattopadhayay and John (2007), Talbot (2002), and Fitter *et al.* (2001).

in the area of trade in tropical agricultural commodities. It needs to be reiterated here that the primary sites of production of tropical commodities have been the less-developed countries. The burden of liberalisation has fallen much less on the developed countries; they have been liberal towards imports of tropical products mainly because of the near-absence of import-competing production.

In fact, since short-term fluctuations in commodity prices can be sharp, quantitative restrictions are often required to guard against their unacceptable consequences — especially when tariffs, even the so-called "high" tariffs, fail to deliver the desired responses in respect of price and quantity.

The AoA has insisted upon and achieved complete elimination of quantitative barriers. India, for instance, has removed all non-tariff barriers (NTBs) on trade in agricultural products and achieved full tariffication in the sector, while trade in manufactures continues to be afflicted even now by non-tariff barriers.[5] According to the *Trade Policy Review* report of the WTO for 2010–11, the simple average applied tariff rate on agricultural products in India is 33.3 per cent, down from the 40.8 per cent reported in the 2006–7 report. Another important departure is the insistence of the AoA on 100 per cent tariff binding, which has not yet been achieved in manufactures; India has already achieved 100 per cent tariff binding in agriculture, while many tariff lines in manufactures still remain unbound.[6]

There is a significant difference between average applied tariff rate and average bound rate in the case of most tropical commodities, which effectively leaves national governments with some room for manoeuvre (WTO 2011, pp. ix–xiii). After the elimination of all quantitative measures and binding of all tariffs, high bound rates are the only shield available to member states to protect their producers from sharp downturns in commodity prices, which happen too often for these states to be complacent. In normal circumstances, the applied rates are kept much lower than the corresponding bound rates.

Table 1 shows the simple average of applied tariff rates for major importers and exporters of select tropical products. The first three countries are major importers and the rest the major exporters of the products concerned. The World Integrated Trade Solution (WITS) database does not give tariff data for some years. In such cases, data on tariffs for the nearest reporting year have been taken. Certain directions of change in tariffs are interesting enough to be specially mentioned here. First, import duties are being cut almost everywhere. Secondly, the level and rate of reduction is low in

[5] WTO members are bound by the provisions of the AoA, which demand tariffication of all non-tariff barriers (NTBs) and their eventual phasing out. This, however, does not rule out the introduction of WTO-compliant non-tariff barriers such as sanitary and phyto-sanitary (SPS) measures.

[6] The Trade Policy Review body of the WTO brings out periodic review reports for all member countries. The figures used here are from the latest report for India (WTO 2011). Put together, the WTO reports on India give a good account of the evolution of the trade policy regime of the country (WTO 2011, WTO 2002).

Table 1 *Average applied tariffs for select tropical commodities, 1990 to 2012*

Countries	1990	1995	2000	2009	2010	2011	2012
	Simple average tariff						
Harmonised System (HS) Code: 90111 Coffee, neither roasted nor decaffeinated							
EU	2.4	2.2	0.0	0.0	0.0	0.0	0.0
US	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Japan	0.0	0.0	n.a.	0.0	0.0	0.0	0.0
Brazil	n.a.	10.0	13.0	n.a.	n.a.	n.a.	n.a.
Columbia	n.a.	10.0	10.0	0.0	0.0	0.0	0.0
Vietnam	n.a.	n.a.	20.0*	n.a.	13.1	n.a.	n.a.
Indonesia	15.0	12.5	3.3	1.8	3.6	3.2	n.a.
India	100.0	n.a.	n.a.	92.3	n.a.	n.a.	100.0
HS Code: 90122 Coffee, roasted and decaffeinated							
EU	12.5	10.5	4.7	2.4	3.0	2.4	2.3
US	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Japan	20.0	15.8	9.8	9.6	7.8	9.3	9.4
Brazil	n.a.	10.0	13.0	8.0	8.0	8.3	10.0
Columbia	n.a.	20.0	20.0	20.0	20.0	15.0	15.0
Vietnam	n.a.	n.a.	15.0*	n.a.	26.3	n.a.	n.a.
Indonesia	27.5	17.5	5.0	3.8	3.3	5.0	n.a.
India	n.a.	n.a.	n.a.	100.0	n.a.	n.a.	100.0
HS Code: 90210 Green tea, not fermented							
EU	4.1	1.4	1.0	0.7	1.1	0.6	0.4
US	0.0	3.0	1.4	1.3	1.3	1.8	1.9
Russia	n.a.	n.a.	0.0	0.0	0.0	0.0	n.a.
Kenya	n.a.	n.a.	15.0	25.0	25.0	25.0	18.8
China	n.a.	70.0#	30.0	12.0	11.6	12.0	n.a.
Sri Lanka	60.0	n.a.	25.0	n.a.	30.0	30.0	30.0
India	n.a.	n.a.	n.a.	100.0	n.a.	n.a.	100.0
Vietnam	n.a.	n.a.	42.5*	n.a.	26.9	n.a.	n.a.
HS Code: 90230 Black tea, fermented and partly fermented							
EU	0.0	0.0	0.0	0.0	0.0	0.0	0.0
US	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Russia	n.a.	n.a.	n.a.	0.0	0.0	0.0	0.0
Kenya	n.a.	n.a.	15.0	18.8	16.7	25.0	21.4
China	n.a.	70.0#	30.0	11.7	11.0	11.3	
Sri Lanka	60.0	n.a.	25.0	n.a.	30.0	30.0	30.0
India	n.a.	n.a.	n.a.	100.0	n.a.	n.a.	100.0
Vietnam	n.a.	n.a.	50.0*	n.a.	35.0	n.wa.	n.a.

Table 1 *(continued) Average applied tariffs for select tropical commodities, 1990 to 2012*

Countries	1990	1995	2000	2009	2010	2011	2012
	Simple average tariff						
HS Code: 90411 Pepper, neither crushed nor ground							
US	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EU	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Japan	1.1	0.7	0.5	0.3	0.5	0.4	0.4
Vietnam	n.a.	n.a.	20.0*	n.a.	16.5	n.a.	n.a.
India	100.0	n.a.	n.a.	70.0	n.a.	n.a.	70.0
China	n.a.	45.0	20.0	20.0	20.0	20.0	n.a.
Indonesia	30.0	25.0	5.0	2.1	1.4	2.5	n.a.
Sri Lanka	32.5	n.a.	25.0	n.a.	30.0	30.0	20.0
HS Code: 90412 Pepper crushed or ground							
US	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EU	3.8	1.3	1.0	1.1	1.3	0.7	0.6
Japan	2.0	0.8	0.6	0.4	0.2	0.3	0.3
Vietnam	n.a.	n.a.	30.0*	n.a.	16.7	n.a.	n.a.
India	100.0	n.a.		70.0	n.a.	n.a.	70.0
China	n.a.	45.0	20.0	17.1	17.4	17.6	n.a.
Indonesia	30.0	24.3	5.0	3.8	2.9	2.9	n.a.
Sri Lanka	60.0	n.a.	25.0	n.a.	30.0	30.0	30.0

Notes: * pertains to 2002, # pertains to 1996, n.a. = not available. HS refers to the Harmonised Commodity Description and Coding System, used to classify traded products. For India, the last data-period is 2012–3.
Source: World Integrated Trade Solution (WITS).

the developed countries, primarily on account of the low base, as compared to the developing nations. Thirdly, the problem of tariff escalation persists, particularly in the case of coffee and pepper in the European Union (EU) and Japan. Fourthly, the most dramatic change is happening in countries that produce tropical commodities: they report radical cuts in applied tariffs.

The aggregate picture on tariffs can be misleading for several reasons, such as the proliferation of non-MFN (most favoured nation) schedules, tariff escalation, and the incidence of specific duties. Specific duties, which lack transparency as compared to *ad valorem* tariffs, are widely used by the developed nations. The pace and depth of reforms in the developing countries have to be assessed in comparison with the height of tariffs and the prevalence of non-tariff barriers that existed up until the Uruguay Round. Further, the measure of liberalisation of MFN tariffs is an underestimate, because it does not take into account the preferential access accorded by commodity-producing nations such as India to their partners in Preferential Trading Arrangements (PTAs). More importantly, it is an ongoing process, the logical

conclusion of which would be the removal of all barriers on international trade in tropical commodities, both in importing and producing countries.

The Case of AIFTA

The trade policy ramifications of PTAs among tropical commodity producers have not been adequately explored. We shall briefly examine the issue here by taking the case of the AIFTA (ASEAN–India Free Trade Area). Although the schedule of tariff reduction commitments undertaken by the AIFTA members varies significantly, they share some common features. The tariff lines are divided into broad categories, viz., Normal Track, Sensitive Track, Special Products, Highly Sensitive Lists, and Exclusion List, according to the intensity of tariff reduction or elimination commitments. We do not need to discuss the possible cuts under different categories in detail here. Instead it suffices to note that all tariff lines except those falling under the Exclusion List, which covers only around 10 per cent of all lines, would be subjected to cuts of varying depths from the base rates, i.e., the MFN (most favoured nation) applied rates, as of July 2007 (the AIFTA base rates cannot but be equal to or lower than the respective WTO bound rates). Obviously, therefore, at least in the case of around 90 per cent of the AIFTA tariff lines, applied duties are being lowered according to a set schedule from their respective WTO bound rates (Francis 2011, Harilal 2010, Pal and Dasgupta 2009). In India's case, for about 75 per cent of the Normal Track tariff lines, the upper limit to which the tariffs can be raised will be nil by 2016. Even in the case of the Exclusion List, where there is no reduction commitment, the applied rates cannot be raised above the base rates, which are much lower than the WTO bound rates.

The AIFTA tariff reduction schedule for Special Products, presented in Table 2, gives us a more concrete picture of the PTA phenomenon, which is particularly relevant for the commodities and regions we focus on in this study. It shows India's tariff reduction commitments with respect to crude and refined palm oil, coffee, black tea, and pepper. The upper limit to which tariffs can be raised is being cut down in the case of all Special Products. In the natural rubber group, important items such as smoked sheets (HS 4001.21) and technically specified natural rubber (HS 4001.22) are in the Exclusion List, with the base rates quoted for them being as low as 20 per cent. Import duty cannot be raised beyond the upper limit of 20 per cent even when prices fall drastically on account of real or potential threats of import surges. Of 174 eight-digit tariff lines related to rubber, only 12 are under the Exclusion List. While 78 lines are under Normal Track-1, 14 lines belong to Normal Track-2, and 70 to the Sensitive Track. In the case of Normal Track-1, the rate was to be cut to nil by the end of December 2013. Other lists will also experience deep cuts well before 2016. Notably, almost all important items of rubber manufacture are included in the Normal Track, with a commitment to early elimination of tariffs. This means, in effect, negative protection to the rubber manufacturing industry in India (Harilal 2010).

Table 2 *AIFTA tariff reduction schedule for special products*

Tariff line	Base rate	Not later than January 1				31.12.2019
		2010	2013	2016	2019	
Crude palm oil	80	76	64	52	40	37.5
Refined palm oil	90	86	74	62	50	45
Coffee	100	95	80	65	50	45
Black tea	100	95	80	65	50	45
Pepper	70	68	62	56	51	50

Source: AIFTA Tariff Schedule of Members, 2009.

Given the steep fall in the prices of natural rubber, the upper limit of 20 per cent that the AIFTA allows is grossly inadequate to achieve any correction. There is hardly any other mechanism left with the government to check the fall in rubber prices. Given the schedule of reduction commitments agreed upon at the time of the AIFTA, India cannot raise the tariffs on import of rubber manufactures; most tariff lines will see the complete elimination of duties by 2016. The only option left to increase the effective protection granted to manufactures would be to cut the duty on natural rubber! This would be disastrous, not only for rubber cultivation but also for the rubber manufacturing industry.

In short, PTAs among developing countries play an important role in deciding the character of the new global regime in agriculture. The PTAs among tropical commodity producers such as AIFTA, Association of South East Asian Nations (ASEAN), India–Sri Lanka Free Trade Area (ISFTA), and Common Market for Eastern and Southern Africa (COMESA) are opening up their national markets to heighten competition. Put together, they are moving swiftly towards the "ideal" of free trade among countries producing tropical commodities. Till recently, the main theatre of competition between them was in third-country markets. On account of multilateral and regional liberalisation processes, the site of competition has extended now to each other's markets. However, as we have argued, what is required to solve the tropical commodities problem is not unbridled free trade, but a mechanism that addresses the ill-effects of unregulated free trade. Instead, multinational (WTO), regional (PTAs), and national policies are moving in the opposite direction: all border measures are going to disappear soon.

It is true that developing countries, especially India, maintain relatively high WTO bound rates. But, as we have argued elsewhere (Harilal 2012), the PTA contagion among tropical commodity producers is making high bound rates redundant. For instance, take the case of India's bound rates in the WTO against natural rubber and related products. The high bound rates would not help India because its preferential duties are being lowered or eliminated relative to AIFTA partners Malaysia and Indonesia.

It would be interesting to see whether the Doha Round will make a difference in the character of the policy regime as narrated here, particularly because it is projected as a development round. It is still too early to draw a picture because the negotiations are unlikely to conclude soon. But the progress so far made in the negotiating group on agriculture does not suggest any significant change in the framework or the approach of the AoA. It is unlikely to recognise the need to correct the market and deviate from the free trade norm, especially with respect to the upstream nodes of the tropical value chains.

The Atomisation of Farming

An important dimension of the atomisation of farming is the fragmentation of land holdings. Average farm size is declining in the developing countries, especially in Asia (Viswanathan *et al.* 2012). The problem of declining farm size is applicable, although less intensely, to tropical commodities as well. The crops we have considered here are characterised by a preponderance of small holdings, particularly in India. Individual farms have hardly any power to influence prices.

While it is true that the average size of farms is too small for them to have any market power, other players in agricultural markets, especially buyers, are very often big enough to enjoy market power and influence prices. In today's world, it would be naïve to characterise transactions in the market for agricultural products as "arms-length" or "market-based" transactions (Gereffi *et al.* 2001). This is particularly true as we move along agricultural commodity chains from the producers' end to downstream nodes near the ultimate consumers. Global value chain studies show that, while moving towards downstream nodes, the number of operators tends to decline, while their size increases (Vorley 2003, Talbot 2002). It is thus clear that the assumption of competitive markets, on which the arguments for free trade and against state intervention are built, has no factual basis. Agricultural markets are becoming increasingly imperfect, and in multiple ways.

Another aspect of the atomisation of farming is the decline in collective action by farmers. Many factors contribute to the need for collective action: they include the decline in farm size, the increase in the market power of monopsonistic buyers, the exposure of farmers to international competition, and the vulnerability of producers to external shocks. If collective action by farmers and farm workers is to be effective on an international scale, such action needs state support. For instance, farmers' cooperatives operating in the areas of farming, credit, marketing, and processing require the legislative, regulatory, and financial support of governments at the local, provincial, and central levels. Unfortunately, the current neoliberal policy environment does not favour such a role for governments. Nevertheless, the state apparatus is active when it comes to supporting monopsonistic players operating in the markets for agricultural products. For instance, legislative and regulatory support is being extended to retail marketing chains and contract farming companies. The

bias of the state machinery is thus more than apparent: while it withdraws from supply management interventions that help direct producers, it does not hesitate to intervene in favour of large-scale buyers further down the field-to-market chain.

Small and tiny farms cannot be expected to invest in research and development, extension, mechanisation, irrigation, and farm infrastructure. Financial institutions supplying credit and insurance services are unlikely to be interested in small farms on account of high transaction costs and risk. More importantly, small farms are unlikely to come together to manage supply and deter the growing power of monopsonistic buyers. In the past, government departments or specially-assigned agencies filled such gaps. In India, policy with respect to different tropical commodities was controlled by a range of Commodity Boards and Export Promotion Councils. Typically, policy typically brought together the following elements: (1) research and development, (2) extension, (3) infrastructure development, (4) priority credit, (5) quality surveillance, (6) procurement, (7) buffer stock, (8) insurance, (9) state trading, and (10) import restriction. Policy results varied as between different commodities.

Liberalisation measures undertaken in various commodity-producing countries have focused mostly on the dismantlement of State Trading Enterprises (STEs), or on reducing the economic powers of STEs that engaged in storing, selling, and exporting commodities. These developments have also had an impact in India. Commodity Boards and Export Promotions Councils continue to intervene in the market, but only as facilitators of free trade (Chattopadhyay *et al.* 2007, Narayana 1994). State agencies continue their support for increasing the area, production, and productivity of tropical crops, but do not want to intervene in the market to protect farmers from price volatility or to ensure them remunerative prices. International commodity agreements were also efforts at correcting erring markets. In spite of their importance and some promising results, they, too, are being phased out, especially with respect to the primary aim of commodity price stabilisation. Their collapse reflects both the withdrawal of support by consuming countries, and the difficulties involved in attempting to influence prices via output management in an environment of supply expansion brought about by productivity increases and limited financial resources (Page and Hewitt 2001).

A Preliminary Analysis of the Direction of Change

The process of globalisation has rekindled interest in commodities, and the question of how it affects the commodity problem is being raised by many (UNCTAD 2012). The present phase of globalisation is not expected to bring about a radical departure in the trading status of tropical products because, as we have already noted, trade in these products has always been highly integrated with world markets even earlier. However, as Tables 3 and 4 show, there is clear evidence to prove our proposition that competition among producers for each others' markets is likely to intensify under the new regime. As data presented in Table 3 brings out, there has been a sharp increase in trade among tropical commodity producers in most products. Preferential

Table 3 *Intra-trade among producing countries of tropical products, as shares of their total exports to the world*

Commodities	1985	1990	1995	2000	2005	2008	2010	2012
	Percentage share*							
Coffee	0.002	0.001	0.04	0.1	0.5	0.6	0.7	1.0
Cocoa	0.06	n.a.	0.001	0.5	0.6	0.96	0.4	0.8
Tea	0.4	0.2	0.3	1.0	1.7	1.8	2.3	1.9
Rubber	1.4	1.9	3.6	6.0	8.04	8.4	10.3	9.4
Spices	0.05	0.5	1.6	4.8	5.7	7.2	10.6	17.0
Oilseeds	n.a.	0.5	7.8	1.7	3.9	1.2	1.4	0.8
Vegetable oils	13.3	6.5	10.5	21.4	14.6	19.0	22.0	22.7

Notes: *As share of their total exports to the world.
n.a. = not available.
Source: Computed from WITS data.

(PTA) and Most Favoured Nation (MFN) cuts in tariffs, and liberalisation of non-tariff barriers have contributed to heightened competition among producers.

In order to illustrate the point further, we calculated intra-industry trade indices for India and the rest of the world for natural rubber and related products. The natural rubber sector in India witnessed an unprecedented surge in imports in recent years, across almost all sub-products. But, as intra-industry indices in Table 4 suggest, India is also actively engaged in the export of the very same products. There is a clear upward movement in intra-industry trade in the natural rubber group over the period, especially in the twenty-first century. The growth in intra-industry trade is more marked in the case of manufactured products such as tyres. While the high incidence of intra-industry trade in manufactures may surprise us (because it can arise on account of economies of scale), the high incidence of intra-industry trade now occurs in respect of raw material as well. India is now exporting and importing large volumes of raw natural rubber. In fact, the pressure of intra-industry trade is felt in other leading producers of natural rubber as well. It is in this sense that the new regime appears to have extended competition among tropical commodity producers from third-country markets to each others' markets. It also signifies the heightening of competition at the upstream end of commodity value chains.

To return to problems of trade in tropical commodities, there are no *a priori* reasons to argue that global integration should necessarily worsen them. The prices are volatile because their supply and demand are relatively less elastic, especially when compared to manufactures, to respond to price changes. Low elasticity leads to sharp variation in prices across time and space. Spatial differences in price would lead to movement of the commodity across space from locations of excess supply to deficit locations so that prices tend to equalise across space. Similarly, stocks need to be transferred from times of excess supply to times of shortage to even out differences

Table 4 *India's intra-industry trade in natural rubber*

Year	Natural rubber in smoked sheets	Technically specified rubber (TSNR)	Reclaimed rubber in primary forms	Compounded unvulcanised rubber	Rod and shapes of vulcanised rubber	Pneumatic tyres new for motor cars	Pneumatic tyres new for buses or lorries	Pneumatic tyres used
	400121	400122	400300	400591	400819	401110	401120	401220
1996	0.01	0.44	0.05	0.1	0.8	0.61	0.01	0.08
1998	0.02	0.07	0.38	0.06	0.97	0.47	0	0.95
2000	0.52	0.23	0.01	0.24	0.36	0.94	0.02	0.11
2002	0.27	0.14	0.08	0.39	0.2	0.46	0.02	0.61
2004	0.86	0.14	0.17	0.34	0.8	0.86	0.08	0.8
2006	0.88	0.89	0.06	0.56	0.99	0.75	0.29	0.27
2008	0.93	0	0.01	0.38	0.86	0.87	0.57	0.47
2010	0.09	0	0.03	0.63	0.71	0.86	0.68	0.49
2012	0.09	0.01	0.08	0.91	0.73	0.72	0.31	0.75

Note: Intra-industry trade is calculated using the Grubel-Lloyd index

$$GLi = 1 - \frac{|Xi - Mi|}{Xi + Mi} ; 0 \leq GLi \leq 1$$

where X*i* denotes the export, and M*i* the import of good *i*.

Source: United Nations Commodity Trade Statistics (UN Comtrade), comtrade.un.org.

in prices and profits. Arguably, the probability of deficit conditions meeting surplus conditions, and vice versa, is brighter the larger the sphere of exchange. Analogously, small, closed economies should be more susceptible to short-run fluctuations in commodity prices.

The economic function of transporting stocks across time and space in response to actual or potential difference in prices is performed by traders. The traders' margins will depend on the competition among them. The incidence of surplus profits at the expense of cultivators or consumers, if any, should normally attract an inflow of capital and labour into trading, and ultimately level rates of profit. Such competition should also moderate the spatial and temporal differences in prices that arise on account of a temporary mismatch between supply and demand. But unlike farming, which suffers from a preponderance of small units and atomisation, trading, manufacturing/processing, and retailing are prone to a concentration of market power and incidence of surplus profits. Monopsonistic operators may use their market power, and also collude among themselves, to manipulate prices at the expense of producers and consumers, and earn surplus profits. They may use their market power to aggravate excess supply and shortages by refusing to buy or by hoarding. Such situations also attract speculators into the fray. Those who make profits out of uncertainties would take over the commodity market. Such distortions in the market and consequent vicissitudes in prices would in turn call for direct intervention or regulation by the state at the national level and the inter-state system at the international level.

Although larger spheres of exchange have an advantage in tackling temporary mismatches in supply and demand across time and space, as the history of commodity markets shows, free-market and free-trade policies need not help realise the advantage of largeness of the sphere of exchange. As global value chain studies have documented, large and globally oriented spheres of exchange can create big monopolies which profit out of surpluses and deficits. Scale economies reaped in trade, manufacturing/processing, and retailing tend to concentrate market power. At the same time, cultivators and final consumers remain atomistic, unable to influence market prices. They do not normally succeed in aggregating their market power to match that of the monopolies they transact with. It is here that collective action and state intervention can play a role. But neoliberal policies abetted by globalisation are against any such intervention in the market. They treat peasant collectives, producer cooperatives, trade unions, state trading agencies, commodity boards, commodity agreements, etc., as "external" to the market, while considering trading/processing/retailing monopolies as "internal" to the market. It is contextual here to reiterate another irony of these policies: commodity boards and other similar public agencies are not considered too alien to the market when they work to heighten competition among producers through subsidised expansion of cultivation and production. The case of natural rubber is a good example of such biased intervention by national and international agencies (Harilal and Joseph 1998).

Table 5 *Instability indices of commodity prices for selected periods, 1983–2012*

Product	Price instability index				
	1983–92	1993–2002	2003–12	2003–7	2008–12
All commodities	9.6	8.6	10.9	10.9	10.9
Pepper	44.8	39.9	16.1	16.1	14.8
Coffee	17.3	30.1	13.8	13.8	17.3
Cocoa	9.9	19.3	15.3	15.3	12.0
Tea	18.3	13.8	7.8	7.8	7.0
Copra	29.7	21.4	23.1	23.1	30.9
Coconut oil	31.8	22.3	22.3	22.3	30.7
Palm oil	23.4	23.5	17.8	17.8	19.5
Rubber	12.1	23.1	19.1	19.1	27.3

Note: Instability is measured as the percentage deviation of the variables concerned from their exponential trend levels for a given period.
Source: UNCTADSTAT, Statistical database of the United Nations Conference for Trade and Development, unctad.org.

The price instability indices presented in Table 5 show a mixed pattern of change over time. Even though there is a clear indication of increasing instability when "all commodities" are taken together, the pattern of change varies across individual products selected. But, notably, the level of instability is quite high across commodities and over the sub-periods chosen. That commodity prices remain more volatile compared to manufactures even under liberal regimes is a widely noted fact (Jacks *et al.* 1998). We have already explained why we do not expect the AoA regime to address the problem of instability in commodity prices. It is true that in globally integrated markets there is enhanced scope of finding surplus to fill in the gap produced by deficit anywhere, and vice versa. But instability is likely to persist, because unregulated markets generate wrong incentives that encourage actors who profit from instability. It is clear from our discussion so far that the regulatory mechanism would have a critical bearing on the question of stability.

Commodities and Terms of Trade

There is overwhelming evidence to support the hypothesis of long-term deterioration of the terms of trade. However, commodity prices have improved more recently, following the financialisation of commodities in the aftermath of the global economic crisis (UNCTAD 2012). The historically low price levels of the late 1990s and early 2000s led to a long period of underinvestment in production capacity in respect of several key commodities. Nevertheless, although an increase in prices may bring in more investment, it may also result in oversupply, leading to lower prices in the near future. This has already happened with regard to coffee and rubber. On account of volatility and differences in the experiences of individual commodities, the literature on terms of trade remains inconclusive. Debates continue on the sources of data,

periodisation, and measurement techniques. In this paper, we do not intend to participate in the measurement debate. Instead, our focus is on the implications of the new policy regime for the terms-of-trade question.

In fact, the long-term deterioration of the terms of trade should not surprise us if we look at it against the backdrop of the long history of shifts in the pattern of social demand. Social preferences are moving away from agriculture and in favour of industry and services. One need not look farther than national accounts statistics to prove the point. There is hardly a country in the world that has not seen a drastic drop in the share of agriculture in gross domestic product since data on the subject have begun to be assembled. The allocation of resources across sectors over time will be regulated by the law of value through the medium of market signals such as product prices and factor rewards. Overcrowding will be penalised by pulling down product prices and the rates at which capital, land, and labour are rewarded. The least adaptive are likely to be punished the most. The peasant masses, who are rendered immobile and denied exit from agriculture, invariably have to bear the major burden of adjustment. The process by which land, labour, capital, and the sphere of production as a whole get adjusted to structural changes in social demand, as the experience of the peasantry demonstrates, cannot be smooth.

A solution that has been suggested is diversification: producers should try either to upgrade their position in the value chain or move out of the commodity chain into more attractive lines of specialisation. This, however, is easier said than done. What is of interest here is the likely impact of policy on the mobility of commodity producers. We have already noted the problem of tariff escalation, which, by raising the effective protection granted to higher nodes of processing in the developed countries, makes upgradation along the value chain difficult. Similarly, specific duties and non-tariff barriers offer resistance to entry at higher stages of value addition. Mobility barriers are not confined to border measures. WTO-compliant protectionist tools such as intellectual property rights (IPR) and sanitary and phytosanitary measures (SPS) also act as entry/mobility barriers. There are also barriers erected by private players such as retail chains, which maintain their own standards and norms for entry. Advertising, brand loyalty, technology, capital requirement, and domain knowledge also act as mobility hurdles, although they operate on private account and are relatively independent of the state.

Policy becomes more interventionist as we move to downstream nodes; it does so not to facilitate but to restrain competition. Regulations such as intellectual property rights and sanitary and phytosanitary measures are, in essence, entry barriers that add to the market power of big operators downstream. At the upstream nodes as well, interestingly, policy is interventionist, but not so much for restricting entry and competition as for enhancing them. As we have already noted, multilateral and regional processes of trade liberalisation have heightened competition between

producers of tropical commodities. Multinational agencies such as the World Bank intervene directly to augment supply by subsiding expansion programmes. Natural rubber, for instance, has seen massive replanting and new planting programmes instituted by the World Bank. In fact, all natural rubber-producing countries are currently running state-sponsored replanting and new planting programmes. The inter-state system is adamantly opposed to collective intervention that would limit competition among producers. We have already noted the role played by international commodity agreements and national Commodity Boards and Councils. The system legitimises interventions that set quality standards for products, but refuses to allow state intervention to ensure labour welfare or to set limits on resource extraction.

The lateral or horizontal mobility of capital, land, and labour is as important as mobility along the chain emphasised in the global value chain literature. It is the absence of better avenues that forces capital, land, and labour to remain in the upstream nodes, despite their failure to support a decent existence. For downstream actors, there are alternative locations from which to source their supplies, whereas upstream actors have few alternative routes to reach the market. In the absence of alternative opportunities, the upstream regions will compete among themselves to protect and expand their role in the chain. Such competition among backward regions — which is often reflected in the competitive reduction of product prices, flouting of labour welfare legislations, violation of environmental standards, state intervention to save industry through subsidies, tax rebates, and real depreciation of national currencies — can prove to be mutually destructive. Cost-cutting strategies initiated by individual competitors often tend to be contagious, resulting in a shifting of the advantage to the downstream nodes.

In the developed countries, the state intervenes to aggregate buyer power by setting quality standards and by preventing individual buyers from lowering standards through competition. But the producing countries have not been able to aggregate their bargaining power to set fair prices or minimum standards for labour or the environment. It is not that there have been no efforts on the part of these growers, workers, and their governments, but the globalisation of agriculture and the atomisation of farming limit their ability to set the terms of competition.

Natural rubber and cashew, two commodities facing relatively better demand conditions, are good examples of this race to the bottom. In both these cases, the producing countries, since they are few in number, can come together to check the race to the bottom, and ensure fair prices for peasants and minimum labour and environmental standards (Patnaik 2009). But the AoA and the PTAs among producer countries have intensified competition between tropical commodity producers. International and national agencies are active in enhancing supply, and are against intervention in the market to solve the problem of excess supply even when prices fall well below the costs of production.

Conclusion

This paper examined the globalisation of agriculture, specifically the implementation of the Agreement on Agriculture (AoA) and preferential trade agreements on trade in selected tropical commodities. Data on tariff rates show that the rate of reduction in tariffs was higher in developing countries than in the developed countries. The fall in tariff rates was dramatic in countries that produced tropical commodities such as coffee, tea, pepper and rubber. The simple average applied tariff rate on agricultural products in India in 2010–11 was 33 per cent lower than the 40.8 per cent rate reported in 2006–7.

Tariff rates available under the AoA are being lowered further by the proliferation of preferential trade agreements. In this paper, we examined the ASEAN-India Free Trade Agreement (AIFTA) and found that, in around 90 per cent of the AIFTA tariff lines, applied duties were being lowered according to a set schedule from their respective WTO bound rates. In India's case, for about 75 per cent of Normal Track tariff lines, the upper limit to which tariffs can be raised will be nil by 2016. In the natural rubber group, important items such as smoked sheets (HS 4001.21) and technically specified natural rubber (HS 4001.22) are in the Exclusion List, with base rates as low as 20 per cent. Natural rubber prices have fallen steeply in recent years, and the upper limit of 20 per cent that AIFTA allows is inadequate as a check on prices or protection to producers.

The period of globalisation is also one in which increased fragmentation of land holdings has resulted in the atomisation of farming. The proliferation of small farmers has weakened the bargaining power of producers in the commodity chain. In many countries, including India, Commodity Boards and Export Councils, which earlier provided support to small farmers though research and development, extension, and procurement, have now stopped market interventions.

Using evidence on trade among tropical commodity producers, we argue that competition among producers has heightened. We calculated intra-industry trade indices for India and rest of the world for natural rubber and related products and found a clear upward trend (1996 to 2012). In other words, India is both exporting and importing large volumes of natural rubber. Next, we computed price stability indices and found high and increasing levels of instability for most commodities, particularly marked when we compared 2008–12 with the previous five year period, 2003–7.

Even though commodity prices rose during the recent global economic crisis, the low price levels of the 1990s and early 2000s resulted in underinvestment in production capacity. At the same time, social preferences moved away from demand for agricultural products. There has also been a change in the nature of state support, which has restrained competition at upstream nodes — through the various

multilateral and regional trade liberalisation agreements discussed here, as well as through subsidies for increased supply. At the same time, competition was restricted at the downstream nodes through various entry barriers, including WTO-compliant intellectual property rights and sanitary and phytosanitary measures.

In conclusion, with the signing of the Agreement on Agriculture and various preferential trade agreements, competition has intensified among countries producing tropical commodities such as rubber. State support in developing countries no longer addresses the problems of small producers, including problems of price volatility and price crashes as a consequence of over-supply. Commodity problems cannot be addressed without a change in policy and collective transnational action by producers, including cooperation among producer countries.

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Appendix

*Product Demarcation of Tropical Products**

Product sub-groups	Agricultural tropical products	Non-agricultural tropical products
Tropical beverages (4 digit HS (1998) headings)		
Unprocessed products	0901, 0902, 1801, 1802	
Semi-processed and processed products	1803, 1804, 1805, 2101	
Spices, flowers and plants, plaiting products		
Unprocessed products	904–910, 0602, 0603, 1211, 1301, 1401, 1402, 1403, 1404	
Semi-processed and processed products	1302, 1521	3203, 3301, 4601, 4602, 9601
Certain oilseeds, vegetable oils and products		
Unprocessed products	1202, 1203, 1207, 2305, 2306	
Semi-processed and processed products	1208, 1508, 1511, 1513, 1515, 1516, 1518, 1519	1520
Tropical roots, rice, and tobacco		
Unprocessed products	0714, 1006, 2401	
Semi-processed and processed products	1106, 1903, 2402	1108
Tropical nuts and fruits		
Unprocessed products	0801, 0803, 0804, 0807	
Semi-processed and processed products	2006, 2007, 2008	
Rubber and tropical wood		
Raw materials	4001, 4403	
Semi-manufactures		4005–09, 4407–10, 4412
Finished products		4011, 4013–17, 4414, 4418–21, 9401, 9403
Jute and hard fibres		
Raw materials	5303, 5304, 5305	
Semi-manufactures		5307, 5308, 5310, 5311
Finished products		5607, 5608, 5609, 5905, 6305

Note: * Indicative list of Tropical Products used in the Uruguay Round negotiations. The classification of agricultural and non-agricultural products is based on WTO International Trade Statistics Classification which differs from AoA classification.
Source: World Trade Organisation, WTO Documents, Annex 4 of TN/AG/S/17.