

Herrmann, Roland; Kramb, Marc; Mönnich, Christina

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## Tariff rate quotas and the economic impacts of agricultural trade liberalization in the WTO

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**TARIFF RATE QUOTAS AND THE ECONOMIC  
IMPACTS OF AGRICULTURAL  
TRADE LIBERALIZATION IN THE WTO\***

by

Roland HERRMANN\*\*

Marc KRAMB\*\*\*

Christina MÖNNICH\*\*\*\*

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\*\* Professor, Institute of Agricultural Policy and Market Research, University of Giessen, Senckenbergstr. 3, D-35390 Giessen, Germany.

\*\*\* Ph. D. Student, Institute of Agricultural Policy and Market Research, University of Giessen, Senckenbergstr. 3, D-35390 Giessen, Germany, and Center for International Development and Environmental Research (CIDER), University of Giessen, Otto-Behagel-Str. 10/D, D-35394 Giessen, Germany.

\*\*\*\* Ph. D. Student, Center for International Development and Environmental Research (CIDER), University of Giessen, Otto-Behagel-Str.10/D, D-35394 Giessen, Germany.

## **Abstract**

Since their implementation at the Uruguay Round, tariff rate quotas (TRQs) have become a widely used instrument of trade policy in agricultural trade. With almost 1300 TRQs scheduled at the WTO, it seems worthwhile to examine their economic effects more closely. This is what this paper does. First, the theoretical background of TRQs is examined. Then a short overview of the Uruguay Round as their institutional background is given. We demonstrate that official statistics, which do not count TRQs as non-tariff barriers, are at least highly misleading. Very often, their effects are the same as those of regular quotas, including redistributive effects. The prominent example of the European Banana regime is used to illustrate all of these points.

**Keywords:** Agriculture in International Trade, Commercial Policy, Protection, Promotion, Trade Negotiations

## 1 INTRODUCTION

The Uruguay Round Agreement on Agriculture (URAA) is regarded by many economists as a major progress in the international debate on trade liberalization. In all earlier rounds under GATT, there had been the intention to liberalize agricultural trade but it had never been successful prior to the finalization of the URAA in 1994. The major policy decisions of the URAA include (i) the tariffication of nontariff barriers, (ii) the reduction of the level of agricultural protection in stages between 1995/1996 and 2000/01, (iii) the reduction of agricultural subsidies, and (iv) the setting of a minimum access to the domestic agricultural markets of WTO members. With the decision on tariffication, important nontariff barriers in agriculture, like variable import levies are prohibited. Given this background, international organizations like OECD stress that the number of nontariff barriers has declined strongly since 1994 (OECD 1997, Table 8.1). There is the general impression by many economists that the decline in the level of protection was not yet very strong, but that the URAA was the first important step towards a further reduction of trade distortions (JOSLING, TANGERMANN 1999).

The actual liberalization steps, however, are combined with some substantial new nontariff trade barriers, at least if we define nontariff barriers meaningfully in economic terms. This point has been unobserved in the general economic debate and has only been discussed in detail by some agricultural economists. In some cases, no real tariffication did occur as in the case of the EU grain policy (THOMPSON, HERRMANN, GOHOUT 2000). More importantly, the URAA has led to a very large number of tariff rate quotas (TRQs) (SKULLY 1999a, BOUGHNER, DE GORTER 1999). Many countries including the EU and the US introduced quotas besides the bound tariffs to fulfil the minimum access rule. Tariffication and quotification occurred simultaneously. In many cases, there is considerable "water in the tariff" and the quota component is binding. Quota rents occur then like under traditional nontariff barriers, although TRQs are counted like tariffs under the WTO rules.

Given this background, it is the objective of this paper to show the importance of TRQs in agricultural trade under the URAA and to elaborate economic impacts of agricultural TRQs. The theory of agricultural TRQs is presented in Section 2 and it is shown how

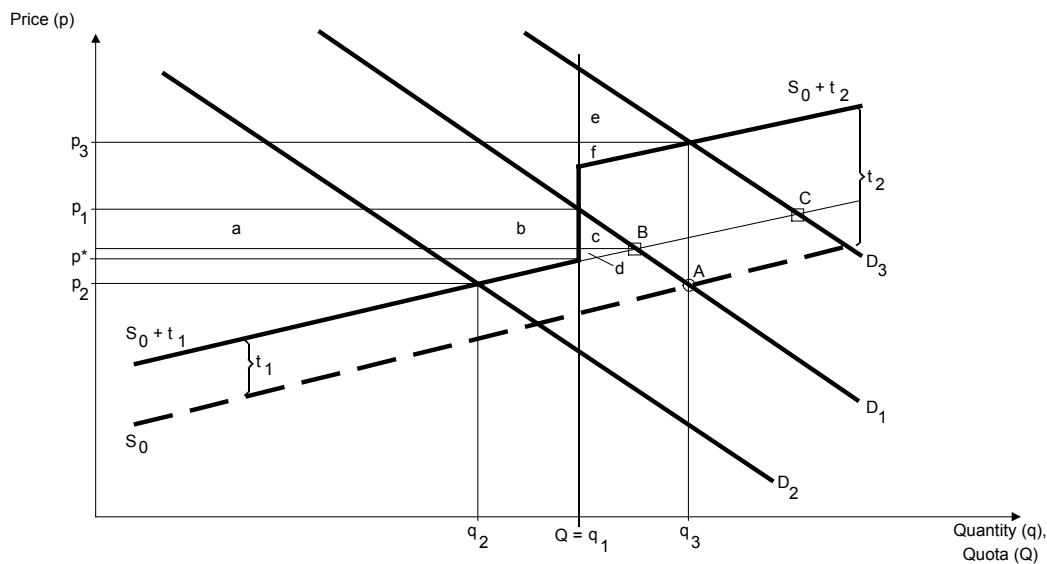
the administration of the TRQs affects their economic impacts. It is then summarized in Section 3 how decisions on agricultural trade liberalization fostered the introduction of TRQs. In Section 4, we show for the Common Market Organization for Bananas (CMOB) how the administration of TRQs affected the economic impacts. The CMOB is particularly interesting as it led to an international trade dispute and general rules on the use of the TRQs were specified by two WTO Panels on Bananas. In Section 5, a summary is given and conclusions are drawn.

## 2 THEORY OF AGRICULTURAL TRQs

This section examines the economic impacts of TRQs from a theoretical perspective. It aims to show that TRQs contain characteristics both of quantitative restrictions and tariffs, either one of which can prevail depending on the particular market setting. In particular, if a TRQ is in fact a quota, rents typically accrue. Since the underlying cause of these rents is, of course, the rationing of supply, the problem arises how the resulting excess demand is to be administered. This administrative choice together with competitive conditions at the different stages of the marketing chain determine the distribution of quota rent. In this section, however, we will abstract from the latter and focus just on the administrative aspects.

The three main components of a TRQ are the first-tier or in-quota tariff, the second-tier or out-of quota tariff and the quota itself, which limits up to which quantity the lower first-tier tariff is applied. These three characteristics modify the excess supply function and determine, along with the excess demand function, whether the quota is binding, i.e. whether the main economic effect of the TRQ is that of a quantitative restriction.

Figure 1: TRQs Under Different Demand Conditions



This situation is illustrated by the demand curve  $D_1$ , which intersects the supply curve in the inelastic section of its characteristic kink. Under these demand conditions, the second-tier tariff is prohibitive and the equilibrium price  $p_1$  and quantity  $q_1=Q$  are identical to those of a pure quota  $Q$ . This is evidently the third-best solution compared to the free-trade situation A, but also compared to a situation where only  $t_1$  is applied, B. The then resulting loss in welfare is the shaded triangle. From the perspective of the suppliers, however, the quota is preferable. The loss in producer surplus due to the reduction in quantity (the lower part of the HARBERGER triangle) is clearly outweighed by the quota rent (the long shaded rectangle) which results from the quantitative restriction. Quota rent is therefore defined here as the premium which results only from the introduction of the quota, that is the price difference compared to the tariff-only situation. Consequently, individual low-cost suppliers can have a higher profit margin over their marginal costs due to their higher producer surplus per unit. Under different demand conditions, the quota might not be binding. With low excess demand the resulting equilibrium with  $p_2$  and  $q_2$  is the same as it would be in a tariff-only situation, implying that no quota rents accrue.

In the situation illustrated by  $D_3$ , the quota is not binding either, but this time the reason is that excess supply is very high. In contrast to the previous case, however, rents do accrue.<sup>1</sup> The reason for this is that only the low tariff  $t_1$  is charged for the first  $Q$  imports. Therefore, the problem arises which suppliers are granted the right to import under these favorable conditions, since these are willing to supply  $q_3$ , but only for  $Q$  is  $t_1$  applicable. Consequently, the excess demand in  $Q$  must be somehow administered, whether the quota is binding as in case 1 or no longer binding as is the case here. The possible administrative choices will be outlined in the next paragraphs, but before it should be noted that this case 3 is the only constellation where it can justifiably be argued that TRQs are welfare improving compared to a pure quota. The welfare gain is illustrated in the figure by the striped triangle below  $D_3$ .

When it comes to TRQ administration, one has to distinguish the distribution of quota shares from the distribution of licenses. The first determines which quantities are reserved for particular exporting countries, whereas the second defines a rule according

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1 They are even higher than in case 1, because the price increase due to the quota, i.e. the difference between  $p_3$  and the price in C (if only  $t_1$  was charged) is larger.

to which licenses that enable individual traders to import under the quota are distributed.

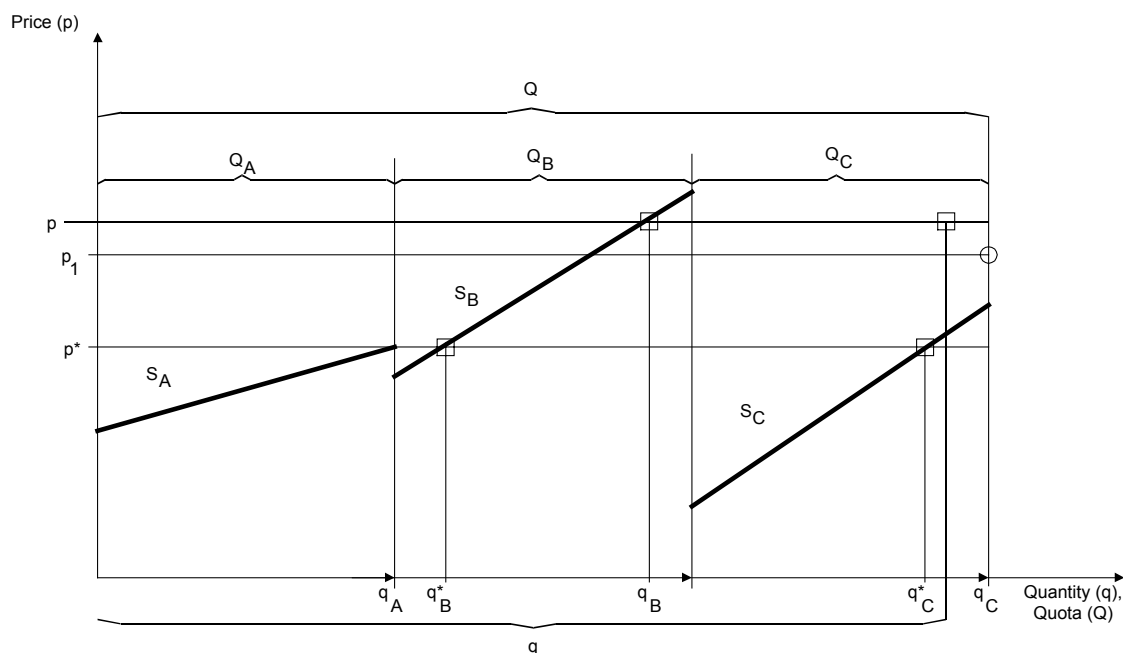
If the importing country just sets  $Q$ ,  $t_1$  and  $t_2$ , this is referred to as a **global quota**. Assuming first that the licensing regime is efficient, the distribution of imports with respect to their origin is then determined by market forces. That is, the most cost-efficient producers are those who get to import under the quota such that above figure is an accurate representation of actual market conditions.

**Country-specific allocations** are quota shares that the importing country reserves for specific exporting countries. The introduction of these can lead, irrespective of the licensing regime, to inefficiencies, because each favored country does not have to compete with others within its quota share. The only restriction it faces is that it has to supply below the equilibrium price. This can be seen in Figure 2: As a reference situation, we use situation 1 from Figure 1 where we have a binding global quota  $Q$  with an equilibrium of  $q_1$  and  $p_1$ . In Figure 2, however, country B does not fill its quota share  $Q_B$  because for quantities exceeding  $q_B$ , marginal costs exceed the equilibrium price  $p$  prevailing at the quantity  $q$  (quantity  $q$  is the sum of the effective export quantities  $q_A$ ,  $q_B$  and  $q_C$ ). This underfill causes the price to rise beyond the equilibrium price  $p_1$  of the global quota of Figure 1 which was implicitly assumed to be open to all exporting countries, not just to countries A, B and C. One can also see that those quantities that lie between  $q_B^*$  and  $q_B$  and between  $q_C^*$  and  $q_C$  could not be imported under a global quota: For these quantities, marginal costs are higher than  $p^*$  which corresponds to the lower kink of the effective supply curve of Figure 1. These quantities correspond to points on  $S_0 + t_1$  to the right of  $q_1$  where marginal costs are higher than  $p^*$  but lower than  $p_1$ . For part of these quantities, countries B and C cannot realize quota rents due to their high marginal costs.

So it can be concluded that country-specific allocations can have the effect that more efficient suppliers are driven out of the import market in favor of less efficient suppliers. If the favored suppliers can fill their quota, this inefficient allocation – as compared to a global quota – is at the expense of the more efficient suppliers and at the expense of potential rents. If the favored suppliers cannot even fill their quota, the consumer loses as well: The import quantity is even lower and the price even higher than it would be under a global quota.



Figure 2: Effects of Country-Specific Allocations



Why countries B and C were allocated quota shares in the first place can most likely be explained with history and politics: Maybe this was part of a broader trade agreement or maybe B and C were once, when the quota was set up, the most efficient suppliers but have now been outperformed by others. Then political reasons can again explain that the quota allocation has not been adjusted. Furthermore, the fact that supply and demand curves are unobservable leaves us only with the fill rate as an immediate indicator for inefficiencies on the supply-side. However, lack of demand could also be the reason for quota underfill or inefficiencies caused by the licensing regime, which leads us to the next paragraph.

**Licenses** are simply a means to keep track of imported quantities so that the quota can be enforced. At the same time they are "rights to rents" and this is why their distribution is often an important trade policy instrument. It is often implicitly assumed that the distribution of quota shares already determines the distribution of rents such that each favored country has not just the right to import, but the exclusive right to rents as well. But this is true only if the authorities of the exporting countries are granted the

right to issue export certificates (or export licenses)<sup>2</sup> to their discretion and the wholesale traders of the importing country do not have bargaining power due to monopolies or oligopolies. Often, however, the importing country will wish to favor local traders as well. Then it can issue import licenses and either decree that an importer has to match an import license with an export certificate or that presenting an import license is the only requirement for importing under the quota. In the first case, the rights to rents are allocated both to exporters and importers, in the second obviously just to importers. As mentioned above, competitive conditions determine to what extent administratively allocated rights to rents transform into actual rents.

There are five possible rules that determine the distribution of import licenses (For a more detailed account, see SKULLY 1999a).

1. Historical Allocation Rule: Licenses are distributed according to past trade patterns. Most often, the available quantities are distributed proportionally to the importers' average import quantities of a past reference period. Consequently, market newcomers have to import out-of-quota first in order to be included in future license allocation procedures. As with the allocation of quota shares, the main disadvantage of this rule is that changing market conditions are hard to take into account, be it for political reasons or because of identification problems.
2. First-come, first-served: Import licenses are issued for import quantities in the order of their arrival at the border until the quota is filled. In this case, geographical location becomes a factor of "competitiveness", specially if the commodity or goods in question are perishable. Even if they aren't, resources are very often wasted for storage right at the border in order to make sure to be there on time when the import period is opened.
3. License on Demand: If demand is too low to fill the quota, there is no difference to first-come, first-served. Otherwise all requests for licenses are collected and reduced proportionally to adjust the requested quantity to the available quantity  $q$ . So if it is commonly known that demand for licenses exceeds availability, there is a clear incentive for strategically overstating one's true demand. Unless there is a uniform propensity to overstate, this will add further distortions.

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2 There does not seem to be a consistent distinction between these terms. Here we use the terms interchangeably.

4. Discretionary methods: The right to issue import licenses is delegated to state trading companies which can distribute these between their members according to internal rules. Rules that make the availability of licenses dependent upon certain attributes of the imported commodity are also an example of discretionary "methods".
  
5. Auctions: Who gets how many licenses is determined by market mechanisms. Assuming that the auction itself is efficient, i.e. that there is enough liquidity in the market – this is often a problem in real life – and that the rules of the game are transparent to all market participants, this is the most efficient allocation method. Assuming also that bargaining power is evenly distributed, the quota will be filled by the most efficient suppliers, because these have the widest margin in ability to bid. From the perspective of the government, another advantage of auctions is that they create public revenue up to the whole amount of rents. If this is used to provide public goods or lower the taxes, this distribution will probably be judged more equitable by most people than if importing firms get a nice markup for free or for lobbying best or having the best location. Consequently, in this case licenses are not really "rights to rents" any more, but only "rights to import".

Obviously, some combinations of quota share allocations with licensing rules make more sense than others: If first-come, first-served is an elegant way to avoid the politically sensitive decision which export countries should be favored, it makes little sense to allocate country-specific quota shares first. But since licenses operate at a micro level while quota allocation is still in the macro department, all combinations are possible and offer policy makers a wide range of control regulations.

To sum up, it is this combination of the allocation of quota shares with a licensing regime that determines welfare effects in terms of traditional allocative efficiency criteria as well as of transaction costs. The latter will vary not just in quantity but also in quality: The costs of organizing an auction will generally be accepted as necessary while rent seeking or plain corruption less so. Evidently, different rules have different implications for the resulting income distribution between foreign producers and traders and local traders and state authorities. In the end, however, the consumer always loses.

### 3 THE ROLE OF TRQs IN THE WTO NEGOTIATIONS

With the signature of the Marrakech Agreement that led to the establishment of the World Trade Organisation (WTO) in 1994, the most recent negotiation round of the GATT finished. The Uruguay Round (UR), named after the country that hosted the Ministerial meeting at the beginning of the negotiations, stood under the heading of trade liberalization and the reduction of the nontariff trade barriers (NTB) towards expansion of the world trade in agricultural products. The basic objectives were the limitation of protectionism and quantitative restrictions (QRs), the reduction of tariffs as well as the strengthening of the role of the multilateral trading system through the establishment of the WTO.

The high protection level in industrialized countries has been a major issue in various GATT rounds over many years. No consensus on a real policy change could be reached, however, before the UR. In the UR, agricultural trade liberalization became crucial for the success of the negotiation package. It was the first time that the participants agreed upon an autonomous agreement for agriculture. A most helpful overview of the role of the agricultural sector in the multilateral trading system is provided by JOSLING, TANGERMANN and WARLEY.

#### 3.1 The Agreement on Agriculture

The Agreement on Agriculture is an additional agreement for agricultural trade in the GATT. The GATT on the other hand is one of several sections of the Marrakech Agreement to the establishment of the WTO.

The Agreement on Agriculture comprises three topics called **market access**, **export subsidies** and **domestic support**. They were crucial in the negotiation process. Under the concept of market access measures like quotas, tariffs (specific or ad-valorem), administrative regulations etc., that can distort or prevent trade flows, were discussed. Export subsidies appear in the extent to which governments dispose surplus agricultural production on world markets. The term domestic support refers to measures that

operate like producer subsidies. The structure of the signed agreement is very complex. Under the GATT that deals with trade of goods, the Agreement on Agriculture is located as a so-called additional agreement (WTO 1998). It includes the contract text of only 26 of the altogether 500 pages of the legal framework (JOSLING, TANGERMANN, WARLEY 1996). It nevertheless led to extensive changes in the world agricultural trade. The real dimension that this relative by small part occupies becomes clear if the 20,000 pages of schedules of market access commitments are considered. The details of the implementation of the agreements for individual countries were laid down there.

The objective of the negotiations over agriculture was "...to establish a fair and market-oriented agricultural trading system..." (WTO 1994). The regulation on a **minimum access** measured as percentage of domestic consumption should ensure access to all domestic markets where there had been no or very little imports at all before. At the same time, it was to be avoided to cut the already existing access (**current access**) to the national markets through the implementation of the above mentioned goals. A fundamental part of these efforts was the transformation of all NTB into tariffs and taxes, a process called **tariffication** (JOSLING, TANGERMANN, WARLEY 1996). The current protection should become more transparent and should constitute a basis for further liberalization efforts. It was also expected that tariffs would be less destabilizing for world agricultural markets than nontariff barriers with a zero price transmission elasticity. The members agreed on a calculation method that should transform all nontariff measures into tariff protection. These tariffs became bound and should be reduced by 36 % on a simple (unweighted) average basis, with a minimum rate of 15 % for each tariff line. The procedure of tariffication was quite simple. Each member should measure the price differences between the internal market prices and world market prices during the basis period 1986-1988 on its own. The degrees of freedom in the calculation method were very high. The chosen reference basis period with high price gaps between internal and external market price and the chosen qualities for calculating were relatively "generous".<sup>3</sup> Economists speak in this context of "dirty tariffication" or "water in the tariff".

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3 Sometimes, they compared the world market prices with intervention prices that were normally higher than the actual prices.

Table 1: Structure of the Agreement on Agriculture

<b>Type of rule</b>	<b>Market Access</b> <b>Base: 1986-1988</b>
<b>Price</b>	Tariffication of nontariff trade barriers  Reduction of all tariffs by 36 % average (till 2000 in annual steps) (minimum of 15 % for a single tariff)
<b>Quantity</b>	Minimum access commitments: 3 % of domestic consumption (1995), growing to 5 % ( till 2000)  Current access maintained
<b>Other</b>	Special safeguard provision <sup>a</sup>

a = Special safeguard provisions were introduced for products that have undergone tariffication, which allow importers to guard against import surges and low world prices.

Source:  
JOSLING, TANGERMANN, WARLEY 1996, p. 178.

The calculated high tariffs revealed the actual amount of protection on the markets. In some cases tariffs restricted trade more strongly than in the reference period.<sup>4</sup> Sometimes tariffs were prohibitive. In order to avoid conflicts with duty to grant minimum market access, complementary methods were searched for. The establishment of TRQs emerged as a compromise between tariffication and market access improvement on this occasion (ABBOTT, MORSE 1999). They should keep the market access open like channels for trade flows through the barrier of the bound new tariffs.

The individual member states bound themselves to the establishment of TRQs. Extraordinarily many TRQs were implemented with the tariffication due to the broad variety of products combined with the large number of members of the WTO. A total of 35 countries have scheduled 1370 TRQs for agricultural commodities in the Agreement (BOUGHNER, DE GORTER 1999). There is, however, no uniform distribution in the

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4 The reference period is the time period before the implementation of the entered obligations of the UR.

newly created TRQs across the WTO members. For example, relatively few developing countries have adopted TRQs (ABBOTT, MORSE 1999).

Under certain circumstances, TRQs can show characteristics of protectionism as illustrated in Section 2. ANDERSON (1999) portrays the poor characteristics of TRQs on this occasion very beautifully. They can lead to the legitimization of state trading agencies, to the generation of quota rents, to the discrimination of producers (countries) and to the reduction on overall loss in welfare. These are all effects that were not in the spirit of the UR negotiations. Consequently, the WTO wished to find mechanisms of TRQ administration which would prevent these negative side effects. Unfortunately, the practical implementation did not succeed in realizing this objective.

### 3.2 The Distribution of TRQs

With respect to the practical distribution of the TRQs, several points should be kept in mind. Within its basic principles, GATT regulates the administration of quantitative restrictions (QRs) with Article XIII (SKULLY 1999a), which are not allowed anymore. Under the WTO definition, TRQs are legally and technically no QRs, nevertheless Article XIII applies here. The general procedures are not located explicitly in the Agreements but in the "Agreement on Modalities". Although this agreement never became binding (HUDEC 1998), it summarizes basic rules<sup>5</sup> for TRQs administration.

Article XIII "Non-discriminatory Administration of Quantitative Restrictions" offers different methods of TRQ distribution.

*"In applying import restrictions to any product, contracting parties shall... as closely as possible the shares which the various contracting parties might be expected to obtain in the absence of such restrictions..." or "... may seek agreement with respect to the allocation of shares in the quota with all other contracting parties having a substantial interest in supplying the product concerned" (WTO 1994).*

Several problems emerge with the implementation of this article. For example it seems to be impossible to determine those countries with a "substantial interest" or to find a

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5 The basic rules summarizes general regulations like the amount of the minimum access or the low in-quota tariff. No general formula, however, was fixed for the calculation of this low or minimal in-quota tariff.

base period for the calculation of the trade shares, etc. SKULLY (1999a) called Article XIII a "sickly child". He claims that it advocates non-discrimination as well as discrimination. For example, non-discrimination with respect to the distribution of QRs should reflect the situation as closely as possible as is to be expected in the absence of TRQs. On the other hand, if exporter shares are found to be discriminating due to changing economic conditions, then these can be reallocated without compensation. A detailed discussion of these regulations can be found in BOUGHNER and DE GORTER as well as in SKULLY (1999a).

The basic rules from the "Agreement on Modalities" describe the administrative design of TRQs, which the individual members should implement. They make a general distinction between quotas for "minimum access" and "current access", which are both elements of the efforts concerning market access. They appear in form of TRQs, which admit imports of certain quantities at reduced tariff rates (JOSLING, TANGERMANN, WARLEY 1996).

Current access quotas should be established on markets on which the tariffication had taken place and where the high bound tariffs would lead to a worsening of the access possibilities compared with a fixed base period fixed previously (see above). The fixed quantity should nearly equal the import quantity of the basis period of 1986-88.

Minimum access quotas, however, should secure a certain minimum market access. If imports were small or nil before the UR, market access should be established. The size of the corresponding TRQs should enable imports of at least 3 percent of the national consumption of the basis period 1986-88 and will be increased up to 5 percent in 2000 (JOSLING, TANGERMANN, WARLEY 1996).

Generally, the current access TRQs are meant to preserve the existing market access and can be introduced as country-specific quotas (JOSLING, TANGERMANN, WARLEY 1996). The distribution can therefore reflect the historically developed trade flows.

Obviously, previous trade flows cannot be the orientation for the creation of the new market access. Its distribution should be based only on the MFN principle on non-discrimination (JOSLING, TANGERMANN, WARLEY 1996).



The rules for the administration of TRQs do not form a strict framework for the distribution of TRQs and leave very much scope for interpretation through the national authorities. In the implementation of Article XIII, the structural deficits of the WTO (GATT) regulations become clear. The GATT is a rule-based agreement for trade which needs consensus in the negotiations. It is no wonder that structural deficits occur on this occasion. The general rules of the agreement on the other hand need explanations and exceptions for interpretation. Often, these rules can not be translated without recourse to additional information, explaining their purpose (HUDEC 1998). Consequently, it is not surprising that inconsistent options occurred in the case of the GATT in the context of TRQs. "Instead of advocating one principle of distributive justice and proscribing all others, Article XIII allows a conflicting set of distributive principles to co-exist" (SKULLY 1999b).

The WTO in its efforts is interested in an expansion and support of the world agricultural trade. It is, however, primarily interested in the distribution and extent of trade quantities and less in the distribution of quota rents emerging hereby (SKULLY 1999a). However, politicians who formulate economic and trade policy and corresponding administrative regulations are very much interested in the distribution of rents. Normally licenses must be distributed along with the allocation of the quotas. The distributive effects depend strongly on these two questions. The decision who gets the right to export or import, can also determine which firm receives the "right to import". There are no specific provision for the allocation methods of import licences (BOUGHNER, DE GORTER 1999).

With the distribution of the quotas, one determines the trade direction and trade quantity. The rents, however, are distributed primarily with the distribution of licenses. The above mentioned options from Article XIII GATT apply for the administrative regulation of quota distribution. The TRQs for minimum access should be distributed on the basis of the MFN principle.<sup>6</sup> In the ideal case, they would be created for all members (*erga omnes*) in the form of a global quota (TANGERMANN 1996). This theoretical idea opposes the practical design within the negotiation. So, some of the minimum access TRQs were created with more or less strong consent of the other WTO members as country-specific current access TRQs (TANGERMANN 1996). An example is the *erga omnes* quota for corn into the EC, whose administrative design was chosen such that the USA are beneficiaries of the quota tender.

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6 Article I: "...any advantage, favour, privilege or immunity granted by any contracting party to any product originating in or destined for any other country shall be accorded immediately and unconditionally to the like product originating in or destined for the territories of all other contracting parties" (GATT 1986, p. 2).

## 4 HOW THE ADMINISTRATION OF TRQs AFFECTS THE ECONOMIC IMPACTS: LESSON FROM THE BANANA CASE

### 4.1 Background and Rules of the CMOB

The Common Market Organization for Bananas (CMOB) is based on a TRQ system. It is, however, in several ways different from most other TRQs in agriculture. TRQs have not been introduced as a consequence of the decisions on "tariffication" and minimum market access under the URAA. Their origin was the Single European Act of 1993, which led to a common market policy departing from differential national policies of the individual EU member countries.

The CMOB was introduced in 1993 and two major changes of the system occurred since then. Table 2 summarizes the main features of those three systems. The CMOB contains several of the elements of a TRQ system, which were discussed in Section 2, but it is more differentiated than the textbook case discussed in Figure 1. There are two different quotas which we call the ACP quota and the MFN quota. The ACP quota is reserved for imports from ACP countries, i.e. African, Caribbean and Pacific countries which are granted preferential access to the EU markets according to the Convention of Lomé. The size of this quota is 857,700 mt and exports of individual ACP countries within this quota may not exceed pre-CMOB levels. The MFN quota covers EU imports from third countries. It has increased from originally 2 million metric tons to now 2,553,000 tons, and the so-called dollar banana exports from Latin American countries to the EU account for the major share of this quota.

A highly complex import licensing scheme was introduced to ration the scarce MFN quota, whereas the ACP quota has traditionally not been filled. Under the MFN quota, rationing took place according to operator categories first. These depended on the source of previously marketed bananas. Traders who had marketed dollar bananas were categorized as category A operators. B operators were those who had marketed EU or ACP bananas. Category C operators were newcomers. 66.5 %, 30 % and 3.5 % of the licenses were reserved for category A, B and C operators respectively. Secondly, quantities were allocated according to activity functions to primary importers, secondary importers and ripeners who received 57 %, 15 % and 28 % respectively.

The result was a highly discretionary system based on historical criteria. Some flexibility to the scheme was introduced as the licenses have always been tradeable apart from restrictions to newcomers.

Table 2: Overview of the CMOB: 1993 to Present

Regime	Original Common Market Regime 1993-1994		BFA-Reform 1995-1998			WTO-Ruling Reform 1999-Present
	ACP	MFN	ACP	MFN	ACP	MFN
<b>Quota Allocation</b>	Country-Specific Allocation	Global Quota	Country-Specific Allocation	~ 50% Country-Specific Allocation for BFA Signatories; ~ 50 % Global Quota	Global Quota	~ 90% Country-Specific Quota for Substantial Suppliers; ~ 10 % Global Quota ("others")
<b>Country-Specific Quota Transfer</b>				Partly Transferable		No Transfer-ability
<b>Quantities</b>	857,700 t	2,000,000 t <sup>a</sup> (1993) 2,200,000 t <sup>a</sup> (1995)	857,700 t	2,553,000 t <sup>a</sup>	857,700 t	2,553,000 t <sup>a</sup>
<b>Tariffs</b>						
<b>1<sup>st</sup> tier</b>	0 ECU/t <sup>b</sup>	100 ECU/t <sup>b, c</sup>	0 ECU/t	75 ECU/t <sup>c</sup>	0 ECU/t	75 ECU/t <sup>c</sup>
<b>2<sup>nd</sup> tier</b>	750 ECU/t <sup>b</sup>	850 ECU/t <sup>b, c</sup>	722 ECU/t	822 ECU/t <sup>c</sup>	537 ECU/t	737 ECU/t <sup>c, d</sup>
<b>License Regime</b>		Operator Categories + Activity Functions		Operator Categories + Activity Functions		Distinction only: Traditional Operators and Newcomers

a = Including non-traditional; b = green ECU; c = The tariffs for traditional ACP imports apply also to non-traditional imports from ACP countries within the MFN quota; d = Will be reduced to 680 ECU/t as negotiated in the Uruguay-Round.

Source:  
HERRMANN, KRAMB, MÖNNICH (1999), p. 3.

Table 2 indicates that in-quota and out-of-quota tariffs are lower for ACP than for third countries. The second-tier tariff has been much higher than the first-tier tariff since the very beginning of the CMOB. The administration of TRQs, however, strongly changed from the first to the second and third CMOB. Both changes occurred under the pressure of WTO Panel Reports which found inconsistencies of the CMOB with WTO rules.<sup>7</sup> The Banana Framework Agreement (BFA), which entered into force in 1995, can be regarded as a compromise between the EU and the four Latin American countries Costa Rica, Colombia, Nicaragua and Venezuela. These four countries were assigned 23.4 %, 21 %, 3 % and 2 % of the total MFN quota respectively and could issue export certificates for up to 70 % of their country quota. The other 50.6 % of the MFN quota remained a global quota.

A Panel Report found, in 1997, several inconsistencies of the CMOB, in particular of its licensing regime, with WTO rules. It was generally found that separate regimes, i.e. two separate quotas, are not allowed. Furthermore, it was criticized that some but not all non-substantial suppliers had been allocated country-specific shares, for instance ACP countries and Venezuela and Nicaragua. The fact that category B operators had been exempted from the requirement of presenting export certificates was also objected. This led to a second change of the CMOB.

The 1999 CMOB introduced again some substantial changes of the rules, e.g. with regard to the licensing system. Operator categories and activity functions have been abolished. Now there is only a distinction between traditional operators and newcomers. For traditional operators, there is a so-called single-pot license-allocation procedure, which means that no matter under which quota bananas have been previously imported, these quantities establish reference quantities for the allocation of licenses for imports under the MFN quota. More than 90 % of the MFN quota are now allocated to the substantial suppliers Colombia (23 %), Costa Rica (26 %), Ecuador (26 %) and Panama (16 %). The remaining 9 % are a global quota for which non-substantial suppliers compete, irrespective of their origin being an ACP country or not. Export certificates are not involved any more.

Again, a Panel Report found ongoing inconsistencies with WTO rules in April 1999 and the European Commission formulated in November 1999 a two-step plan to return to a tariff-only policy until 2006 (WTO 1999; EUROPEAN COMMISSION 1999).

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7 A much more detailed analysis of changes in the CMOB is provided by HERRMANN, KRAMB, MÖNNICH (1999).

## 4.2 Economic Impacts of the CMOB and Its Administration

Figure 1 has shown the basic microeconomics of TRQs and Figure 2 has illustrated some additional impacts of quota allocation and licensing, i.e. the administration of TRQs. These considerations are now extended for the case of the CMOB. Figure 3 presents some basic economic impacts of the CMOB on the European market for banana imports from third countries. The market segment for EU and ACP bananas is not explicitly considered. We posit perfect competition and the large-country assumption for the EU as a whole on the world banana market.<sup>8</sup>

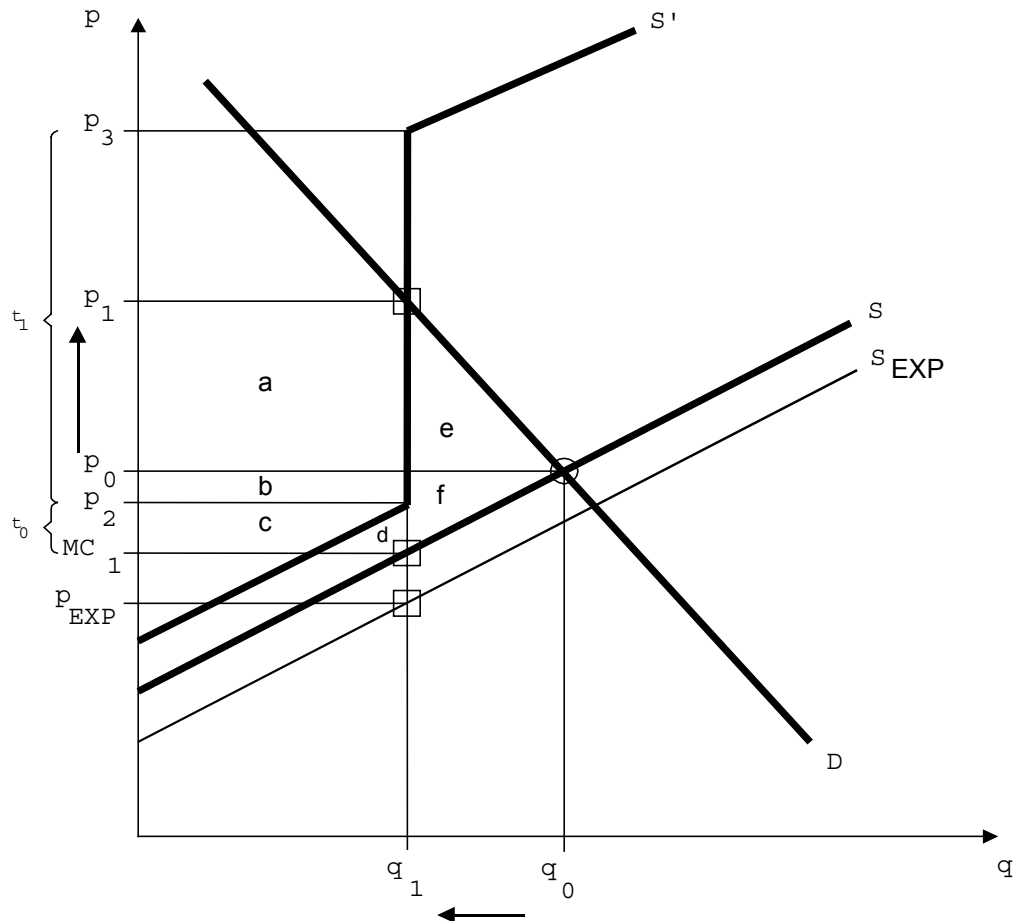
Some elements of Figure 3 deviate strongly from the textbook presentation of Figure 1. We compare the existing situation with TRQs with a free-trade situation rather than with a tariff-only policy. This seems plausible as free trade has been the pre-CMOB framework at least for individual EU countries like Germany. Moreover, free trade can usually be regarded as the first-best policy benchmark. We also include middlemen in the marketing channel, which is important when allocative and redistributive impacts of the CMOB are derived. The stage of the marketing chain considered is the import stage.

Typically, at the import stage, multinational fruit companies offer bananas to European wholesalers or ripeners.  $S$  stands for the supply curve of multinational fruit companies at the EU border. It can be thought of an excess supply curve of dollar bananas from the rest of the world within a two-region model. In a competitive marketing chain, the  $S$  curve is derived by adding marginal transport, ripening and marketing costs to marginal costs of exporters in the exporting countries. The latter is characterized by the supply curve  $S_{EXP}$ . As far as parallel shifts are involved between  $S$  and  $S_{EXP}$ , we can derive the aggregate welfare changes of producers and the consumers in the exporting countries along the  $S$  curve.  $D$  is the import demand curve, which indicates the willingness to pay of wholesalers and ripeners for banana imports at the EU border. In a competitive marketing chain,  $D$  is derived from the consumers' willingness to pay for bananas at the retail level. If the demand curves at the retail and import stages are parallel, we can interpret welfare changes along the  $D$  curve as changes in consumer surplus. Under free trade, the market would be cleared with a quantity  $q_0$  and an import price  $p_0$ .

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8 These assumptions are not empirically tested here. For a test of alternative market conduct hypotheses on the German banana market prior to the introduction of the CMOB, see HERRMANN, SEXTON (1999).

Figure 3: Economic Impacts of the CMOB on the European Market for Banana Imports from Third Countries (Assumptions: Perfect Competition; Large Country)



Under the CMOB, a global quota  $q_1$  is fixed. Additionally, a two-part tariff is introduced:  $t_0$  on all imports up to the quota and  $(t_0 + t_1)$  as a prohibitive tariff rate above the quota. The administration of TRQs involves import licenses, as under the CMOB of 1993 and 1999. This leads to the kinked export supply curve  $S'$  with a vertical part between  $p_2$  and  $p_3$ .  $S'$  now intersects  $D$  at  $p_1$ . Thus, the tariff-rate quota raises the import price from  $p_0$  to  $p_1$  and restricts imports from  $q_0$  to  $q_1$ .

What are the welfare implications of the CMOB on the European banana market? European consumers lose the area  $(a + e)$  in consumer surplus as a result of rising prices. A part of the price rise is due to the introduction of the tariff  $t_0$ . A budgetary gain by the area  $(c + d)$  arises at the EU level. Additionally, quota rents occur on the Euro-

pean market for traders in the magnitude of the area  $(a + b)$ , since licenses and therefore rights to rents are distributed to importers. Prices rise stronger than in the pure tariff case and the restricted quantity can be sold at the highest bid, i.e. at  $p_1$  rather than  $p_2$ . A net loss for producers and consumers in the exporting countries arises if world prices are transmitted to their domestic markets. The global quota is offered by traders, i.e. multinational firms, at the EU border at marginal costs  $MC_1$ . If marginal costs of transporting, ripening and marketing from the exporting country to the EU border are subtracted, producer and consumer prices in exporting countries decline to  $p_{EXP}$ . The welfare loss for exporting countries, which is the net loss of producers and consumers, can be measured by the area  $(b + c + d + f)$ . Thus, the TRQ policy on the European banana market has led to welfare losses of European consumers and in third-countries, in particular for producers, which overcompensate the sum of quota rents by traders and EU budgetary gains. A net welfare loss of area  $(e + f)$  occurs on the European banana market for imports from third countries.

This net welfare loss is an aggregate worldwide loss arising from the change on the European market. The analysis is much more difficult if we ask for the CMOB's net welfare effect from the European point of view. A decision has to be made then how to account for quota rents of multinational firms. If quota rents are calculated as profits of European branches of those firms, they are part of the European welfare effect. If they are transferred back to their home countries, they are part of the non-European welfare effect.<sup>9</sup>

The welfare and redistributive effects are now dependent both on the core policy parameters of the TRQ system like the size of the global quota, the magnitude of the first- and second-tier tariffs and on the determinants of TRQ administration, e.g. the licensing scheme. The size of the global quota, e.g., determines the actual price under the TRQ policy and, hence, the magnitude of the welfare loss. The net welfare loss due to the CMOB is generally higher the more restrictive the global quota for dollar-banana exporters. The global quota also determines all redistributive effects. The smaller the global quota, the larger is the loss in consumer surplus, and the loss of producer surplus in the exporting countries and the lower is the budgetary gain at the EU level.

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9 The story could become even more complicated if profits of multinational firms would be addressed to the respective shareholders. Quota rents may then be spread all over the world.

Whether the quota rent increases or decreases with a reduction of the global quota, depends on the price elasticity of import demand.

The administration of TRQs may affect the size of the quota rent and, thus, the net welfare effect. One case in point is that the distribution of import licenses is usually not oriented at marginal costs. Under the original rules of the CMOB, the shares of operator categories in the license allocation did not coincide with trade patterns in a hypothetical free-trade situation. The license share of category B importers was too high relative to category A importers. This caused an intensive trade with licenses. Due to the initial allocation and the price of quotas, quota rents and income were redistributed from higher- to lower-cost importers and also across traders and countries. Welfare losses were caused, too, as additional transaction costs in license trading occurred. As far as category B importers stuck to their licenses, new business relationships with dollar-banana exporters had to be built up, i.e. additional transaction costs were created. The existence of transaction costs diminished the overall size of the quota rent, i.e. the area (a + b) captured by importers, and increased the overall welfare loss due to the CMOB.

Whereas these latter conclusions are similar for the CMOB of 1999, the TRQ administration under the BFA of 1995 differed substantially from the third and the first system. Consequently, the implications for allocation and redistribution were very different. When export licenses are issued as was the case under the BFA by the four privileged dollar-banana exporters Costa Rica, Colombia, Nicaragua and Venezuela, rights to rents are allocated at least to some exporting countries. Those exporting countries will then receive a part of the quota rent that was fully captured by traders in the situation without export licensing. Thus, exporting countries can regain their original welfare loss at the expense of multinational firms or European traders. Beyond the redistributive effects, allocative impacts on the export side are likely. Under the BFA, rights to rents were given to some countries, which enjoyed preferential treatment on the political market. In terms of TRQ administration, these are discretionary methods of country-specific allocation. Typically, such a country-specific allocation is not conform with differences in marginal costs and implies that the overall quantity is produced at higher costs. The net welfare loss of a TRQ policy additionally increases compared with the situation of Figure 3.



We have not yet touched some important questions which determine the impacts of TRQ administration. It can be shown that welfare impacts of TRQs are different from those of Figure 3 if imperfect competition rather than perfect competition holds. One empirical study of the European banana market claimed that certainly the market structure is imperfectly competitive and also that market conduct on one selected market, i.e. Germany, is imperfectly competitive (DEODHAR, SHELDON 1995). It has been shown recently that the result of significant market power is contingent upon the authors' econometric model. An improved model specification shows that market conduct on the German banana market was very close to competition (HERRMANN, SEXTON 1999). A further important question in the assessment of the CMOB is that the national and the EU points of view should be distinguished. This is due to the fact that redistributive effects occur within each Common Agricultural Policy as a consequence of the Common Financial System (KOESTER 1977). These different views have been elaborated and quantitatively assessed elsewhere (HERRMANN 1999).

Given these arguments, we can draw some important policy conclusions:

1. The analysis has shown that the general parameters of TRQ policy as well as TRQ administration under the CMOB have induced an aggregate welfare loss on the regulated market for bananas. One major element of this welfare loss is a high reduction of consumer surplus.
2. Additionally, the redistributive impacts of the CMOB are hidden and inconsistent with the stated goals of the policy. The main objective of the CMOB is to guarantee EU and ACP producers of bananas remunerative earnings at reasonable consumer prices (EUROPEAN COUNCIL 1993). This implies that distortions on the most important market segment, i.e. the market for imports from third countries, are accepted in order to realize objectives on the small segment of EU and ACP bananas. The transfer efficiency of this policy can be rated as being extremely low.
3. Apart from being not directly observable, the redistributive impacts of the CMOB were also large in their magnitude. Figure 3 suggests already that the area (a + b) should be a large amount in monetary terms. Computations for Germany show that traders captured 687.5 mill. DM of quota rents in 1994 at the import level. This amounts to 36.6 % of import expenditures of that year. No reference is made in the original policy that subsidization of firms in the marketing channel is a policy objective. Therefore,

these income transfers must be evaluated as being untargeted and arbitrary in terms of redistributive goals of economic policy.

4. Rent-seeking has risen enormously due to the introduction of TRQs in general and, partly, as a consequence of the specific rules of quota administration. In general, firms had to invest time and money in understanding and applying a difficult licensing scheme which could have been used more effectively from the society's point of view in production, processing and trading activities. Adjustment costs occurred as a consequence of several changes in the regime over time. Due to the lasting trade dispute on the CMOB, all market participants in the EU banana economy engaged in the political market and in rent-seeking. PEDLER (1994) documented in detail the lobbying process prior to the introduction of the CMOB. Rent-seeking costs of this type are a waste of resources from the society's point of view.

## 5 SUMMARY AND CONCLUSIONS

The Uruguay Round Agreement on Agriculture (URAA) is regarded by many economists as a major step towards international trade liberalization. A more stable and less distorted trade is expected from the decision on tariffication and the reduction of protection levels at least in the medium run. We show in this contribution that the actual liberalization steps, however, are combined with some substantial new nontariff trade barriers. Tariff rate quotas (TRQs) are a case in point. In order to fulfil the minimum access rule, many countries introduced TRQs and combined tariffs with quotas.

The economics of TRQ administration reveals that impacts of TRQs are often very similar to those of traditional quantitative restrictions. In particular, efficiency losses are typical. High and arbitrary quota rents will often occur. The analysis of the Common Market Organization for Bananas (CMOB) confirms this view very clearly. Due to the general introduction of TRQs on the European banana market and also as a consequence of TRQ administration, an aggregate deadweight loss does exist in the banana economy. Hidden redistributive impacts occur which are inconsistent with the stated policy goals. Redistribution was also important in quantitative terms given the large quota rents. This induced a high degree of rent-seeking and, thus, of economic costs.

We conclude that the discussion on agricultural trade liberalization should concentrate much more on the actual liberalization steps than it has in the past. It is certainly misleading to conclude that nontariff barriers in agriculture have been declining based on the formal WTO definition which does not count TRQs as nontariff barriers. TRQs may also be very resistant to policy reforms since the incentives to defend existing quota rents are very strong.

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