

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

POLICY ISSUES IN INTERNATIONAL TRADE AND COMMODITIES
STUDY SERIES No. 31

**BANANA SPLIT:
HOW EU POLICIES DIVIDE GLOBAL PRODUCERS**

by

**David Vanzetti
Santiago Fernandez de Córdoba
Veronica Chau**

Trade Analysis Branch
Division on International Trade in Goods and Services, and Commodities
UNCTAD



UNITED NATIONS
New York and Geneva, 2005

NOTE

The purpose of this series of studies is to analyse policy issues and to stimulate discussions in the area of international trade and development. This series includes studies by UNCTAD staff, as well as by distinguished researchers from academia. In keeping with the objective of the series, authors are encouraged to express their own views, which do not necessarily reflect the views of the United Nations.

The designations employed and the presentation of the material do not imply the expression of any opinion whatsoever on the part of the United Nations Secretariat concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Material in this publication may be freely quoted or reprinted, but acknowledgement is requested, together with a reference to the document number. It would be appreciated if a copy of the publication containing the quotation or reprint were sent to the UNCTAD secretariat:

Chief
Trade Analysis Branch
Division on International Trade in Goods and Services, and Commodities
United Nations Conference on Trade and Development
Palais des Nations
CH-1211 Geneva

UNCTAD/ITCD/TAB/32

UNITED NATIONS PUBLICATION
Sales No. E.05.II.D.17
ISBN 92-1-112677-0
ISSN 1607-8291

© Copyright United Nations 2005
All rights reserved

ABSTRACT

Banana prices within the European Union are almost double world levels. These prices are maintained by restrictive import quotas and tariffs that generate rents that accrue to distributors and producers. The European Union is obliged to remove its quantitative restrictions and replace them with a tariff. It is likely to choose a preferential tariff that favours exports from ACP countries, but any one tariff would benefit the lower-cost ACP producers at the expense of others. The EU's problem is one of addressing multiple objectives with a single instrument.

Quantitative analysis using a bilateral trade model suggests that if the European Union were to remove its import quotas but leave intact the €75/tonne preferential tariff on non-ACP exports, traditional ACP countries would see their global exports just maintained, while Côte d'Ivoire, Cameroon and, to a lesser extent, non-ACP countries would enjoy significant increases. However, welfare in traditional ACP countries would fall by €37 million as a result of losses in quota rents. A tariff of €30/tonne on imports, as recently proposed by the European Commission, would reduce the welfare losses in traditional ACP countries by more than half but would prevent growth in exports in non-ACP countries. The results confirm that current EU policies are poorly targeted and inefficient, and that there are better means of assisting producers in the high-cost countries.

ACKNOWLEDGEMENTS

This is a revised version of a paper presented at an FAO Informal Expert Consultation on Banana Trade Policies, Rome, 28–29 October 2004. The authors have benefited from suggestions made at that meeting. The major differences between the papers are the assumed supply elasticities and the producer response to changes in quota rents. In addition, since the earlier paper was presented the European Commission has proposed a tariff.

This study was written by the authors while working at the Trade Analysis Branch of the Trade Division of UNCTAD. As from June 2005, their contact details are as follows: David Vanzetti, Australian National University, e-mail: david.vanzetti@anu.edu.au; Santiago Fernandez de Córdoba, UNCTAD New York Office, e-mail: cordobas@un.org; Veronica Chau, Kennedy School of Government at Harvard University, e-mail: veronica_chau@ksg05.harvard.edu.

CONTENTS

Introduction.....	1
Regime change in the EU banana market	1
Competition for the EU banana market	3
Quota rent distribution	4
A quantitative analysis of the impacts of potential EU banana reforms	7
The data	8
The responsiveness of producers	9
Some assumptions	9
Simulations	10
Results	11
Implications, limitations and conclusions.....	12
Relevant EC regulations.....	14
References and Bibliography	15

Figures

1.	Banana supply in the European Union 15, 1993-2003	3
2.	Comparison of banana production costs, 1997	4
3.	Banana prices in the European Union and the United States, annual averages, 1999-2003.....	5
4.	Initial EU banana quota rents with binding import quota.....	10

Tables

1.	The EU banana regime.....	2
2.	Regions	7
3.	Base banana data, 2002.....	8
4.	Change in exports and welfare relative to baseline following EU liberalization	11

INTRODUCTION

Bananas sell in the European Union at around €800–900 per tonne, almost twice the world price. The European Union is the second largest market for bananas in the world, more than 4 million tonnes having been sold in 2003. However, consumption is restricted by high prices to protect EU producers in the Canary Islands, Martinique and Guadeloupe and to provide support to producers in selected developing countries. Access to this lucrative market is currently regulated by the Common Market Organization for Bananas (CMOB) through a tariff-quota system. Under this system, import licences were awarded to producers, primarily in African, Caribbean and Pacific (ACP) countries, on the basis of historical relationships. After 10 years of dispute within the WTO the European Commission is obliged to remove its quotas and replace them with tariffs. The Commission aims to set differential bilateral tariffs such that countries previously allocated the quotas will be no worse off. In October 2004 the Commission proposed a tariff of €230 per tonne. It is of interest to speculate how the various producers, distributors, taxpayers and consumers might be affected.

In this paper we review the current regime and the likely changes that will occur. We then conduct a quantitative assessment of the tariff equivalent of the current quotas. Sensitivity analysis suggests that assumptions about the initial distribution of quota rents drive the results. However, for reasonable assumptions regarding the proportion of rent captured by ACP countries, the increase in imports as a result of the expansion of the EU market more than offsets the loss in rents.

Regime change in the EU banana market

The current EC banana regime originated when the European Union harmonized its markets in 1993. The objectives of the regime are to facilitate the trade of bananas within the European Union, to protect preferences granted to former colonies of EU countries, to protect the income of local producers and to promote the development of EU produce distributors. The original system granted preferences to ACP countries under the Lomé Convention, and later the Cotonou Agreement.

Over the past decade, the regime has evolved as a result of repeated challenges by the United States and Ecuador to international trade bodies. In 1997, the WTO Dispute Resolution Body ruled that the CMOB regime was in contempt of the GATT and GATS agreements, mainly because of the discriminatory practice of setting aside a set quota for ACP countries, and the allocation of licences, which permitted discrimination against third party countries. In response, the EU reformed the regime, but the WTO ruled again in January 1999 that the system was still incompatible with several GATT articles. Later that year, the EU proposed a two-step plan to reform its regime to fall in line with WTO rules. The United States and Ecuador agreed to the new proposal in April 2001 and the first phase of the plan was implemented between July 2001 and January 2002. The transitional regime is described in table 1.

Table 1. The EU banana regime

	Quota	Quantity kt	Tariff €/tonne	Tariff preference for ACP countries €/tonne	Set-aside for non- traditional operators %
Step 1	A	2,200	75*	75	17
	B	353	75	75	17
Phase 1	C	850	300	300	11
	Out of quota		680	300	na
Step 1	A	2,200	75*	75	17
	B	453	75	75	17
Phase 2	C	750	n.a.	n.a.	11
	Out of quota		680	300	n.a.
Step 2	Quotas eliminated		Tariff to be determined	Tariff to be determined	

* Denotes bound tariff.

The quotas are implemented using import licences, which are awarded to operators in banana-producing countries. The major differences between this new policy and the previous version are as follows:

- Changes in the definition of “traditional operators” to include “primary producers” and to use 1994–1996 as the base reference period;
- Introduction of new requirements for qualifying as a non-traditional operator (e.g. having imported €1.2 million or more during 1994–1996);
- Abolition of the sub-quota categories in A/B quotas;
- Set-aside quantities for non-traditional operators of 17 and 11 per cent in A/B and C quotas respectively.

During phase 2 of step 1, the required changes included:

- Transfer of 100,000 tonnes from Quota C to Quota A/B;
- Restriction of Quota C to ACP countries only;
- Allocation of licences for traditional operators on the basis of their level of use of their licences since the beginning of Phase 2.

Implementation of Phase 2 is under way. Owing to the recent enlargement of the EU, the total quota amounts will be increased by 300,000 tonnes for 1 May to December 2004. The second step in the EU’s transition to compliance with WTO rules is a move to a tariff-only system, free of quantitative restrictions, as of 1 January 2006.

In a recent communication, the European Commission stated that it will attempt to set a quota level that will provide for “a level of protection equivalent to that currently existing” in order to protect the interests of its domestic producers and ACP producers.¹ In accordance with the Cotonou

¹ EC (2004) Communication from the Commission on the modification of the European Community’s import regime for bananas. *Commission of the European Communities*, Brussels, 2.6.2004 COM(2004) 399 final.

Agreement, the Commission will seek to ensure that ACP producers are no worse off than when the original CMOB was introduced in 1993. It is not clear whether “no worse off” relates to export quantities, revenues, producer returns or some other variable. The crucial decision on the tariff rate for this new system has yet to be taken, although the Commission floated a figure of €230 per tonne in October 2004.

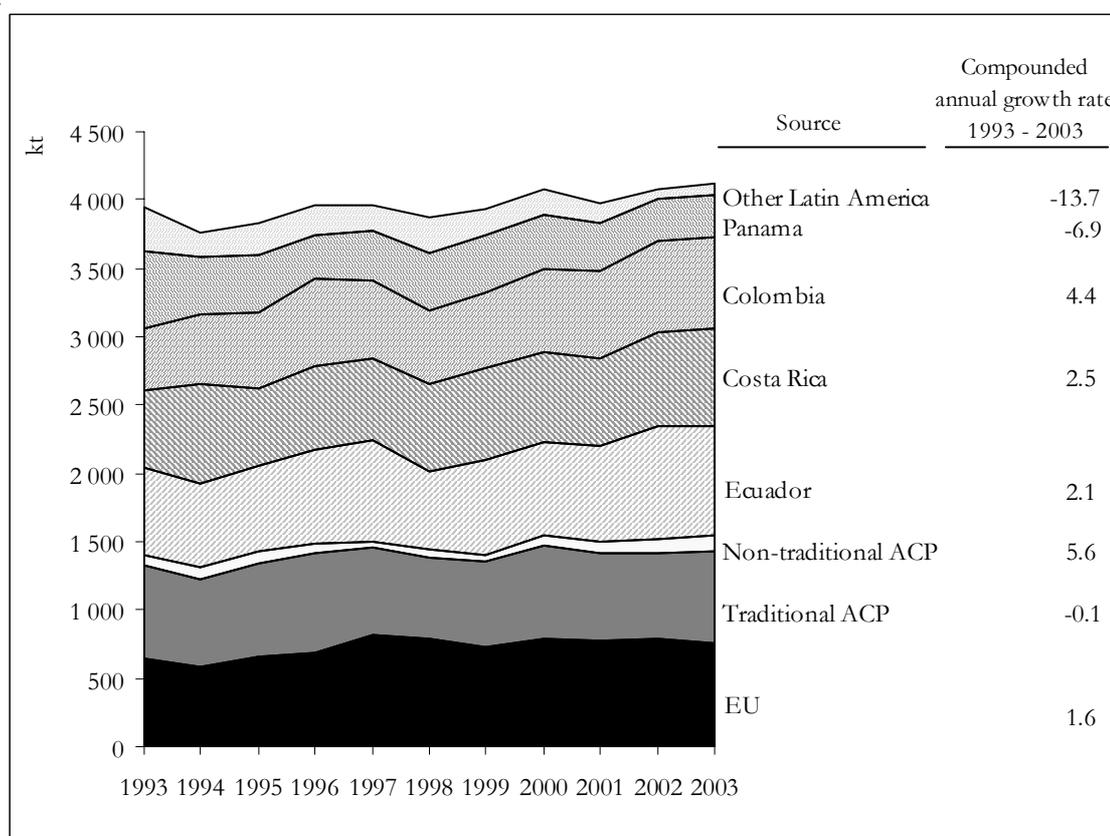
Competition for the EU banana market

EU consumers eat 4 million tonnes of bananas annually and there is fierce competition for this lucrative market. EU producers in the Canary Islands, Martinique and Guadeloupe supply 600 to 700 kt, about 15 to 17 per cent of the market, and the

remainder are imported under quota.² South America, Central America, Africa and the Caribbean respectively account for 40, 25, 12 and 5 per cent of exports to the European Union. Changes to the regime since 1993 have contributed to changes in the market shares of exporters, although total imports have been constrained by quota. The changing market shares are illustrated in figure 1.

While the aggregate amount of imports from traditional ACP countries remained constant, within this category three key producers – Cameroon, Côte d’Ivoire and Belize – experienced strong growth, while imports from the smaller countries in the ACP group declined dramatically. This reflected the move from allocating quotas to distributors rather than countries. This allowed distributors to source their supply from the

Figure 1. Banana supply in the European Union 15, 1993–2003



Source: MS Communications (EU)/Comext (ACP & DOLLAR Z.)/Austria, Finland and Sweden, 1990–1994, from respective national trade statistics.

² There are virtually no overquota imports.

more efficient, low-cost producers within the ACP countries. Likewise, with regard to “Dollar Zone” imports, three countries accounted for almost all of the growth in imports (Ecuador, Costa Rica and Colombia), winning market share away from smaller producers in other Latin American countries. Colombia, Costa Rica and Ecuador have enjoyed strong growth thanks to their relatively low production costs and scope for expansion.

Data on production costs from 1997 indicate the vast differences between the low-cost producer Ecuador and the EU domestic suppliers (figure 2). These data are somewhat dated, and it is difficult to see how Martinique producers could remain profitable at current prices of €800–900, although changes in the €/US\$ could make a significant difference. Nonetheless, the range of production costs illustrates the scope for reform.

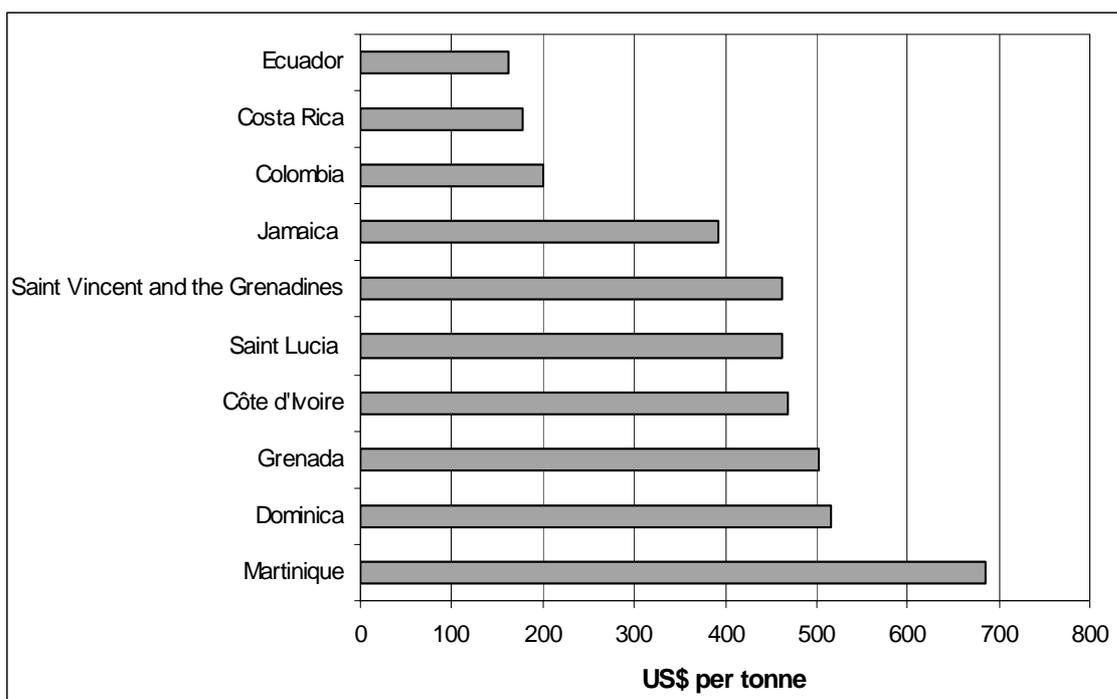
The move to a tariff-only system has the potential to increase EU consumption if

domestic consumer prices are reduced. Import quotas and high prices have constrained consumption in recent years, and per capita consumption is well below US levels. In 2000, per capita consumption of bananas in the EU was a third less than in the United States. EU and US prices are compared in figure 3. The price premium in the EU is due largely to the effects of the managed supply regime and, to a lesser extent, consumer preferences for higher-quality bananas. Reducing EU prices to world levels would lead to a substantial increase in consumption (see later estimates).

Quota rent distribution

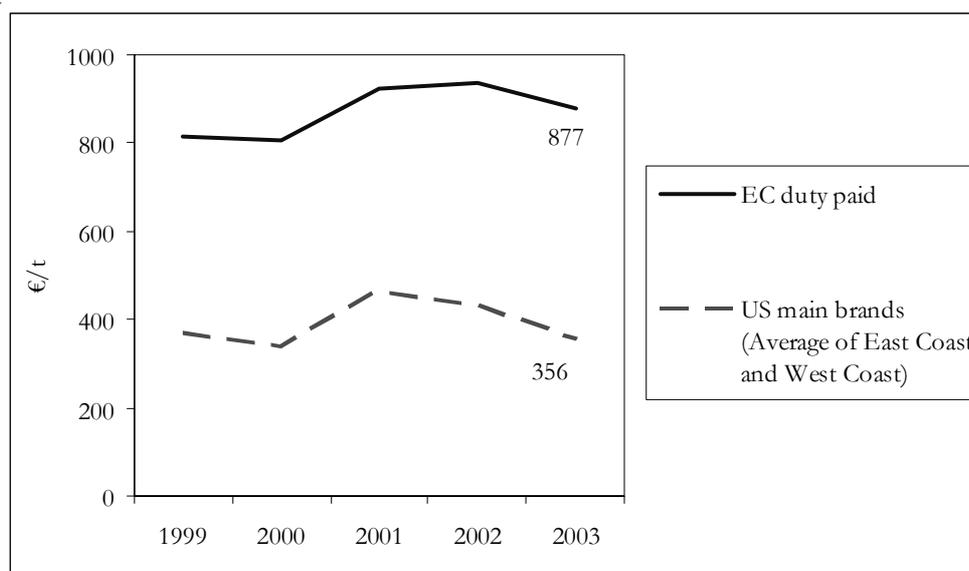
The current quota system has resulted in higher average prices for bananas than in almost any other market. The key question to consider is who is receiving the benefits (i.e. rents) from the artificially high prices created by the quota system. This question is especially relevant in the banana industry, which is highly oligopolistic in nature.

Figure 2. Comparison of banana production costs, 1997



Source: Image and data adapted from OECD, *Trade Development and Capacity Building*, (1997) as reported in Chambron (2000).

Figure 3. Banana prices in the European Union and the United States, annual averages, 1999–2003



Source: FAO data, EC duty paid = bananas (C. America, f.o.b. Hamburg – EC duty paid); US main brands = average of USA (East Coast) – main brands Central America, f.o.b. and USA (West Coast) – main brands Central America, f.o.b.

Banana growing for the export market is characterized by economies of scale. Significant upfront investment is required in order to build plantations and processing facilities. However, harvesting is labour-intensive. As a result, large companies that operate in countries with abundant low-wage labour tend to be better able to compete on world markets. These forces have contributed to the creation of a highly oligopolistic market. In 1999, the top three banana-producing companies (Chiquita Brands International (previously United Fruit Company), Dole Food Company (previously Standard Fruit Company) and Fresh Del Monte Produce) had 67 per cent of the total market share of producing and exporting bananas.

However, throughout the 1990s transnational companies began to deconstruct their vertical supply chains. They increasingly began to focus on higher margin activities such as transportation and distribution while contracting out production. At the same time, retail food chains in Europe are increasingly becoming more consolidated, with an

increasing share of the market being controlled by a smaller number of large retail chains. This has increased their purchasing power and has led some of them to start taking a more active role in managing the supply chain.

These factors give rise to the perception that the distributor rather than the grower gains a large share of the quota rents. However, the distribution of the rents depends on how the import quotas are allocated rather than on the market structure. For example, if quotas were auctioned, rents would accrue to the importing Government. With EU bananas quotas are allocated to distributors who can source supply from the most competitive producers. It seems improbable that under these circumstances the growers in exporting countries are likely to benefit substantially.

A number of different studies have estimated which groups are currently benefiting from the EU quota system. Borrell (1999) uses differences between the price for bananas from preferred suppliers and the

world price as an estimate of the cross-subsidy, or aid received by the producers in ACP countries. Multiplying this price difference by the quantity of bananas sold gives an estimate of the total cost of the banana regime to consumers. Borrell then subtracts the portion that goes towards government tariff revenues, the operating costs of the producers and the profit margins retained by the distributors and marketers within the EU. Using this methodology, he arrives at a figure of \$150 million as an estimate for the total amount of extra revenues that producers in ACP countries are receiving as a cross-subsidy or aid. He makes the point that the EU is forgoing quota rents of \$3 billion to provide benefits of \$150 million to producers, and that a better way could be found to achieve the objectives.

Badinger, Breuss and Mahlberg (2002) assessed the welfare effects of the former EU regime on three groups: international banana traders, consumers and Governments. They found that over the period from 1993 to 2000 the EU banana regime cost consumers ECU 2,073 million per year, of which ECU 937 million went to international banana traders, ECU 1,036 million went to Governments in the form of revenues, and the remaining ECU 100 million was deadweight loss. The estimate for government revenue seems inflated given that the EU inquota tariff is €75/t, and there were only limited outquota imports.

McCorriston (2000) takes the oligopolistic structure of the EU banana market into account when determining distribution of quota rents. His model demonstrates that estimates of the total cost of the EU banana regime to consumers (in the form of higher prices) are likely to be underestimated in perfectly competitive models.

Analysts at Patton Boggs LLP (Raboy, 2004) used a “price gap” methodology adapted from Annex 5 of the Uruguay Agricultural Agreement to estimate the tariff equivalency of the current quota-tariff regime.³ This methodology involves comparing the gap in internal and external prices as a means of proxying the equivalent quota rents. In this case, internal prices are defined as “representative wholesale price ruling in the domestic market” and are based on a weighted average of c.i.f. prices for ACP-sourced bananas. External prices are defined as “appropriate average c.i.f. unit values of a near country” or “estimate from average f.o.b. unit values of major exporters when actual c.i.f. values in the country performing the calculation are not available or appropriate”. Data from the United States and Norway are both used as approximate near countries with relevant f.o.b. information. The results reveal an EU price gap of approximately €50 to €75 per tonne when compared with Norway, and €68 when compared with the United States. In the latter case in particular, attempts were made to take into account the higher operating costs of selling bananas in the European Union as compared with the United States irrespective of trade regulations. Raboy suggests that while the internal prices reflect both the quota and the additional €75 per tonne tariff imposed on Category A and B non-ACP imports, the external prices do not. Unable to identify a precise way of determining to what extent the prices reflect the tariff as well, Raboy proposes a possible range of the overall level of protection, varying from €106 to €143 per tonne, depending on the extent to which the current tariff is added back into the results.

Using a similar “price gap” approach, Borrell and Bauer (2004) determine that the current tariff equivalent of the value of the

³ The price gap methodology involves comparing wholesale prices in domestic markets (i.e. internal price) with the c.i.f. (cost, insurance and freight paid) quoted unit values of the importing country (i.e. external price). The difference between the two is the tariff amount necessary to help producers to compete on world markets. This methodology is based on Annex 5 of the WTO Uruguay Round Agreement on Agriculture. The formula is $(\text{internal price} - \text{external price}) / (\text{external price} - 1) * 100$.

protection afforded to ACP countries is €64 per tonne. They disagree with Raboy's approach — namely, adding the tariff rate back in — arguing that it is already internalized. They claim that since this amount is less than the €75 per tonne margin of preference, the producers themselves are not receiving the full value of the tariff preference. They suggest instead that the highly consolidated EU licence holders have been able to use their relatively high bargaining power *vis-à-vis* fragmented growers in ACP countries to collect part of the tariff preference (€11).

A quantitative analysis of the impacts of potential EU banana reforms

The European Union is obliged to remove its banana import quotas and replace them with tariffs. We assess the impact of removing import quotas with GSIM, a modelling framework designed for trade policy analysis.⁴ GSIM is a relatively simple and transparent deterministic, comparative static, partial equilibrium, bilateral trade model without stocks. A feature of this approach, in contrast with several other banana models, is the treatment of imports by which bananas are differentiated by source. This implies that imports from different countries are imperfect substitutes. As bananas are a perishable annual crop without significant storage and virtually no processing, GSIM is a suitable framework for analysing such a commodity. However, using this framework requires ignoring products that may be substitutes for bananas in consumption (e.g. tropical fruits) or production, since these linkages are ignored here. This implies that losses and gains are overestimated, as the

transfer of resources to or from other sectors is not taken into account.

The model includes 20 regions, listed in table 2, including most banana producers and exporters. The members of the European Union are treated as one country, including banana-producing regions such as Martinique, Guadeloupe and the Canary Islands. Countries with preferential access to the European Union include the Dominican Republic, Côte d'Ivoire and Cameroon, with the remaining ACP countries grouped together.

Table 2. Regions

European Union	Honduras
United States	Nicaragua
Japan	Panama
EU 10	Venezuela
Philippines	Côte d'Ivoire
Colombia	Cameroon
Costa Rica	Other ACP
Dominican Rep.	Brazil
Ecuador	Mexico
Guatemala	Rest of world

The model is driven by export supply and bilateral import demand equations. Exports and imports are a function of the world price plus or minus the relevant bilateral trade tax or subsidy. Because tariffs are bilateral, and possibly different from country to country, the change in tariffs leads to a change in relative prices that drives differential changes in imports from various sources. This is essential in understanding the banana regime, where some countries have preferential access. An elasticity of substitution determines the extent to which changes in relative prices lead to a switch in the source of imports.⁵ The model solves

⁴ GSIM was developed by Joe Francois of Rotterdam University in the Netherlands. It is available through the World Bank's WITS website to registered users. An earlier version of GSIM is described in Francois and Hall (2003).

⁵ The elasticity of substitution between imports from different sources is the so-called Armington assumption. An elasticity of 5 is applied across all countries. This implies that a 1 per cent change in relative prices leads to a 5 per cent change in the ratio of exports. High values are appropriate for homogeneous goods such as bananas.

numerically to a specified tolerance using Excel's Solver to find a market clearing price such that global imports equal global exports.

An important consideration in the analysis of bananas is quota rents. Quota rents for the individual exporter are the quota multiplied by the difference between world and consumer prices in the importing country providing the quotas, in this case the European Union. Quota rents may accrue to producers, but because quotas are binding the change in the rents are assumed not to affect production, although producer returns are affected. The shift in the EU regime to a tariff-only system implies that quota rents are eliminated.

The data

The initial data relate to 2002. Trade data are obtained from COMTRADE, price data from FAO, and tariff and quota data from EC. The elasticities are -1 for demand and 1 for supply across the board, with the exception of Côte d'Ivoire and Cameroon, where the elasticity of supply is assumed to be 3 (see later discussion on responsiveness of producers).

The initial dataset is used to generate tariff revenues and quota rents. The base data used in modelling reform to the EU banana regime are presented in table 3. Initial EU banana imports of 3,257 kt are about at the level of the import quota. The world price is assumed to be €500 per tonne and EU domestic prices €800 per tonne, 60 per cent above the world price.

It is not clear how the initial rents are allocated between importers, distributors and exporters. As mentioned, both Borrell and Bauer (2004) and Raboy (2004) suggest that rents accrue to distributors or importers, with very little if any trickling down to exporters. Since the conversion to tariffs eliminates any quota rents, the initial distribution of these rents is crucial to determining the welfare effects of the reforms.

EU imports at 3.28 billion tonnes include 747 kt from ACP countries and 2,538 kt from non-ACP countries but exclude local production of 770 kt. At 4 million tonnes, EU consumption is a mere 5 per cent of world production but imports are a third of global trade.

Table 3. Base banana data, 2002

Observed data		
Global trade	€m	6 511
EU exports	€m	23
EU imports	€m	1 567
ACP exports to EU	€m	358
Non-ACP exports to EU	€m	1 209
World price	€/t	500
EU inquota tariff facing non-ACP suppliers	€/t	75
EU internal price	€/t	800
		60
Generated or assumed data		
EU quota rent generated	€m	759
EU quota rent captured by traditional ACP producers (€110/t)	€m	31
EU tariff revenue	€m	181
Elasticity of demand		-1
Elasticity of supply		1
Elasticity of supply in African ACP countries		3

Source: COMTRADE, FAO, UNCTAD TRAINS.

The responsiveness of producers

One of the key components of the model will be the assumption made regarding how the supply of bananas varies with changes in banana prices. Guyomard, Laroche and Le Mouël (1999) assume an elasticity of 1.0 for EU and ACP banana producers. They assume that producers in the dollar zone countries (i.e. Latin America producers) can respond to changes in prices with greater flexibility, and therefore assign them an elasticity of 2.0. Their rationale for this distinction is that dollar zone producers do not face the land constraints that most of the island nations and other smaller countries within the ACP face. Also, they note that dollar zone producers do not operate at full capacity, can modify quality control standards to decrease the rejection rate of fruit, and can fill shipping vessels with fruit at adjacent ports if there is a shortfall at any other port, thus ensuring efficient transportation costs.

However, Borrell and Bauer (2004) suggest that it is the African ACP countries that are the most responsive. With abundant land available, vertically integrated companies can set up large plantations.

Here we assume that Cameroon and Côte d'Ivoire have supply elasticities equal to 3, whereas other countries share the default elasticity of 1.⁶ There is evidence that these countries have greater scope for expansion than the traditional suppliers.

Some assumptions

Several important assumptions underpin the analysis. First, there are no

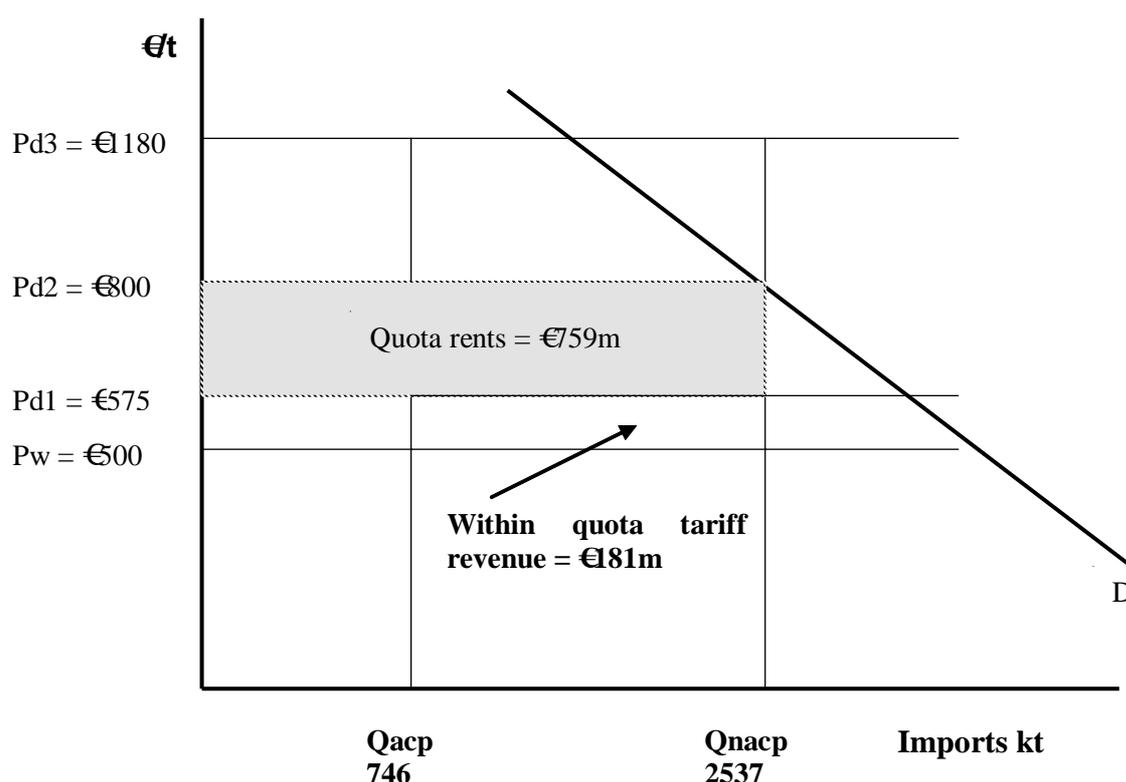
overquota imports into the European Union. This implies that the two import quotas are binding, but the domestic price is determined by the location of the demand curve somewhere between the inquota tariffs (€75/t or 15 per cent) and the outquota tariffs (€680/t or around 135 per cent) facing non-ACP suppliers. This is illustrated in figure 4. If there were significant overquota imports, domestic prices (Pd_3 in figure 4) would be around €1180, and quota rents would amount to around €2 billion, a figure sometimes quoted in the literature. However, domestic prices at around €800–900 suggest that quota rents are more moderate, and are more likely to be around €760 million. This assumes a domestic price of €800 (Pd_2), a 60 per cent mark-up on the base world price of €500 (P_w). Of the available rent, €215 million is generated on imports of 747 kt from ACP countries, and €545 million on 2,537 kt of imports from non-ACP countries. Tariff revenue on imports from non-ACP countries amounts to around €180 million, that is 15 per cent of the value of imports from non-ACP countries.

A second important assumption concerns the capture of quota rents. Indeed, virtually the whole analysis hinges on this point, because removal of quotas implies that all the quota rents are removed, and it is important to gauge producer response. Our starting assumption is that traditional ACP producers — excluding Cameroon and Côte d'Ivoire — receive €110/t, or 22 per cent of the world price of €500.⁷ Data on unit values of exports are extremely variable, and it is difficult to obtain reliable estimates. Part of the €300/t premium is accounted for by the higher transport costs of Western Hemisphere producers exporting to Europe rather than

⁶ This contrasts with our assumption in an earlier paper, in which the general supply elasticity was 0.48.

⁷ At a technical workshop held at FAO in Rome in October 2004 the size of the quota rents was discussed at length. Information based on reports of quota purchase prices indicated that the quotas were worth €100 - €120/t (FAO, 2005) and had been falling over time.

Figure 4. Initial EU banana quota rents with binding import quota



North America. These additional costs might amount to €100/t. The remainder is likely to go to distributors, to whom the quota is initially allocated, and who can reallocate it to low-cost producers until it is filled. Some of the quota may be dissipated in rent-seeking behaviour. A related assumption is that producers respond to changes in quota rents. This assumption can be criticized since the quotas are obviously binding, and it seems unlikely that a small change in the quota would bring forth an immediate response. However, a justification is that the European Union is required to remove the quota altogether, and thus some producer response seems reasonable. Unfortunately, little is known about the point at which producers would decide not to fill their quota. Changes in producer returns through loss of rents are calculated. If rising world prices more than offset the loss in quota rents, welfare will rise rather than fall.

Simulations

To assess the impact of reforms, three hypothetical simulations are undertaken assuming that traditional ACP exporters capture rents of €110 per tonne:

1. EU free market: The European Union removes its quota and tariffs, while the rest of the world maintains its trade policies;
2. EU 75: As for scenario 1, plus tariff of €75/t on non-ACP imports;
3. EU 230: As for scenario 1, plus tariff of €230/t on non-ACP imports.

The specific bilateral tariffs are modelled as a 60 per cent *ad valorem* equivalent on EU imports from African and Asian countries and a 50 per cent tariff on Latin American exports. This accounts for additional transport costs of €100/t, which

make the specific tariff a lower proportion of the landed cost. Quota rents are modelled as an export subsidy without the government revenue implications. Quota rents disappear completely when the quotas are removed.

Results

The abolition of banana import quotas means that potential quota rent is transferred to EU consumers. Under the EU total liberalization scenario, EU domestic prices fall 30 per cent from €800, and this leads to an increase in consumption from 4 million tonnes to around 5 million tonnes. This would put EU per capita consumption at just under the US level of 12 kg per capita. EU consumers gain €790 million under this scenario, but tariff revenue falls to zero with the removal of tariffs.

To satisfy the increased demand in the European Union imports increase by 36 per cent, or 1.1 million tonnes. The increase would be filled mainly by non-ACP countries, which benefit from rising export prices and the removal of the inquota tariff. Ecuador (€152 million in additional global exports), Costa Rica (€99 million), Colombia (€89 million) and Panama (€44 million) are the major beneficiaries. However, ACP countries as a group also gain a €70 million (15 per cent) increase in global exports because of the rise in EU demand. Exports to the EU from Côte d'Ivoire and Cameroon, two ACP countries that are assumed to have significant scope for rapid expansion of production, are estimated to increase by €36 million and €42 million respectively. Exports from the Dominican Republic and other ACP countries fall by €3 million and €7 million respectively, driven by the assumption that producers respond

Table 4. Change in exports and welfare relative to baseline following EU liberalization

	EU free market		EU 75		EU 230	
	Exports €m	Welfare €m	Exports €m	Welfare €m	Exports €m	Welfare €m
European Union	1	610	1	606	0	517
United States	11	-87	8	-62	2	-13
Japan	0	-15	0	-11	0	-3
EU10	1	-14	0	-10	0	-3
Philippines	38	19	28	14	7	4
Colombia	89	43	60	29	4	2
Costa Rica	99	49	67	33	5	3
Dominican Republic	-3	-12	1	-10	10	-5
Ecuador	152	76	106	53	15	7
Guatemala	22	11	16	8	4	2
Honduras	10	5	7	3	1	0
Nicaragua	1	1	1	0	0	0
Panama	44	22	30	15	2	1
Venezuela	2	1	1	1	0	0
Côte d'Ivoire	36	20	49	28	76	47
Cameroon	42	24	58	34	91	57
Other ACP	-7	-25	2	-20	21	-10
Brazil	5	3	4	2	0	0
Mexico	3	1	2	1	0	0
Rest of world	10	-62	7	-46	2	-13
Total	556	671	448	670	242	594

Source: GSIM simulations.

immediately to a reduction in quota rent. Welfare in these countries also falls, by €12 million and €25 million, because of the loss of quota rents (€30 million).

With dollar zone countries taking the opportunity to increase exports to an expanding EU market, they have to move away from the US market to some extent, and Guatemala (€22 million) and the Philippines (€38 million) fill the gap to become the most notable unintended beneficiaries.

Part of the EU's policy is to change its regime to make ACP countries no worse off. Since ACP countries are a diverse group with varying cost structures, any single tariff will benefit some to the detriment of others. Inevitably, low-cost ACP producers will outcompete high-cost producers. With a single instrument, it is virtually impossible for the European Union to make each country no worse off without making some much better off. This is illustrated in the second and third simulation, also shown in table 4. Imposing a €75/tonne preferential tariff on non-ACP exports maintains global exports from the Dominican Republic and other ACP countries at around their initial levels, while there are significant gains for Côte d'Ivoire and Cameroon. The €230/tonne preferential tariff substantially increases exports from the Dominican Republic and other ACP countries without adequately compensating them for the loss in quota rents. The change in welfare remains negative for these countries.

Within the European Union, the €230/tonne tariff boosts tariff revenue from €180 million to €278 million, but EU consumers gain only €240 million compared with €790 million under the EU free trade scenario. Nonetheless, the EU is better off under this scenario than under the status quo, by €517 million, because forgone quota rents are converted into tariff revenue and lower prices for consumers. The higher tariff stifles the growth in imports into the EU, which increase by 13 per cent under a €230/t

preferential tariff compared with 23 per cent under a €75/t tariff and 36 per cent under an EU free trade scenario.

Implications, limitations and conclusions

A major feature of the current EU banana regime is the quota rents generated by a binding quota. The absence of sizable imports over the quota implies that the rents are not easily determined, but it seems that EU domestic prices are well below the outquota tariff rate of €680 above the world price. It is assumed here that the rents amount to 60 per cent of the world price, or €760 million. It is not clear how these rents are distributed among exporters, distributors and importers, but evidence suggests that some ACP exporters benefit from the preferential tariff of €75/t on non-ACP exports. All this rent disappears once the import quotas are removed, and is essentially transferred to consumers and taxpayers. A €230/t preferential tariff instead of binding import quotas would permit an expansion in the EU market for bananas leading to an increase in exports from ACP countries as a group. However, traditional ACP producers may be worse off from the loss in quota rents. Increasing the preferential tariff partially compensates but does not outweigh the loss in rents. Unintended beneficiaries are exporters to the US market, Guatemala and the Philippines, which benefit from South American countries switching some exports from the United States to the EU.

The major losers from the proposed policy shift would seem to be the distributors. At present they capture the bulk of the rents, although some of this is dissipated or passed on to inefficient suppliers. Removal of these rents would encourage a relocation of production away from some of the less efficient areas. However, distributor losses would be offset to some extent by the expansion of the EU market. This would be

at the expense of suppliers of other fruits that are substitutable in consumption. Consumers in the United States are worse off as a result of higher world prices.

A policy to choke off non-ACP exports to assist ACP producers with a preferential tariff would raise EU prices, limit the expansion of demand and increase EU tariff revenues. Non-ACP producers in countries such as Ecuador, Colombia, Costa Rica, Nicaragua and Panama would see their exports remain almost unchanged from the status quo following the imposition of a preferential tariff of €230 per tonne.

To the extent that the European Union feels obliged to offset any losses in ACP exporting countries, a superior policy would be to provide direct compensation to producers, just as it provides compensatory payments to its own cereal and livestock producers. A finite, rather than open-ended, time frame would encourage high-cost producers to move to more productive activities. The funds freed up by direct compensation could be used for more productive development activities. Many poor producers in non-ACP countries would also benefit.

The major limitation with the analysis lies with the data. Price and export value data are extremely variable both spatially and over time, and this generates uncertainty as to the

size of the rents and their distribution along the supply chain. It also inhibits making definitive conclusions regarding the tariff equivalent of the quota. In particular, the initial distribution of rents significantly influences the results, but the evidence on this is conflicting. The assumption regarding the producer response to changes in rents has an important impact on export revenues in countries receiving rents, although not on welfare.

Another limitation includes the assumption of a fixed dollar–euro exchange rate. The euro has appreciated in recent years, and this makes EU imports more competitive relative to domestic production. On the other hand, the specific tariff assumes a greater magnitude, favouring countries with duty-free access. A further consideration about the modelling concerns the responsiveness of producers to price changes. Estimates in the literature seem to vary significantly. Perhaps equally significant is the Armington elasticity, which determines the source of imports in response to changes in relative prices (i.e. bilateral tariffs). Changing this elasticity changes the distribution of exports and welfare gains, although the overall impacts are similar.⁸ Finally, this analysis also ignores uncertainty and possible changes in the market over time. Including these refinements would obviously change the results somewhat, but is unlikely to reverse the conclusions.

⁸ The Armington elasticity has little effect on global (allocative efficiency) gains but significant distributional effects. Doubling the elasticity from 5 to 10 increases the global gains from complete EU liberalization from €671 million to €673 million, whereas halving the elasticity reduces global gains to €668 million. However, ACP exports to the EU increase by 15 per cent with double elasticities, compared with 22 per cent under the standard set and 29 per cent with halved elasticities.

Relevant EC regulations

Council Regulation (EEC) No. 404/93 of February 1993 – establishes the Common Market on Bananas (CMOB)

Amendments:

Commission Regulation (EC) No 3518/93 of 21 December 1993

Commission Regulation (EC) No 3290/94 of 22 December 1994

Council Regulation (EC) No 1637/98 of 20 July 1998

Council Regulation (EC) No 1257/1999 of 17 May 1999

Council Regulation (EC) No 216/2001 of 29 January 2001 – describes current regime

REFERENCES AND BIBLIOGRAPHY

- Badinger, H., Breuss F. and Mahlberg, B. (2002). Welfare effects of the EU's Common Organization of the Market in Bananas for EU Member States. *Journal of Common Market Studies*, vol. 40, no. 3, pp. 515–526.
- Borrell, B. (1999). Bananas: Straightening out bent ideas on trade as aid. *Centre for International Economics*, September.
- Borrell, B. and Bauer, M. (2004). EU banana drama: Not over yet. *Centre for International Economics*, March.
- Chambron, A.C. (1999). Bananas: The green gold of the TNCs. UK Food Group, London.
- Chambron, A.C. (2000). Straightening the bent world of the banana. European Fair Trade Association, Brussels.
- ECLAC (2000). Industrialization, new technologies and competitiveness in the Caribbean, LC/CAR/G.614, Port of Spain, 12 June.
- EC (2004). Communication from the Commission on the modification of the European Community's import regime for bananas. *Commission of the European Communities*, Brussels, 2.6.2004 COM(2004) 399 final.
- Fajarnes-Garces, P. and Matringe, O. (2002). Recent developments in international banana marketing structures, UNCTAD, 27 September.
- Fajarnes-Garces, P. (2003). Major developments and recent trends in international banana marketing structures. UNCTAD, November, UNCTAD/DITC/COM/2003/1.
- FAO (2001). An assessment of the new banana import regime in the European Community, CCP: BA/TF 01/6, San José, Costa Rica.
- FAO (2003). Review of Developments in Banana Trade Policy. FAO Committee on Commodity Problems, Intergovernmental Group on Bananas and on Tropical Fruits, Third Session, 11 December.
- FAO (2005). Bananas: Is there a tariff-only equivalent to the EU tariff rate quota regime? Insights from economic analysis, FAO Trade Policy Technical Notes Number 3, Rome.
- Francois, J. and Hall, H.K. (2003). Global simulation analysis of industry-level trade policy, technical paper, 21 April, mimeo..

- Guyomard, H., Laroche, C. and Chantal Le Mouël, C. (1999). An economic assessment of the Common Market Organization for bananas in the European Union. *Agricultural Economics*: 20 (1999), pp. 105–120.
- Guyomard, H. and Le Mouël C. (2003). The new banana import regime in the European Union: A quantitative assessment. *The Estey Centre Journal of International Law and Trade Policy*, Vol. 4, no. 2/2003, pp. 143–161.
- McCorrison, S. (2000). Market Structure Issues and the Evaluation of the Reform of the EU Banana Regime. Blackwell Publishers, Oxford.
- Raboy, G. (2004). Calculating the tariff equivalent to the current EU banana regime. Patton Boggs LLP Attorneys at Law.
- UNCTAD (1974). The marketing and distribution system for bananas, TD/B/C.1/162, Geneva.

**POLICY ISSUES IN INTERNATIONAL TRADE
AND COMMODITIES**

- No. 1 Erich Supper, **Is there effectively a level playing field for developing country exports?**, 2001, 138 p. Sales No. E.00.II.D.22.
- No. 2 Arvind Panagariya, **E-commerce, WTO and developing countries**, 2000, 24 p. Sales No. E.00.II.D.23.
- No. 3 Joseph Francois, **Assessing the results of general equilibrium studies of multilateral trade negotiations**, 2000, 26 p. Sales No. E.00.II.D.24.
- No. 4 John Whalley, **What can the developing countries infer from the Uruguay Round models for future negotiations?**, 2000, 29 p. Sales No. E.00.II.D.25.
- No. 5 Susan Teltscher, **Tariffs, taxes and electronic commerce: Revenue implications for developing countries**, 2000, 57 p. Sales No. E.00.II.D.36.
- No. 6 Bijit Bora, Peter J. Lloyd, Mari Pangestu, **Industrial policy and the WTO**, 2000, 47 p. Sales No. E.00.II.D.26.
- No. 7 Emilio J. Medina-Smith, **Is the export-led growth hypothesis valid for developing countries? A case study of Costa Rica**, 2001, 49 p. Sales No. E.01.II.D.8.
- No. 8 Christopher Findlay, **Service sector reform and development strategies: Issues and research priorities**, 2001, 24 p. Sales No. E.01.II.D.7.
- No. 9 Inge Nora Neufeld, **Anti-dumping and countervailing procedures – Use or abuse? Implications for developing countries**, 2001, 33 p. Sales No. E.01.II.D.6.
- No. 10 Robert Scollay, **Regional trade agreements and developing countries: The case of the Pacific Islands' proposed free trade agreement**, 2001, 45 p. Sales No. E.01.II.D.16.
- No. 11 Robert Scollay and John Gilbert, **An integrated approach to agricultural trade and development issues: Exploring the welfare and distribution issues**, 2001, 43 p. Sales No. E.01.II.D.15.
- No. 12 Marc Bacchetta and Bijit Bora, **Post-Uruguay round market access barriers for industrial products**, 2001, 50 p. Sales No. E.01.II.D.23.
- No. 13 Bijit Bora and Inge Nora Neufeld, **Tariffs and the East Asian financial crisis**, 2001, 30 p. Sales No. E.01.II.D.27.
- No. 14 Bijit Bora, Lucian Cernat, Alessandro Turrini, **Duty and quota-free access for LDCs: Further evidence from CGE modelling**, 2002, 130 p. Sales No. E.01.II.D.22.

- No. 15 Bijit Bora, John Gilbert, Robert Scollay, **Assessing regional trading arrangements in the Asia-Pacific**, 2001, 29 p. Sales No. E.01.II.D.21.
- No. 16 Lucian Cernat, **Assessing regional trade arrangements: Are South-South RTAs more trade diverting?**, 2001, 24 p. Sales No. E.01.II.D.32.
- No. 17 Bijit Bora, **Trade related investment measures and the WTO: 1995-2001**, 2002.
- No. 18 Bijit Bora, Aki Kuwahara, Sam Laird, **Quantification of non-tariff measures**, 2002, 42 p. Sales No. E.02.II.D.8.
- No. 19 Greg McGuire, **Trade in services – Market access opportunities and the benefits of liberalization for developing economies**, 2002, 45 p. Sales No. E.02.II.D.9.
- No. 20 Alessandro Turrini, **International trade and labour market performance: Major findings and open questions**, 2002, 30 p. Sales No. E.02.II.D.10.
- No. 21 Lucian Cernat, **Assessing south-south regional integration: Same issues, many metrics**, 2003, 32 p. Sales No. E.02.II.D.11.
- No. 22 Kym Anderson, **Agriculture, trade reform and poverty reduction: Implications for Sub-Saharan Africa**, 2004, 30 p. Sales No. E.04.II.D.5.
- No. 23 Ralf Peters and David Vanzetti, **Shifting sands: Searching for a compromise in the WTO negotiations on agriculture**, 2004, 46 p. Sales No. E.04.II.D.4.
- No. 24 Ralf Peters and David Vanzetti, **User manual and handbook on Agricultural Trade Policy Simulation Model (ATPSM)**, 2004, 45 p. Sales No. E.04.II.D.3.
- No. 25 Khalil Rahman, **Crawling out of snake pit: Special and differential treatment and post-Cancun imperatives**, 2004, 25 p. Sales No. E.04.II.D.8.
- No. 26 Marco Fugazza, **Export performance and its determinants: Supply and demand constraints**, 2004, 57 p. Sales No. E.04.II.D.20.
- No. 27 Luis Abugattas, **Swimming in the spaghetti bowl: Challenges for developing countries under the “New Regionalism”**, 2004, 30 p. Sales No. E.04.II.D.38.
- No. 28 David Vanzetti, Greg McGuire and Prabowo, **Trade policy at the crossroads – The Indonesian story**, 2005, 40 p. Sales No. E.04.II.D.40.
- No. 29 Simonetta Zarrilli, **International trade in GMOs and GM products: National and multilateral legal frameworks**, 2005, 57 p. Sales No. E.04.II.D.41.
- No. 30 Santiago Fernandez de Córdoba, Sam Laird and David Vanzetti, **Smoke and mirrors: Making sense of the WTO industrial tariff negotiations**, 2005, Sales No. E.05.II.D.16.
- No. 31 David Vanzetti, Santiago Fernandez de Córdoba and Veronica Chau, **Banana split: How EU policies divide global producers**, 2005, 27 p. Sales No. E.05.II.D.17.

United Nations publications may be obtained from bookstores and distributors throughout the world. Please consult your bookstore or write to:

United Nations Publications

All orders from **North America, Latin America, the Caribbean and Asia and the Pacific** should be sent to:

United Nations Publications
Room DC2-853, 2 UN Plaza
New York, NY 10017, USA
Telephone: (212) 963-8302, Toll Free 1-800-253-9646 (North America only)
Fax: (212) 963-3489
E-mail: publications@un.org

Customers in **Europe, Africa and the Middle East** should send their orders to:

Section des Ventes et Commercialisation
Bureau E-4, CH-1211
Geneva 10, Switzerland
Telephone: 41 (22) 917-2613/2614
Fax: 41 (22) 917-0027
E-mail: unpubli@unog.ch

QUESTIONNAIRE

UNCTAD Study Series on
**POLICY ISSUES IN INTERNATIONAL TRADE
AND COMMODITIES**

(Study series no. 31: Banana Split: How EU Policies Divide Global Producers)

Readership Survey

Since 1999, the Trade Analysis Branch of the Division on International Trade in Goods and Services, and Commodities of UNCTAD has been carrying out policy-oriented analytical work aimed at improving the understanding of current and emerging issues in international trade of concern to developing countries. In order to improve the quality of the work of the Branch, it would be useful to receive the views of readers on this and other similar publications. It would therefore be greatly appreciated if you could complete the following questionnaire and return to:

*Trade Analysis Branch
DITC, Rm. E-8076
United Nations Conference on Trade and Development
Palais des Nations
CH-1211 Geneva 10, Switzerland*

1. Name and address of respondent (optional):

2. Which of the following describes your area of work?

Government	<input type="checkbox"/>	Public enterprise	<input type="checkbox"/>
Private enterprise institution	<input type="checkbox"/>	Academic or research	<input type="checkbox"/>
International organization	<input type="checkbox"/>	Media	<input type="checkbox"/>
Not-for-profit organization	<input type="checkbox"/>	Other (specify) _____	

3. In which country do you work? _____

4. Did you find this publication Very useful Of some use Little use to your work?

5. What is your assessment of the contents of this publication?
 Excellent Good Adequate Poor

6. Other comments:
