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EC Bananarama 1992

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and
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The EC countries' banana import policies are costly mechanisms for aiding preferential supplier countries. European economic integration in 1992 provides an opportunity to reform those policies and find more efficient mechanisms for providing aid.

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This paper — a product of the International Trade Division, International Economics Department — is part of a larger effort in PRE to understand the implications for developing countries of changes in the industrial countries' trade policies. Copies are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Sarah Lipscomb, room S7-062, extension 33718 (31 pages).

Banana import and pricing policies vary widely among the members of the European Community. The EC Commission intends to replace national markets with a single market in 1992. At that time a uniform policy toward banana imports must be adopted.

Special import and pricing arrangements presently confer large subsidies to specific African, Caribbean, and EC territorial dependencies — to the disadvantage of other exporting (mainly Latin American) countries. A "common" banana regime and single EC market could substantially alter world trade in bananas and the welfare of banana-exporting regions.

Borrell and Yang have simulated policy options open to the EC in forming a single banana market, to illustrate the implications of change for trade and welfare. They found that:

- EC adoption of free trade in bananas would lead to a 9% increase in EC imports, a decline of 46% in exports by favored countries (equal to an annual welfare loss of US$209 million), a 12% increase in banana exports by nonfavored exporters (equal to an annual welfare increase of $60 million), and an annual increase in EC welfare of $386 million (in 1987 prices).

- Current policies (compared to free trade) cost EC consumers about $1.85 and nonfavored countries $0.29 for every dollar of "aid" received by preferential suppliers. The inefficiencies involved in this transfer cost the world economy an estimated $0.92 for each dollar of aid.

- Imposing a tariff of 16.7% on (the landed cif value of) all EC banana imports to finance a deficiency payment scheme aimed at maintaining aid to preferential suppliers after 1992 would make aid more efficient. Every dollar of aid would cost EC consumers an estimated $1.27, nonfavored countries $0.24, and the world economy $0.34.

- But direct payment of aid would be the most efficient method for delivering aid. A tariff of 16.1% on all imports would cover the current level of aid transfer. Every dollar of aid received by preferential supplying countries would cost EC consumers an estimated $1.01, nonfavored exporters $0.03, and the world economy $0.02.

And the aid-receiving countries would get a larger net benefit because they would not incur the costs of producing bananas above the free trade level to qualify for aid, as is presently the case. Those resources could be used in other enterprises, and the direct aid payments could be efficiently targeted (to modernize the banana industries or perhaps to diversify these economies) — rather than lock resources into inefficient economic sectors, as presently happens.

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EC BANANARAMA 1992

1. Introduction

The disparate banana import policies currently operating in member states of the European Community (EC) are inconsistent with the Community's objective of full economic integration in 1992. Under separate national legislation, widely varying banana prices apply across different member states, varying duties and import quotas apply to the external (world) market, and internal trade is virtually excluded. The inconsistencies are obvious and politically they are highly transparent.

Community imports make up about a third of world trade and more than 40 percent of the trade occurs under preferential trade agreements. The special arrangements confer sizable subsidies on some African and Caribbean banana producers and disadvantage other exporting countries -- mainly other Latin American producers. Adoption of a 'common' banana regime in the Community in 1992 could potentially alter: the pattern of world trade, the world price for bananas, and the welfare of exporting and consuming countries. The purpose of this study is to assess the main economic effects of existing policies and of various policy alternatives.

A detailed review of recent trends in the banana market and of existing national policies is provided. A comparative-static model of the EC and world banana markets is used to illustrate the broad trade, welfare and price implications of current and alternative policies. And a simulation model is developed to estimate the impact of a range of policies for the Community after 1992.

From the results of the simulation model the relative efficiency of policy options is assessed. The results do not provide a basis on which to predict the policy decision of the EC. Nevertheless, the main policy and trade implications, for the Community and for the various banana exporting countries, can be inferred. Therefore, at very least some assessment of the contingent risks and opportunities of EC market integration is provided. But, perhaps more importantly, the results serve to illustrate and quantify some of the less obvious costs that could arise from bad policy choices. To this extent they may provide information which will be influential in the formation of the Community's common banana policy.

2. Background

2.1 The Structure of World Banana Trade

The production of bananas for export is clearly distinct from the production of bananas for domestic consumption. Among the largest producers -- Brazil, India, Indonesia, Ecuador, the Philippines and Thailand -- only Ecuador and the Philippines are substantial exporters. Bananas are almost exclusively exported by developing countries to industrial countries. About 78% of world banana exports in the 1985-87 period came from Latin America and the Caribbean, about 11% from the Philippines and China, and 3% from Africa. Ecuador is the leading exporter (accounting for 18% of world exports in 1985-87), followed by Costa Rica (12%), Colombia (12%), Honduras (12%), and the Philippines (11%) (see Table 1).

World banana exports amounted to 7.3 million tons in 1986, whi generated US$1.8 billion export revenues for exporting countries. For some countries revenues from banana exports are the major source of foreign exchange. For instance, 92% of export earnings of St. Lucia were from banana exports (Table 2).

The industrial countries accounted for 93% of world imports in 1985-87. The United States is the largest single market, accounting for 38%, followed by the EC, accounting for 33% in the same period. Japan has been the most rapidly growing market and ranked third with 10% of world imports (Table 3).

World banana trade appears to follow a pattern dictated by the trade policies of importers, perishability of the fruit, and high transportation costs. For several EC countries trade policy limits market access to a few exporters. The "Commonwealth" producers -- Jamaica, Dominica, St. Lucia,

Table 1: World Banana Exports by Country and Region, 1975-87

	1975	1980	1985	1986	1987	Share 1985-87
	('000 tons)					(%)
Industrial Countries	338.1	433.7	432.0	438.7	440.5	6.0
Europe	338.1	433.7	432.0	438.7	440.5	6.0
Developing Countries	6,089.7	6,406.9	6,540.4	6,865.1	7,104.3	94.0
Latin America	4,300.1	4,878.8	4,947.2	5,121.6	5,433.8	71.0
Ecuador	1,362.4	1,318.2	1,207.9	1,365.9	1,381.2	18.1
Costa Rica	1,105.1	887.7	803.6	882.3	94.5	12.0
Colombia	390.0	691.6	775.3	857.0	912.5	11.7
Honduras	370.0	866.5	868.4	800.0	884.6	11.7
Caribbean	440.1	230.8	438.8	537.0	521.4	6.9
Africa	346.1	223.9	199.8	198.8	199.2	2.7
Asia	1,003.4	1,073.4	954.6	1,307.7	949.9	13.3
Philippines	822.7	922.7	789.3	855.7	775.0	11.0
World Total	6,427.8	6,840.6	6,972.4	7,303.8	7,544.8	100.0

Sources: FAO, Banana Statistics, CCP: BA 89/7, August 1989,
FAO, World Banana Economy, Statistical Compendium, Rome, 1983.

Table 2: The Share of Bananas in Country Exports, 1986

	(in %)
Brazil	0.1
Colombia	4.0
Costa Rica	20.0
Ecuador	12.1
Guatemala	6.9
Honduras	29.8
Nicaragua	6.1
Panama	20.0
Belize	6.2
Jamaica	1.5
Dominica	71.6
Grenada	13.4
St. Lucia	91.6
St. Vincent	28.4
Suriname	3.3
Guadelope	47.3
Martinique	49.0
Cameroon	0.2
Côte d'Ivoire	0.9
Somalia	14.6
Philippines	2.7

Sources: UN Trade Tape.
IMF, International Financial Statistics, Yearbook 1988.

Table 3: World Banana Imports by Country and Region, 1975-87

	1975	1980	1985	1986	1987	Share 1985-87
	('000 tons)					(%)
Industrial Countries	5,580.2	6,061.3	6,611.6	6,841.6	7,049.6	93.2
Western Europe	2,646.6	2,637.0	2,604.3	2,795.3	2,947.7	37.9
EC	2,263,5	2,280.6	2,270.5	2,425.3	2,533.3	32.9
France	479.9	446.0	425.7	453.6	445.2	6.0
Germany, F.R.	547.1	530.3	584.4	635.3	668.7	8.6
Italy	304.1	300.7	307.2	339.2	362.8	4.6
U.K.	307.9	328.4	323.6	343.0	359.4	4.7
U.S.	1,793.8	2,147.1	2,772.0	2,815.7	2,780.5	38.0
Japan	884.6	726.1	680.0	764.6	774.8	10.1
Centrally Planned Economy	266.9	268.8	216.4	127.9	168.3	2.3
Developing Countries	543.3	795.3	493.0	507.4	499.6	6.8
Latin America	176.9	439.6	187.4	217.0	195.8	2.7
Africa	62.1	32.0	13.4	10.8	10.4	0.2
Asia	304.3	323.7	292.2	280.6	293.4	3.9
World Total	6,390.4	6,856.6	7,104.6	7,350.0	7,549.2	100.0

Sources: FAO, Banana Statistics, CCP: BA 89/7, August 1989.
FAO, World Banana Economy, Statistical Compendium, Rome, 1983.

St. Vincent, Belize and Suriname -- export almost exclusively to the United Kingdom; the French Caribbean producers -- Martinique and Guadeloupe -- export almost all bananas to France; the Canary Islands export exclusively to Spain; some EC-associated countries such as Côte d'Ivoire and Cameroon export to France, and Somalia exports to Italy (Table 4). Perishability and high transportation costs limit access to distant markets. Therefore, the Japanese market is mainly supplied by the Philippines and China, with Ecuador as a residual supplier. The Central and South American countries export mainly to the United States, Canada, developing countries, Eastern Europe, USSR and the Western European countries which do not have special trade arrangements with other countries.

2.2 The EC Trade Policy

In the absence of other arrangements, a common external tariff of 20% is charged on banana imports. However, many other arrangements also apply. Banana imports from African, Caribbean and Pacific (ACP) countries are duty-free under the Lomé Convention between the EC and their former colonies. Under a special protocol of the treaty of Rome, the Federal Republic of Germany may import virtually all its bananas without duties.

France has always maintained a managed market such that two-thirds of its market is reserved for imports from the French Overseas Departments (Martinique and Guadeloupe) and one-third for African franc zone countries such as Cameroon, Côte d'Ivoire and Madagascar. French imports of bananas from these protected producers accounted for more than 94% in 1985-87 (Table 5). Imports from other origins are subject to licensing which is only granted when import prices exceed a certain level.

Table 4: Share of Exports to the EC of Total Banana Exports, by Country, 1985-87 Average (percentages)

	France	UK	Italy	Germany, F.R.	Total EC
Dominica	0	95.5	1.5	0	97.0
Grenada	0	98.5	0	0	98.5
St. Lucia	0	95.2	2.9	0	98.1
St. Vincent	0	100.0	0	0	100.0
Jamaica	0	100.0	0	0	100.0
Suriname	0.7	97.9	1.4	0	100.0
Belize	0	95.6	0	0	95.6
Guadeloupe	98.1	0.1	0.1	0	98.2
Martinique	99.6	0.2	0.1	0	99.9
Cameroon	91.4	0.7	4.4	0	97.2
Côte d'Ivoire	94.7	0.6	4.0	0	99.7
Somalia	0.3	0	67.2	0	67.5
Colombia	1.1	3.8	5.9	12.5	30.7
Costa Rica	0.4	0	6.0	14.5	25.6
Ecuador	0.3	0.3	3.7	10.3	19.3
Guatemala	1.2	0.3	10.3	1.3	13.5
Honduras	0.4	0.1	9.3	9.0	22.9
Panama	0.2	0.3	1.9	28.4	39.2

Sources: UN Trade System.
FAO, Banana Statistics, CCP: BA 89/7, August 1989.

Table 5: Exporters' Shares in the EC Banana Market, 1985-87 Average (percentages)

	France	UK	Italy	Germany, F.R.	Total EC
Dominica	0	13.8	0.2	0	2.0
Grenada	0	2.4	0	0	0.3
St. Lucia	0	25.8	0.8	0	3.8
St. Vincent	0	11.1	0	0	1.6
Jamaica	0	6.7	0	0	1.0
Suriname	0.1	9.9	0.1	0	1.4
Belize	0	4.0	0	0	4.0
Guadeloupe	25.2	0	0	0	4.6
Martinique	39.3	0.1	0.1	0	7.2
Cameroon	10.8	0.1	0.7	0	2.1
Côte d'Ivoire	18.9	0.1	1.0	0	3.7
Somalia	0	0	10.8	0	1.6
Colombia	2.1	9.3	14.5	16.3	10.8
Costa Rica	0.8	0.1	15.0	19.3	9.3
Ecuador	0.8	1.0	14.0	20.8	10.6
Guatemala	0.9	0.3	9.6	0.7	1.8
Honduras	0.7	0.3	22.6	11.8	8.1
Panama	0.3	0.5	3.6	28.4	10.6
World	100.0	100.0	100.0	100.0	100.0

Sources: UN Trade Tape.
FAO, Banana Statistics, CCP: BA 89/7, August 1989.

The United Kingdom has traditionally granted duty-free access to Commonwealth producers such as Jamaica, Dominica, Grenada, St.Lucia, St. Vincent, Suriname and Belize. Imports from dollar area countries [1/] are subject to licenses which may be granted if supplies from Commonwealth countries fall short of market requirements. Licenses are issued by the Department of Trade and Industry every month, following recommendations from the Banana Trade Advisory Committee. However, a licensed minimum level of 30,000 tons has been guaranteed since 1989. About three-quarters of the UK banana imports were from the traditional suppliers in 1985-87 (Table 5).

Italy grants free access to imports from EC members and associated ACP countries, but imports from third countries are allowed only within the limits of a global quota. The global quota fluctuated between 205,000 and 265,000 tons in the 1974-77 period and remained at 255,000 tons until 1982. Since 1983 it has been at 270,000 tons. Somalia is a traditional supplier to Italy with a preferential status. However, in 1985-87 it supplied only 11% of Italian market requirements, the rest were supplied by other ACP countries (2.9%) and Latin American countries (Table 5).

Spain and Portugal are supplied from domestic sources, Spain from the Canary Islands and Portugal from Madeira. Imports from other sources are virtually excluded. Greece currently bans imports of bananas in order to protect domestic production estimated at about 3,000 tons per year. However, the European Court of Justice has ruled that Greece should relax the ban.

[1/] The "dollar area" consists of Bolivia, Canada, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Liberia, Mexico, Nicaragua, Panama, the Phillippines, the United States and Venezuela.

The discriminatory import restrictions in the protected markets -- France, UK, Italy, Spain, Portugal and Greece -- have led to their traditional suppliers receiving higher prices than they otherwise would. However, the protection also hinders cost reduction and quality improvement in countries enjoying preferential treatment. As a result, the preferential countries cannot compete with other exporting countries in the free markets.

The European Community will become a single internal market at the end of 1992 when all internal trade barriers will be removed. The protected markets of France, UK, Italy, Spain, Portugal and Greece, and the free market of Federal Republic of Germany will no longer exist. A new unified regime for banana trade, still under discussion, will replace the current regimes of individual member states. The European Commission has indicated that the interests of ACP banana exporters are likely to be protected under the new trade regime. Nonetheless, existing arrangements will need to be changed and several different means could be used to preserve current interests.

3. Representation of the Current Policies

The main features of the various policy regimes currently applying in the member states of the European Community are illustrated in figure 1. The representation is an adaption from Noichl (1985). In all cases supply and demand curves represent, respectively, the supply of exports and the demand for imports. Country A represents countries such as Italy, Spain, Portugal, France and Great Britain which provide preferential market access to favored suppliers at a fixed domestic market price and which use quotas to limit other imports. Country B represents countries such as Denmark, Ireland, Netherlands, Belgium and Luxembourg which impose a 20 percent tariff on imports and otherwise allow for the unrestricted access of bananas. Country C represents Germany which for all intents and purposes imposes no trade barriers. The rest of the world sector mainly represents other developed countries' import demand and the export supply of non-favored Latin American countries, the Philippines and China. Trade between these countries is assumed to be totally unrestricted.

Favored suppliers are not restricted in their access to A's market and they export quantity Q1 at price DP. The domestic market shortfall (Q3-Q1) is made up by imports from other ACP countries (Q2-Q1) and the world market (Q3-Q2). Import quotas are allocated to control the volume of imports to maintain the fixed internal price. The various EC governments involved pocket the difference between the world price and the domestic market price unless the supplier is another ACP country. In that case ACP countries receive the world price plus the 20 percent tariff and the EC government pockets the difference between the tariff price and the domestic price only. While the supplies from favored suppliers and ACP countries to countries of

type A are upward sloping the supply of quota bananas is virtually perfectly elastic at the world price.

ACP suppliers to the countries of type B face the same situation as 'other' ACP suppliers to type A countries. On non-ACP imports (Q5-Q4) type B governments collect a tariff of 20 percent. In the type C country, import supply is virtually perfectly elastic at the world price and at the world price consumers demand Q6. The rest of the world supplies (Q8-Q7) exports to meet import demand in countries of type A, B, and C.

The economic effects of current policies can be demonstrated by comparing the situation represented in figure 1 to that which would exist under free trade. In figure 2 type A and type B countries are assumed to have the same free trade policy as the type C country. Facing a lower price for bananas, consumers increase demand in countries of types A and B (from Q3 to Q3' and from Q5 to Q5'). Their increased import demand causes some increase in world price. The lower prices received by previously favored exporting countries, and possibly the 'other' ACP countries, cause a reduction in supply from those countries (they do not produce along portions 0-Q1 of SF or Q1-Q2 and 0'-Q4 of SACP -- now shown at far right of the rest of world supply). The opposite effects occur in other countries. Induced by the increase in world price, consumption in country C and the rest of the world declines while supply from the rest of the world increases. A new equilibrium price settles at WP'.

Consumer surplus increases by the area a + b + c in type A countries and by area e + f + h in type B countries (Figure 2). Government tariff revenues decline by areas b + d and f + g. In country C and the rest of the world consumer surplus declines by, areas i + j and k + l, respectively.

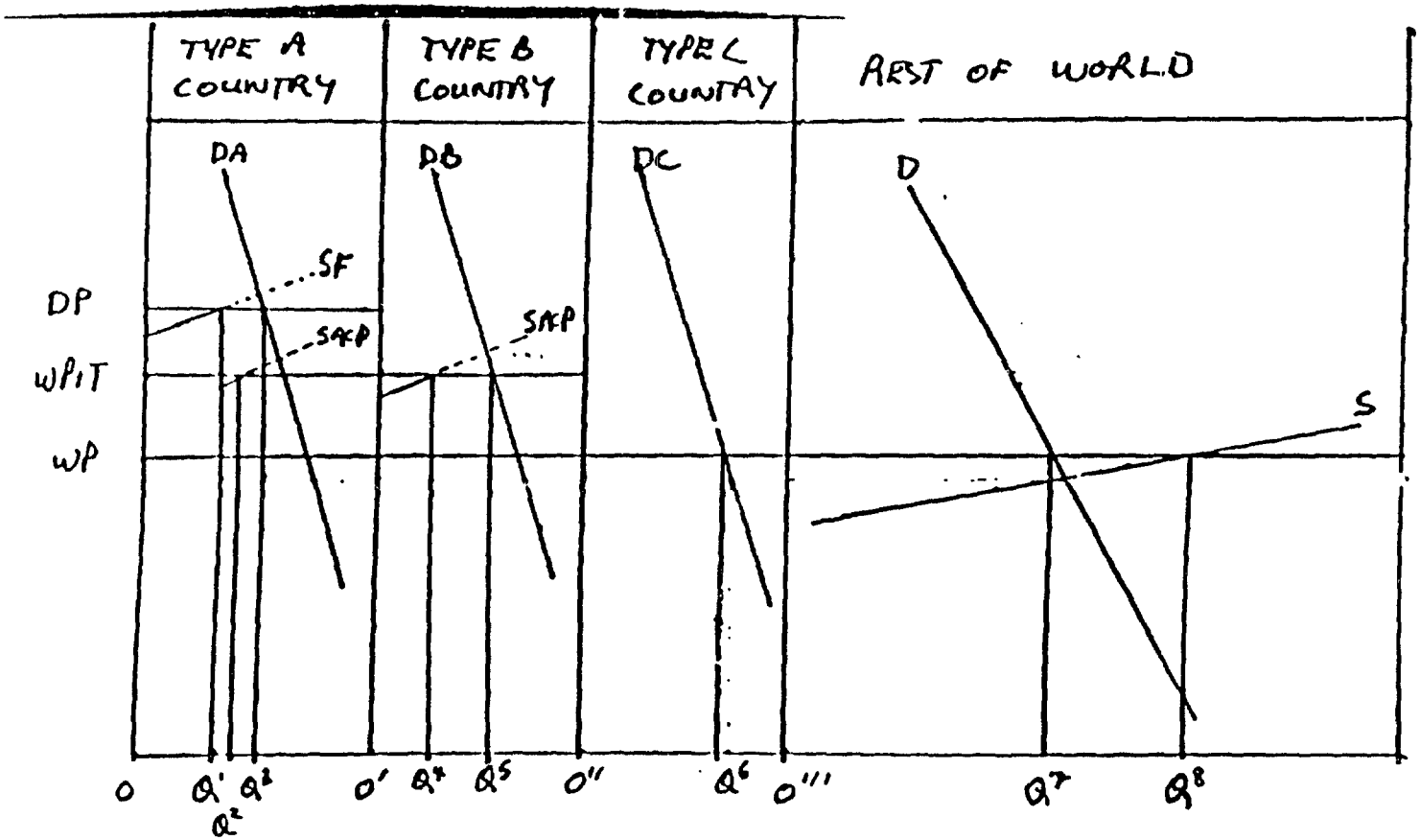
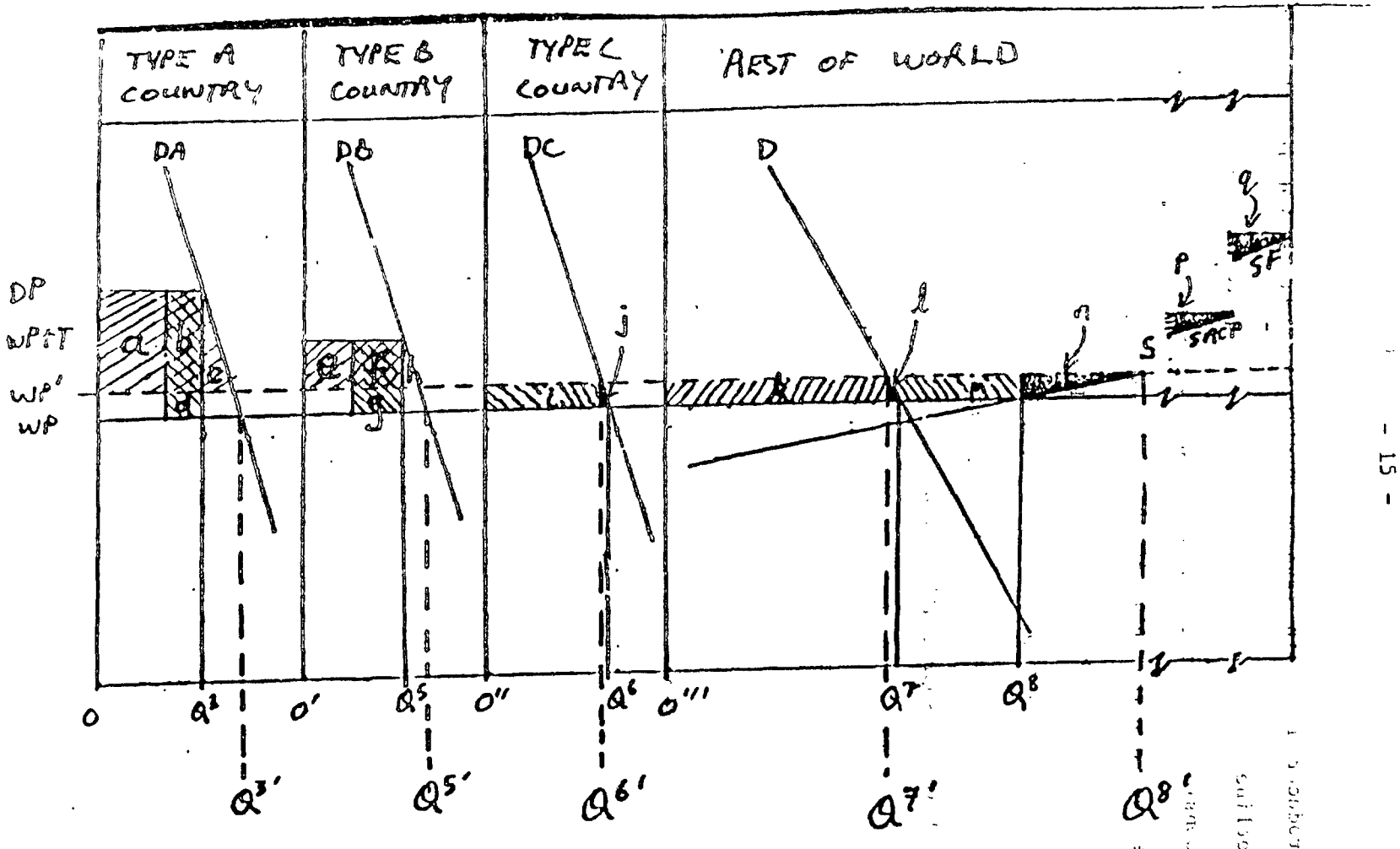


FIGURE 1

BANANA POLICIES OF EC MEMBER COUNTRIES

FIGURE 2.
FREE TRADE



Producer rents in favored supplying countries and in other ACP countries decline by areas greater than p and q (triangular areas defined on the downside where the respective supply curves of these countries intersect the new world price WP'). [1/] Producer rents in the rest of the world increase by the area k + l + m + n. Economic surplus worldwide changes by the net area c + h + n - j - l - p - q. Because n is greater than p + q and c + h is greater than j + l the change in economic surplus is positive, representing more efficient resource allocation.

The overall effects of current policies of the EC countries can therefore be seen as: a decrease in world price; subsidization of favored country suppliers and of consumers in country C and the rest of the world by producers in non-favored countries and by consumers in EC countries of type A and B; the raising of revenue for governments in EC countries of type A and B; and resource misallocation across several countries.

4. Measuring the Effects of Current and Alternative Policies

To estimate the economic effects of current policies and of alternative policies which the European Community may consider adopting in 1992, a (static, partial equilibrium) simulation model was built. The model embodies the features of the theoretical model shown in figure 1 but includes a greater number of regions. France, United Kingdom, Federal Republic of Germany, Italy, Spain and Portugal together, the rest of the European Community, and the rest of the world are represented as separate import-demanding regions. Guadeloupe and Martinique together, the Windward Islands

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[1/] For the sake of analysis SF and SACP of Figure 1 form part of the supply curve S of Figure 2, which is drawn as discontinous. The loss of welfare to producers in favored countries is therefore the loss of producers surplus, which will be larger than the area indicated by p and q.

(Dominica, Grenada, St. Lucia and St. Vincent) and Jamaica together, Somalia, Canary Islands and Madeira together, Cameroon and Côte d'Ivoire together, other ACP countries as a group, and the rest of the world are represented as separate export supply regions.

4.1 Specification of the Model:

-Export Supply

$Xi = fi(DP_m - TM_m)$ i = favored nation suppliers

$Xj = fj(WP+T-TM_n)$ j = ACP suppliers

$Xk = fk(WP-TM_p)$ k = non-favored suppliers

-Import Demand

$Im = fm(DP_m)$ m = quota-protected markets of EC

$In = fn(WP+T)$ n = tariff-protected markets of EC

$Ip = fp(WP)$ p = free markets of the EC and rest of world

-Market Clearing

$$\Sigma X = \Sigma I$$
$$ijk \quad mnp$$

where X = exports, I = imports, DP = fixed domestic consumer prices, WP = world consumer price, T = tariff, TM = transportation costs and traders' mark-ups

4.2 Parameters of the Model:

. The price elasticity of supply was initially set at 1.0 for the favored suppliers and ACP suppliers. For non-favored suppliers the price elasticity of supply was set at 3. Qualitative analysis by the World Bank indicates that exporting countries in general have vast areas of marginal land suitable for banana production. They can easily adjust production to meet greater international demand without major increases in average farm

costs. Setting the price elasticity of supply from rest of the world exporters at 3 captures this characteristic of the market. In the case of favored suppliers and ACP exporters the availability of land is not so great and competitive alternative uses for the land at current export prices are limited. The price elasticity of supply is therefore likely to be less than for the non-favored suppliers. One estimate of the price elasticity of supply for Jamaica is 0.49 (Pollard and Graham, 1985). Initially, supply elasticities were set at one-third those of non-favored suppliers to account for the difference in supply between the different types of export suppliers.

- Estimates of price elasticities of demand (World Bank, 1985) were used to parameterize the import demand equations. Elasticity estimates range from -0.4 for the rest of world sector to -1.0 for Italy.

4.3 Results of the Model Simulations:

In Table 6 a baseline and free trade scenario are presented. The baseline scenario is set up to broadly replicate the pattern of trade and price differentials applying in 1987. Data used for trade and prices are from FAO (1989). The protected consumer prices vary among countries but in general they are in the order of 10 to 50 percent above the free market price in Germany, while retail prices in Germany are considerably higher than in the large free US market -- largely due to differences in transport costs (see Table 6). However, the export prices for the favored exporting countries are also much higher than those for the non-favored exporting countries. As with the representation in Figure 2, a comparison between the baseline and free trade scenarios serves to illustrate the economic effects of the present policies. The comparison reveals a 9.1% increase in imports and therefore in

consumption in the European Community from a move to free trade. Although imports and consumption decline marginally in Germany and in the rest of the world, total imports increase by 2.4%. Exports from favored suppliers are estimated to decline by 46.4% while non-favored suppliers, when allowed to compete in the EC, increase exports by 11.8%. Overall, the world price as represented by the US (FOR) price is estimated to increase by 2.3%. The increased consumption and lower domestic prices bring substantial economic gains to consumers in EC countries, except for Germany. (It is assumed that retail prices in all EC countries would equate with those in Germany, and not fall further since Germany already has a free market). Tariff revenues fall in EC countries. In total, the European Community is estimated to increase its economic welfare by $386 million annually (all dollars are in 1987 values).

Because of the higher world prices, consumer welfare in Germany and in the rest of the world is reduced by $6 million and $46 million, respectively. Gains to non-favored exporting countries, estimated at $61 million annually, arise from higher world prices and greater access to the EC market. The main losers of a shift to free trade would be producers in favored exporting countries whose welfare declines by an estimated $209 million annually.

It can be inferred from the above results that the annual value of current EC policies to favored nations is $209 million. Considering that the annual value of total exports from favored countries in the baseline case amounts to around $576 million only, the protection afforded by the policies is of obvious importance to these countries -- effectively a major form of aid. However, every dollar of aid thus transferred to favored exporting countries costs the EC $1.85 and imposes a cost of $0.29 on non-favored

exporting countries. In effect, the policies are causing one group of developing countries to subsidize another. Ironically, it is the rest of the world sector (which is composed principally of industrial countries such as the United States and Japan) which gains as a result of the EC policies. The industrial countries profit to the tune of $0.22 for every dollar of aid transferred to the favored exporting countries. Overall, an estimated $0.92 is lost from the world economy through inefficiencies created by transferring each dollar to favored exporting countries. By any measure the policy appears to be highly inefficient as an instrument for delivering aid to favored exporting countries.

To test the sensitivity of the results to changes in some of the key assumptions two tests were conducted. In the first test the price elasticity of supply for non-favored exporting nations was set equal to the elasticity in other countries. The result are given in Table 6. In this case the effects of free trade on world price are more than double those reported in the previous case. The effects on the EC and the favored exporters are similar but the effects on non-favored exporters and rest of the world consumers are over twice those shown in the previous case. Although the elasticity of supply is not known with a high degree of accuracy, the results serve to demonstrate that the costs of EC policies have the potential to be very large.

In the second sensitivity test the price elasticity of supply of favored exporting countries was lowered in line with the only available estimated elasticity of 0.49 for Jamaica. Although this results in the estimated benefits of existing policies to favored exporters rising as compared to the first case, the effects are much less dramatic than those for non-favored exporters.

Retail prices in the European Community were assumed to remain well above US retail prices under free trade. If not, the economic gains of a move to free trade may be understated. In the absence of import quotas and licensing arrangements, a larger, more competitive European market may well confer additional benefits on consumers in the form of lower marketing, retailing and possibly transport costs. Were this to occur, EC banana demand could increase more than indicated by the results in Table 6. Economic gains to the EC and non-favored exporters would then exceed those shown in Table 6.

Alternative Policies in 1992

It is unlikely that the EC will adopt a policy of free trade in bananas in 1992. Four possible alternative policy scenarios were simulated with the model. In the first it was assumed that the 20% tariff, currently the policy in the Netherlands, Denmark, Belgium, Luxembourg and Ireland, would be extended throughout the Community. Favored exports to the EC were assumed to retain some preference in the form of duty-free access. The simulation results are shown in Table 7. Compared to the free trade scenario, world welfare gains are less because Community consumers do not receive the full benefits of world prices and rationalization of production among suppliers is not maximized. Consumers in F.R. Germany fare particularly badly, (-$85m), since banana prices rise considerably -- although government revenue increases by a similar amount ($81m). Strictly speaking, this revenue would be collected by the EC not by a member state.

The second scenario assumes that all preferences would be eliminated and a 20% tariff imposed on EC banana imports from all sources. The simulation results are shown in Table 8. Under this scenario, world welfare is somewhat lower than in the case of free trade but higher than in the case

where a 20% tariff is imposed only on imports from dollar areas. The non-discriminatory tariff allows further rationalization of production between exporters. Compared with free trade, EC consumers' welfare is less while government revenue increases. Compared to the case where a discriminatory 20% tariff is imposed, EC consumers' welfare is reduced slightly while welfare of preferential exporters declines substantially. Such declines in the welfare of preferential exporters are likely to make the policy unacceptable to the EC.

A policy alternative the Community may consider as a means of continuing protection for favored exporters is to use a tariff on imports to finance a deficiency payment scheme for preferential exporters. Deficiency payments could be set to cover the difference between the world export price and the current protected export price paid to favored exporters, thus leaving favored exporters' welfare unchanged. In effect, the tariff would be set at a rate sufficient to offset the deficiency payments. The EC has shown a preference for self-financing schemes. Simulation results of such a scheme are given in Table 9.

A tariff of 16.7% on all banana imports (i.e., on the landed c.i.f. value) would be required to finance the continued subsidization of favored exporting countries. The effect on the Community as a whole would be for a sizable increase in welfare compared to the current situation -- $120 million annually. Within the Community, F.R. Germany would be a major loser, while consumers in most other countries would obtain sizable benefits -- although to a large extent at the cost of government revenues. The effect on the rest of the world would be relatively neutral; although increased exports from dollar areas and slightly higher world prices for bananas confer some benefits on dollar area exporters ($11.3m).

Table 6: Effects of Current EC Country Banana Policies

	Baseline	Free Trade				
		EFN=1 EROW=3	Welfare Change (million US$)	EFN=1 EROW=1	Welfare Change (million US$)	EFN=0.5 EROW=1	Welfare Change (million US$)
Prices (US$/Ton)						
US FOB	393.0	402.1		415.6		408.2	
US Retail	805.0	814.1		827.6		820.2	
Germany, F.R. Retail	1,435.0	1,444.1		1,457.6		1,450.2	
UK Retail	1,745.0	1,444.1		1,457.6		1,450.2	
France Retail	1,788.0	1,444.1		1,457.6		1,450.2	
Italy Retail	2,186.0	1,444.1		1,457.6		1,450.2	
Spain & Portugal Retail	1,623.0	1,444.1		1,457.6		1,450.2	
Other EC Retail	1,560.0	1,444.1		1,457.6		1,450.2	
Latin America FOB	232.0	241.1		254.6		247.2	
Jamaica & Windward Ils. FOB	553.0	241.1		254.6		247.2	
Guadeloupe & Martinique FOB	533.0	241.1		254.6		247.2	
Cameroon & Côte d'Ivoire FOB	298.0	241.1		254.6		247.2	
Somalia FOB	291.0	241.1		254.6		247.2	
Canary & Madeira FOB	496.0	241.1		254.6		247.2	
Other ACP FOB	303.0	241.1		254.6		247.2	
Imports ('000 tons)							
France	445.2	479.4	159.0	478.1	152.5	478.8	156.1
UK	359.4	390.3	112.8	389.0	107.6	389.8	110.4
Italy	362.8	485.9	314.8	483.7	308.3	484.9	311.9
Spain & Portugal	426.6	473.6	80.5	470.1	74.2	472.0	77.6
Germany, F.R.	668.7	667.0	-6.1	664.5	-15.0	665.9	-10.1
Other EC	270.6	278.6	31.8	277.7	28.1	278.2	30.1
Rest of World	5,015.9	4,959.0	-45.6	4,875.3	-111.6	4,921.2	-75.5
Exports ('000 tons)							
Guadeloupe & Martinique	296.7	134.2	-62.9	141.7	-61.0	217.2	-73.4
Jamaican & Windward Ils.	224.7	98.0	-50.3	103.4	-49.0	162.6	-59.2
Cameroon & Côte d'Ivoire	133.1	107.7	-6.8	113.7	-5.4	121.8	-6.5
Somalia	64.0	53.0	-2.9	56.0	-2.2	59.2	-2.7
Canary & Madeira	440.5	214.2	-83.4	226.1	-80.5	330.0	-95.9
Other ACP	56.0	44.6	-3.1	47.1	-2.5	50.8	-3.0
Rest of World	6,334.2	7,082.3	61.3	6,950.4	149.9	6,749.3	99.5
Government Revenue:							
France			-12.1		-12.1		-12.1
UK			-25.4		-25.4		-25.4
Italy			-236.1		-236.1		-236.1
Other EC			-33.4		-33.4		-33.4
Total Welfare			192.0		186.4		152.2

Notation: EFN denotes price elasticity of supply for favored exporters.
EROW denotes price elasticity of supply for rest of the world.

Table 7: Twenty Percent Tariff on EC Banana Imports from Dollar Area

	Baseline	EFN=1 ERW=3	Welfare Change (million US$)	EFN=1 ERW=1	Welfare Change (1 million US$)	EFN=0.5 ERW=1	Welfare Change (million US$)
Prices (US$/Ton):							
US FOB	393.0	397.2		403.3		400.3	
US Retail	805.0	809.2		815.3		812.3	
Germany, F.R. Retail	1,435.0	1,564.9		1,572.2		1,568.6	
UK Retail	1,745.0	1,564.9		1,572.2		1,568.6	
France Retail	1,788.0	1,564.9		1,572.2		1,568.6	
Italy Retail	2,186.0	1,564.9		1,572.2		1,568.6	
Spain & Portugal Retail	1,623.0	1,564.9		1,572.2		1,568.6	
Other EC Retail	1,560.0	1,564.9		1,572.2		1,568.6	
Latin America FOB	232.0	236.2		242.3		239.3	
Jamaica d Windward Ils. FOB	553.0	361.9		369.2		365.6	
Guadeloupe & Martinique FOB	533.0	361.9		369.2		365.6	
Cameroon & Côte d'Ivoire FOB	298.0	361.9		369.2		365.6	
Somalia FOB	291.0	361.9		369.2		365.6	
Canary & Madeira FOB	496.0	361.9		369.2		365.6	
Other FOB	303.0	361.9		369.2		365.6	
Imports ('000 Tons)							
France	445.2	467.4	101.8	466.7	98.4	467.1	100.1
UK	359.4	378.0	66.4	377.2	63.7	377.6	65.0
Italy	362.8	465.9	257.4	464.7	254.0	465.3	255.6
Spain & Portugal	426.6	441.9	25.2	440.0	22.0	440.9	23.6
Germany, F.R.	668.7	644.5	-85.3	643.1	-90.0	643.8	-87.7
Other EC	270.6	270.3	-1.3	269.8	-3.3	270.0	-2.3
Rest of World	5,015.9	4,989.6	-21.1	4,951.7	-51.3	4,970.4	-36.5
Exports ('000 Tons)							
Guadeloupe & Martinique	296.7	201.4	-42.6	205.5	-41.1	250.1	-45.8
Jamaica & Windward Ils.	224.7	147.0	-35.5	150.0	-34.4	186.6	-38.5
Cameroon & Côte d'Ivoire	133.1	161.6	9.4	164.9	10.6	148.2	9.5
Somalia	64.0	79.6	5.1	81.2	5.7	72.2	5.1
Canary & Madeira	440.5	321.4	-51.1	327.9	-48.7	382.6	-53.7
Other ACP	56.0	66.9	3.6	68.2	4.1	61.8	3.7
Rest of World	6,334.2	6,679.6	27.4	6,615.5	66.7	6,533.6	47.0
Government Revenue:							
France			1.0		0.1		-3.5
UK			-4.8		-5.3		-9.1
Italy			-187.6		-187.5		-186.5
Other EC			0.6		0.9		0.7
Spain & Portugal			15.1		14.2		7.4
Germany, F.R.			81.0		81.6		81.3
Total Welfare			164.8		160.3		135.5

Notation: EFN denotes price elasticity of supply for favored exporters.
ERW denotes price elasticity of supply for rest of the world.

Table 8: Twenty Percent Tariff on All EC Banana Imports

	Baseline	EFN=1 EROW=3	Welfare Change (million US$)	EFN=1 EROW=1	Welfare Change (million US$)	EFN=0.5 EROW=1	Welfare Change (million US$)
Prices (US$/Ton)							
US FOR	393.0	400.9		412.5		405.0	
US Retail	805.0	812.9		824.5		817.0	
Germany, F.R. Retail	1,435.0	1,569.3		1,583.2		1,574.3	
UK Retail	1,745.0	1,569.3		1,583.2		1,574.3	
France Retail	1,788.0	1,569.3		1,583.2		1,574.3	
Italy Retail	2,186.0	1,569.3		1,583.2		1,574.3	
Spain & Portugal Retail	1,623.0	1,569.3		1,583.2		1,574.3	
Other EC Retail	1,560.0	1,569.3		1,457.6		1,450.2	
Latin America FOB	232.0	239.9		251.5		244.0	
Jamaica & Windward Ils. FOB	553.0	239.9		251.5		244.0	
Guadeloupe & Martinique FOB	533.0	239.9		251.5		244.0	
Cameroon & Côte d'Ivoire FOB	298.0	239.9		251.5		244.0	
Somalia FOB	291.0	239.9		251.5		244.0	
Canary & Madeira FOB	496.0	239.9		251.5		244.0	
Other ACP FOB	303.0	239.9		251.5		244.0	
Imports ('000 tons)							
France	445.2	467.0	99.8	465.6	93.3	466.5	97.4
UK	359.4	377.5	64.7	376.1	59.5	377.0	62.9
Italy	362.8	465.2	255.3	462.8	248.9	464.3	253.0
Spain & Portugal	426.6	440.7	23.3	437.1	17.2	439.4	21.1
Germany, F.R.	668.7	643.7	-88.1	641.1	-97.0	642.7	-91.3
Other EC	270.6	270.0	-2.5	269.0	-6.3	269.6	-3.9
Rest of World	5,015.9	4,966.6	-39.5	4,894.4	-96.6	4,940.8	-60.0
Exports ('000 tons)							
Guadeloupe & Martinique	296.7	133.5	-63.1	140.0	-61.5	216.3	-74.1
Jamaican & Windward Ils.	224.7	97.5	-50.4	102.2	-49.3	161.9	-59.7
Cameroon & Côte d'Ivoire	133.1	107.2	-7.0	112.3	-5.7	121.1	-6.9
Somalia	64.0	52.8	-3.0	55.3	-2.4	58.8	-2.9
Canary & Madeira	440.5	213.1	-83.7	223.4	-81.2	328.6	-96.9
Other ACP	56.0	44.3	-3.2	46.5	-2.6	50.6	-3.1
Rest of World	6,334.2	6,982.2	52.7	6,866.4	128.7	6,663.1	78.3
Government Revenue:							
France			46.9		47.8		47.2
UK			22.3		23.0		22.5
Italy			-177.3		-176.5		-177.0
Other EC			0.8		1.3		0.9
Spain & Portugal			55.7		56.2		55.9
Germany, F.R.			81.3		82.5		81.8
Total Welfare			185.0		179.2		145.2

Notation: EFN denotes price elasticity of supply for favored exporters.
EROW denotes price elasticity of supply for rest of the world.

9: of on EC

	Baseline	EFN=1 EROW=3	Welfare Change (million US$)	EFN=1 EROW=1	Welfare Change (million US$)
Prices (US$/Ton):					
US FOR	393.0	394.8		397.6	
US Retail	805.0	806.8		809.6	
Germany, F.R. Retail	1,435.0	1,541.3		1,542.9	
UK Retail	1,745.0	1,541.3		1,542.9	
France Retail	1,788.0	1,541.3		1,542.9	
Italy Retail	2,186.0	1,541.3		1,542.9	
Spain & Portugal Retail	1,623.0	1,541.3		1,542.9	
Other EC Retail	1,560.0	1,541.3		1,542.9	
Latin America FOB	232.0	233.8		236.6	
Jamaica & Windward Ils. FOB	553.0	553.0		553.0	
Guadeloupe & Martinique FOB	533.0	533.0		533.0	
Cameroon & Côte d'Ivoire FOB	298.0	298.0		298.0	
Somalia FOB	291.0	291.0		291.0	
Canary & Madeira FOB	496.0	496.0		496.0	
Other ACP FOB	303.0	303.0		303.0	
Tariff (%)	20	16.7		16.4	
Imports ('000 Tons):					
France	445.2	469.8	112.9	469.6	112.1
UK	359.4	380.4	75.3	380.2	74.7
Italy	362.8	469.8	268.4	469.5	267.6
Spain & Portugal	426.6	448.1	35.7	447.6	35.0
Germany, F.R.	668.7	648.9	-70.0	648.6	-71.7
Other EC	270.6	271.9	5.1	271.8	4.6
Rest of World	5,015.9	5,004.9	-8.8	4,987.3	-23.0
Exports ('000 Tons):					
Guadeloupe & Martinique	296.7	296.7	0	296.7	0
Cameroon & Côte d'Ivoire	133.1	133.1	0	133.1	0
Jamaica & Windward Ils.	224.7	224.7	0	224.7	0
Somalia	64.0	64.0	0	64.0	0
Canary & Madeira	440.5	440.5	0	440.5	0
Other ACP	56.0	56.0	0	56.0	0
Rest of World	6,334.2	6,478.7	11.3	6,459.6	29.4
Government Revenue:					
France			-12.1		-12.1
UK			-25.4		-25.4
Italy			-236.1		-236.1
Other EC			-33.4		-33.4
Spain & Portugal			0		0
Germany, F.R.			0		0
Total Welfare			122.7		122.4

Notation: EFN denotes price elasticity of supply for favored exporters.
EROW denotes price elasticity of supply for rest of the world.

The efficiency of a deficiency payments scheme, financed by tariffs, as a mechanism for ensuring a continuation of aid to traditional banana suppliers, while more efficient than current policies, is still costly. It costs the EC an estimated $1.27 to transfer each dollar received by favored exporters and costs non-favored exporters $0.24. Non-European industrial importing countries still profit to the tune of an estimated $0.18 for each dollar transferred, while it costs the world economy an estimated $0.34. A deficiency payment scheme financed from general tax revenue may prove to be slightly more efficient if the tax revenue could be raised for a cost less than $0.27 for each dollar raised. The costs and benefits to other parties would be unaltered.

Direct Payments

Direct payments made in place of deficiency payments would be more efficient instruments for delivering aid. Aid provided by raising producer prices -- such as deficiency payments -- encourages production in favored exporters. This in turn lowers the world price and imposes costs on dollar area exporters while conferring benefits to non-European industrial importers. If the revenue raised by the self-financing tariff on EC consumers was made as direct payments to favored exporters, rather than to producers of bananas in these countries, distortions to trade and the costs associated with them would be considerably reduced (see Table 10). Costs per dollar of aid to non-favored exporters could be reduced to an estimated $0.025, and the profit to industrial importers would decline to an estimated $0.02 -- i.e., the welfare effects would be almost similar to those achieved under free trade. Residual costs to non-favored exporters and the world economy remain, due to the lower EC import demand caused by the tariff.

Table 10: Effects of Self-Financing Tariff on EC Banana Imports - Direct Aid Payment

	Baseline	EFN=1 EROW=3	Welfare Change (million US$)	EFN=1 EROW=1	Welfare Change (million US$)
Prices (US$/Ton)					
US FOR	393.0	401.1		413.3	
US Retail	805.0	813.1		825.3	
Germany, F.R. Retail	1,435.0	1,545.0		1,551.8	
UK Retail	1,745.0	1,545.0		1,551.8	
France Retail	1,788.0	1,545.0		1,551.8	
Italy Retail	2,186.0	1,545.0		1,551.8	
Spain & Portugal Retail	1,623.0	1,545.0		1,551.8	
Other EC Retail	1,560.0	1,545.0		1,551.8	
Latin America FOB	232.0	240.1		252.3	
Jamaica & Windward Ils. FOB	553.0	240.1		252.3	
Guadeloupe & Martinique FOB	533.0	240.1		252.3	
Cameroon & Côte d'Ivoire FOB	298.0	240.1		252.3	
Somalia FOB	291.0	240.1		252.3	
Canary & Madeira FOB	496.0	240.1		252.3	
Other ACP FOB	303.0	240.1		252.3	
Tariff (%)	20	10.1		15.0	
Imports ('000 tons)					
France	445.2	469.4	111.1	468.7	107.9
UK	359.4	380.0	74.0	379.3	71.4
Italy	362.8	469.2	266.7	468.1	263.5
Spain & Portugal	426.6	447.1	34.1	445.3	31.0
Germany, F.R.	668.7	648.2	-72.4	646.9	-76.8
Other EC	270.6	271.6	4.1	271.2	2.2
Rest of World	5,015.9	4,965.1	-40.7	4,889.7	-100.4
Exports ('000 tons)					
Guadeloupe & Martinique	296.7	133.7	-63.0	140.4	-61.4
Cameroon & Côte d'Ivorie	133.1	107.3	-7.0	112.7	-5.6
Jamaica & Windward Ils.	224.7	97.6	-50.4	102.5	-49.2
Somalia	64.0	52.8	-3.0	55.5	-2.3
Canary & Madeira	440.5	213.3	-83.6	224.0	-81.0
Other ACP	56.0	44.4	-3.2	46.6	-2.6
Direct Aid Payment			273.3		259.0
Rest of World	6,334.2	7,001.7	54.3	6,887.4	133.9
Government Revenue:					
France			-12.1		-12.1
UK			-25.4		-25.4
Italy			-236.1		-236.1
Other EC			-33.4		-33.4
Spain & Portugal			0		0
Germany, F.R.			0		0
Total Welfare			187.3		182.7

Notation: EFN denotes price elasticity of supply for favored exporters.
EROW denotes price elasticity of supply for rest of the world.

Direct aid payments would confer other advantages. The self-financing tariff would fall from an estimated 16.7% to 16.1% because of the higher world price, and efficiency losses arising from over-production of bananas in traditional supplying countries would be eliminated. If the revenue raised by the 16.1% tariff were directly transferred, traditional suppliers would not incur costs in producing bananas over and above the optimal free trade levels -- banana production in these countries would fall by around 46.6%, the same as in the free trade case. The resources saved could be used in other enterprises and would confer additional benefits on these countries compared to what they would receive under deficiency payments. Based on estimates from the model, the resources saved would be worth around $64m annually. That is, compared to the current policies, which provide an estimated welfare benefit of $209m to traditional supplying countries, direct-aid payments would confer a benefit of around $273m (i.e., $64m more) while at the same time the welfare of the EC could be increased by around $110m. Overall, the cost to the world economy of transferring each dollar of aid would be around $0.02 only. It is unlikely that raising the aid payment through general taxation measures or even through specific sales taxes would be more efficient than through the 16.1% tariff. Ballard, Shaven and Whalley (1985), for instance, estimate that the cost to the US economy of raising an extra dollar of general tax revenue in 1973 was in the range $0.17 to $0.56, and using sales taxes alone, it cost $0.03 for every dollar raised.

Long-term, direct payments are likely to confer other benefits on favored exporters. Direct aid payments could be efficiently targeted. They could be used to modernize the banana industries of such countries -- to make them more competitive -- or be used to help diversify their economies. Under current arrangements, through deficiency payments, aid tends to lock resources into inefficient, high-cost sectors.

5. Conclusion

The banana policies of the EC member states are inconsistent with the idea of a single European market to be established in 1992. Currently, favored exporters receive a subsidy equivalent (or a type of aid) from the various import arrangements operated by the EC member states. A single European market will lead to the elimination of those differences in import arrangements. The results of the model simulations shown above indicate that banana exports from favored exporters will decline by about one-half under free trade. Their exports will decline by 28% even under the protection of a 20% tariff on imports from dollar areas. This is mainly due to competition from the low-cost exports from Central and South America.

In view of the importance of banana exports to the favored supplying countries and given their traditional relationships with the EC, it is possible that the Community will design common measures to ensure them some form of preferred market access. However, the wiser strategy in the long run for these countries might be to seek direct aid payments from the EC. Such aid could be specifically targetted to improve the long-run efficiency of the banana industries or to diversify their economies.

Direct aid payments provide many other advantages over alternative instruments which deliver aid through raising producer prices.

Under current arrangements, gross inefficiencies exist in transferring each dollar of aid to favored exporters. Such inefficiencies could be largely eliminated through the use of direct aid payments and a self-financing tariff. Such a policy would create only minimal distortions in the pattern of consumption, production and trade. The elimination of current inefficiencies would place the EC in a position to provide a higher level of aid to traditional suppliers at lower total cost.

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