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# II Agriculture: Trade and Protection

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# 3 The Price and Welfare Implications of Current Conflicts Between the Agricultural Policies of the United States and the European Community

Dermot Hayes and Andrew Schmitz

## 3.1 Introduction

The agricultural policies currently in place in the United States and the European Community are similar in one respect: both are designed to increase the export market share without regard to the prices or revenues these products earn. A price war is currently being waged between the two trading communities in which, as with any price war, there is a welfare transfer from the combatants to the consumer (in this case, food-importing countries). The wealth transfers are enormous. When the 1985 Farm Bill takes effect in the United States, both areas will be exporting food at well below the cost of production.[1] This avoidable situation is the result of a misguided attempt by the European Community (EC) to increase the income of its agricultural producers, followed by a somewhat more justifiable attempt by the U.S. to counter the policies of the EC. It is a situation that, if unchecked, will cause most of the finances allocated for agricultural income support to be used eventually as a food subsidy for the industrial competitors of both communities.

Using a rather broad definition of a "farmer," there are approximately 6 million farmers in the EC-10 and 2 million in the U.S. "Roughly speaking, in 1983 the governments of the United States and the European Community had farm policies that cost the taxpayers and consumers a *minimum* of $80 billion" (Johnson 1984), or $10,000 per farmer. This figure approximately equaled the average net farm income in the

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U.S. in that year (Petit 1985) and was well above that which prevailed in the EC. It will become clear later in this paper that this cost to benefit ratio has deteriorated since then. Moreover, despite this enormous wealth transfer, farmers are in poor financial condition in both communities.

We begin our discussion in section 3.2 with an analysis of the common agricultural policy (CAP) of the EC. We argue that the CAP's pricing mechanism has acted as an incentive for individuals to overproduce, while the institutional design of the EC has caused national governments to encourage such overproduction. We then discuss how the technologies that have evolved in response to these incentives have shifted the supply curve for individual commodities to the right, making a reduction to the new equilibrium price level politically infeasible. We show that in the long run the effect of these above-equilibrium prices will necessitate an ever increasing reliance on export subsidies. We then review the performance of the CAP in achieving the objectives of an efficient use of resources, stabilized markets, and fairness. Unsurprisingly the single policy instrument of the CAP (price fixing) has not achieved its multiple objectives.

In section 3.3 we discuss U.S. agricultural policy as it relates to US-EC trade relations. Particular attention is paid to the Food Security Act of 1985, which we view as the U.S. response to the excesses of the CAP. The long-run implications of this policy are surprisingly similar to those of the CAP, a fact which allowed us to avoid a tedious repetition of the theoretical analysis.

In section 3.4 we discuss developments in this price war as they relate to international comparative advantage. This is followed by a discussion of the direction in which the US-EC dispute is heading.

We conclude in section 3.5 with a proposal to ease the current tensions. It consists of a specific set of policy changes which were designed to be politically feasible yet welfare enhancing. Although this policy alternative was designed with specific reference to CAP reform, it would achieve maximum benefit if used as the basis for a bilateral policy alignment.

## 3.2 The CAP

### 3.2.1 European Behavior under the CAP

The long-term trend in the increase in the volume of agricultural production in the Community has been 1.5 percent to 2 percent per year, although internal demand has increased by only 0.5 percent per year. This spectacular surge in agricultural production in Europe will continue and could well gather momentum in coming years (Commission of the European Community 1985a).

The European Community is already the largest exporter of meat and dairy products in the world. It has been a net exporter of wheat since 1974 and has recently become a net exporter of coarse grains (Meilke and de Gorter 1985).

While the EC-10 remains a major importer of oilseeds, production of sunflower seeds in the 1985–86 crop year is expected to be more than 300 percent above the 1979–84 average. For rapeseed the increase is 167 percent (U.S. Department of Agriculture 1986). U.S. exports of soybeans to Europe have fallen 25 percent since 1983 (Rosson 1985). If quotas are imposed on cereal output, it seems inevitable that this trend towards self-sufficiency in oilseeds will continue.

Exports of European wines to the U.S. have recently been the subject of GATT litigation because of countervailing duty action by the United States (see chapter 2). Furthermore, when asked if he felt the U.S. Wine Equity Act (a measure that permits import retaliation and export subsidies if other countries do not reduce their import barriers on wine) could lead to a trade war, Mr. Bruno Julian, the Community's agricultural representative said, "We would certainly move against the import trade in soybean and soybean meal" (*Wines and Vines,* March 1984).

There seems to be no end in sight to this increase in EC agricultural production. The Commission has estimated using current trends that by 1991 cereal "stocks will amount to around 80 million tons which is almost half the Community production and more than three times the quantity which the Community was able to sell on the world market when conditions were most favorable" (Commission of the European Community 1985c). To put this figure in perspective, for the period 1978–82 the U.S. produced on average 64 million metric tons of wheat per year, while total world wheat exports, including intra-EC trade, were 89.7 million metric tons. Between 1975 and 1984 the U.S. share of the world's grain trade has declined from 53 percent to 43 percent. In March 1985 Mr. Julian stated that "the EC believes it is entitled to a fair share of the world market and it will be aggressive in trying to obtain this share" (Rosson 1985).

In figure 3.1 the value of import levies collected by the EC is expressed as a percentage of expenditures on export refunds. The absolute values of these numbers are presented in table 3.1. To dispose of surplus production the Community has increasingly depended on export refunds, which are, in effect, a food subsidy for importing countries.

It is widely felt that U.S. farmers are more efficient than their European counterparts (Petit 1985). The question then arises as to the source of the increase in EC exports. In table 3.2 the relative rates of protection in the EC, Japan, and the United States are presented. It can be seen that this increase in exports was not in response to world

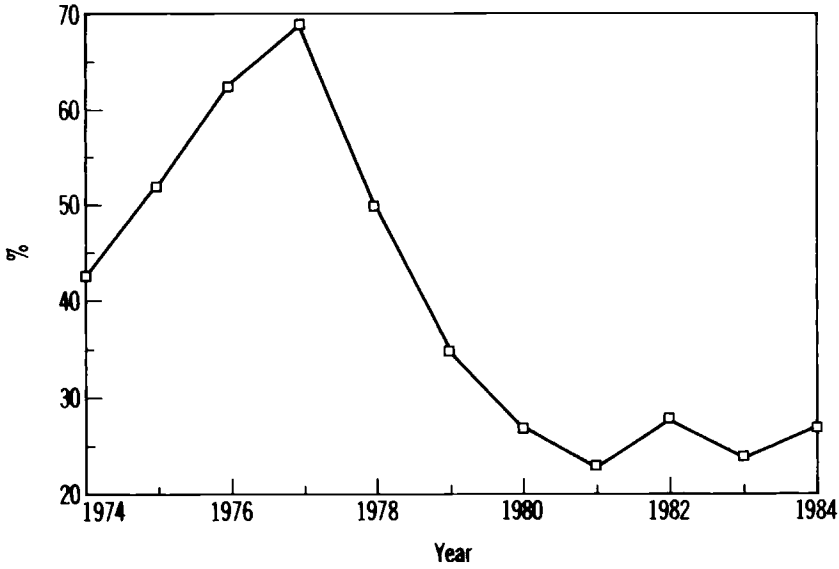



**Fig. 3.1** E.C. Import levies as percentage of export subsidies (1974–1984)

**Table 3.1** **Import Levies Collected and Export Subsidies Paid by the European Community, 1974–1984 (million of European currency units)**

| Year | Export Subsidies | Import Levies |
|---|---|---|
| 1974 | 590.6 | 225.0 |
| 1975 | 968.9 | 510.0 |
| 1976 | 1666.2 | 1040.1 |
| 1977 | 2703.9 | 1816.9 |
| 1978 | 3749.6 | 1872.7 |
| 1979 | 4981.8 | 1678.6 |
| 1980 | 5695.0 | 1535.4 |
| 1981 | 5208.5 | 1264.9 |
| 1982 | 5053.3 | 1522.0 |
| 1983 | 5559.7 | 1475.4 |
| 1984 | 6717.5 | 1946.6 |

prices. For the commodities listed, the protection rates in the EC were, with only one exception, significantly higher even than Japan's. This, however, is not the sole source of the problem. In figure 3.2 wheat support prices in West Germany, France, and the United States are shown. These prices, which represent the minimum amount eligible farmers could expect to receive at harvest, increased to a similar degree on both sides of the Atlantic. In 1973 and 1974 actual wheat prices

**Table 3.2** **Nominal and Effective Rates of Protection for Processed Agricultural Commodities in the European Community, Japan, and United States in the mid-1970s (percentage by value)[a]**

| | EC | | Japan | | U.S. | |
|---|---|---|---|---|---|---|
| | Nominal | Effective | Nominal | Effective | Nominal | Effective |
| Meat products | 33 | 165 | 18 | 69 | 6 | 10 |
| Fruit and vegetables | 45 | 75 | 19 | 49 | 15 | 37 |
| Dairy products | | | | | | |
| Cheese | 59 | 276 | 35 | 175 | 12 | 35 |
| Butter | 77 | 1,328 | 45 | 418 | 10 | 47 |
| Grain Products | | | | | | |
| Corn | 22 | 82 | 26 | 69 | 4 | 0 |
| Flour and cereal preparations | 49 | 95 | 24 | 75 | 11 | 35 |
| Soybean oil | 148 | 148 | 25 | 268 | 23 | 253 |

*Source*: A. J. Yeats, "Agricultural Protectionism: An Analysis of Its International Economic Effects and Options for Institutional Reform," *Trade and Development*, no. 3 (1981).

[a]The nominal rate is the percentage by which the domestic product price exceeds the world price. The effective rate is the percentage by which protected value added exceeds value added without protection.

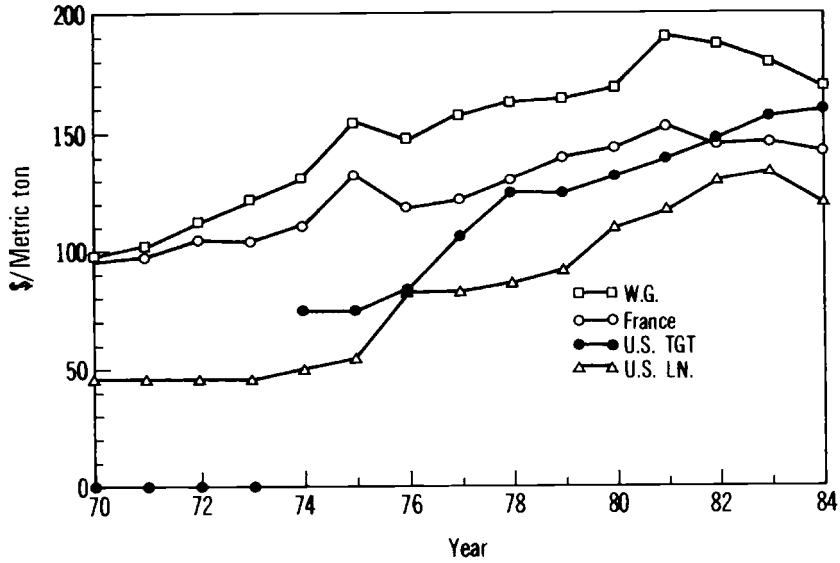



**Fig. 3.2** Wheat support prices (1970–1984)

received in the U.S. were higher in dollar terms than the average of those received in the Community.

Figure 3.3 shows the wheat yields per harvested hectare in some of the main producing countries. Some enlightening comparisons concerning the effect of the CAP can be made. In the late 1950s when the Community was formed, yields in the United States were about 70 percent of those achieved in France. By 1982, after the CAP had been in operation for several years, this figure had fallen to 40 percent. In addition, wheat yields in the U.K. showed only a moderate increase up to 1973; they had been surpassed for the first time ever by those in France in the previous year. After the U.K. joined the EC in 1973, these relative trends were reversed, with British yields increasing faster than those of the French.

This postmembership performance cannot all be explained by relative prices, however (figure 3.3). This is borne out by the behavior of yields in the United States. If movements *along* the supply curve were responsible for all of the increase in European yields, a more marked increase in American yields could have been expected in response to high prices in 1973 and 1974. It is obvious from these figures that certain aspects of the structural design of the CAP act to shift out the supply curve. There are two possible reasons for this. First, there is no downside price risk for commodities that come under the CAP. Sandmo (1971) has shown that when output prices are volatile, planned output

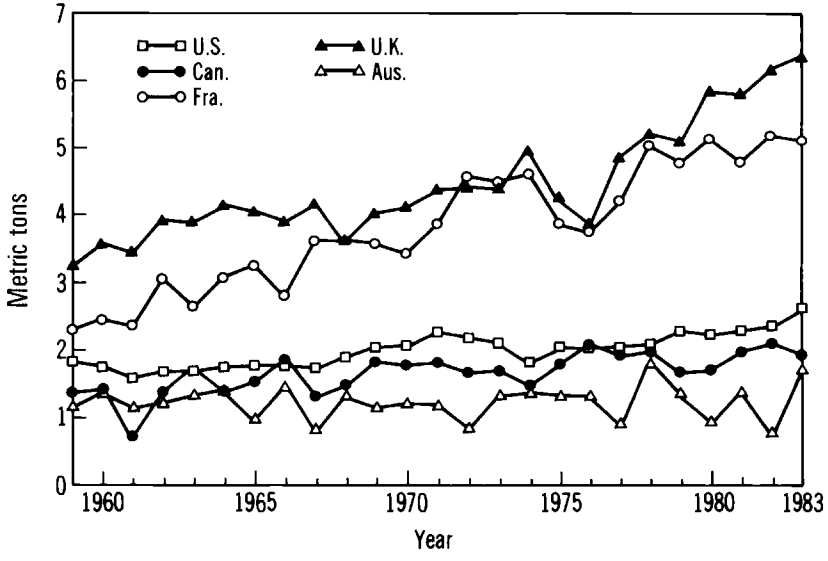



**Fig. 3.3** Wheat yield per harvested hectare for various countries

decreases because risk-averse producers defer investments and avoid yield-increasing technologies to reduce input costs and exposure to risk. In the United States prior to the 1985 Farm Bill, this was the case as it still is in Australia and Canada. Prices in these countries depend on volatile world market conditions.

Before 1985 American farmers could purchase downside price protection by removing 20 percent of their wheat base from production. By doing so, however, they exposed themselves further to changes in world prices via the opportunity cost of this unused land when market prices rose above costs of production. Until recently only a minority of U.S. producers (about 30 percent) chose this option.

The method of agricultural price-support funding in the EC is the second potential cause of the outward shift in the EC supply curve of agricultural products. Individual European governments are aware that they receive the full benefits of output-increasing research, while bearing only a proportion of the costs involved in disposing of excess production. This may be one of the reasons why national research expenditures have increased substantially in recent years (see table 3.3). National public expenditure in favor of agriculture actually increased in the late 1970s despite a plan for shifting toward common funding (table 3.4).

It is a commonly expressed sentiment in the Community that the solution to excess production is a return to "more market-oriented prices" (Commission of the European Community 1985a). The inelastic demand curve for food items ensures, however, that most individual producers could not survive at these prices, as the equilibrium revenues would be even lower than they were prior to the CAP.

### 3.2.2 Long-Run Supply Response in Agriculture

Any attempt to measure the price elasticity of supply in agriculture is faced by many problems that preclude accurate measurement. Farmers take many years to respond to aggregate price changes. While it may be possible to estimate a quantity response caused by producers switching between enterprises, to estimate the elasticity of supply when all prices are simultaneously increased to levels above equilibrium is much more difficult. On balance, higher prices encourage the development and adoption of output-increasing technologies. However, the mastery by producers of the more complicated methods of production requires a considerable learning period. At the same time the stabilization of agricultural prices in the EC encourages agricultural producers to move outward on their marginal cost curves, i.e., adopt higher-cost methods of production. Separating the effects of these two factors operating on supply is impossible, consequently, in figure 3.4, it is assumed that the supply-increasing effects of stabilized prices is included in the overall price index.

**Table 3.3** **National Public Expenditure in Favor of Agriculture, 1975–1980 (million European currency units)**

| Year | West Germany[a] | France | Italy | The Netherlands[a] | Belgium | Luxembourg | United Kingdom | Ireland | Denmark | European Economic Community |
|---|---|---|---|---|---|---|---|---|---|---|
| 1975 | 1,589.4 | 2,241.0 | 2,595.9 | 200.5 | 101.3 | 14.4 | 1,493.7 | 176.7 | 134.0 | 8,546.9 |
| 1976 | 1,513.4 | 2,770.6 | 1,810.5 | 236.3 | 115.6 | 21.9 | 1,206.1 | 215.1 | 158.2 | 8.047.7 |
| 1977 | 1,568.2 | 2,950.5 | 1,942.4 | 258.5 | 144.9 | 28.9 | 931.9 | 239.2 | 177.1 | 8,241.6 |
| 1978 | 1,670.5 | 2,239.7 | 2,067.1 | 288.5 | 197.5 | 16.3 | 685.9 | 297.3 | 224.7 | 7,687.7 |
| 1979 | 1,670.4 | 2,515.4 | 2,164.8 | 307.5 | 236.2 | 18.5 | 855.4 | 281.3 | 277.2 | 8,326.7 |
| 1980 | 1,636.5 | 2,731.6 | 2,882.2 | 330.0 | 229.7 | —[b] | 1.075.5 | 360.9 | 273.9 | 9,520.3[c] |

*Source:* Commission of the European Community, *Perspectives for the Common Agricultural Policy: The Green Paper of the Commission*. Brussels: Agricultural Information Service of the Directorate-General, July 1985.

[a]Includes basic research but excludes Social Security expenses for farmers. These were of the order of 17 billion European currency units in 1980, i.e., 143 percent of the European Agricultural Guidance and Guarantee Fund expenditure of 175 percent of the national expenditure in favor of agriculture.

[b]No data available.

[c]Luxembourg not included.

**Table 3.4** **European Agricultural Guidance and Guarantee Fund Expenditure, 1975–1980 (million European currency units)**

| Year | West Germany | France | Italy | The Netherlands | Belgium | Luxembourg | United Kingdom | Ireland | Denmark | European Economic Community |
|---|---|---|---|---|---|---|---|---|---|---|
| 1975 | 649.9 | 1,219.4 | 961.3 | 543.9 | 187.1 | 6.0 | 631.9 | 246.7 | 318.1 | 4,764.3 |
| 1976 | 929.9 | 1,453.5 | 1,091.2 | 771.0 | 348.3 | 8.5 | 511.7 | 234.4 | 438.9 | 5,787.4 |
| 1977 | 1,315.7 | 1,631.7 | 1,000.1 | 907.2 | 435.2 | 10.2 | 416.9 | 602.5 | 639.3 | 6,958.8 |
| 1978 | 2,441.2 | 1,511.4 | 1,195.9 | 1,111.2 | 574.5 | 25.3 | 1,193.9 | 358.1 | 583.8 | 8,995.3 |
| 1979 | 2,464.9 | 2,380.5 | 1,694.8 | 1,402.3 | 769.7 | 13.9 | 992.6 | 484.2 | 644.3 | 10,847.2 |
| 1980 | 2,596.3 | 2,963.1 | 1,930.0 | 1,569.7 | 596.4 | 12.6 | 991.1 | 609.7 | 640.4 | 11,909.3 |

*Source:* Commission of the European Community, *European Agricultural Guidance and Guarantee Fund: Annual Report*, various years.

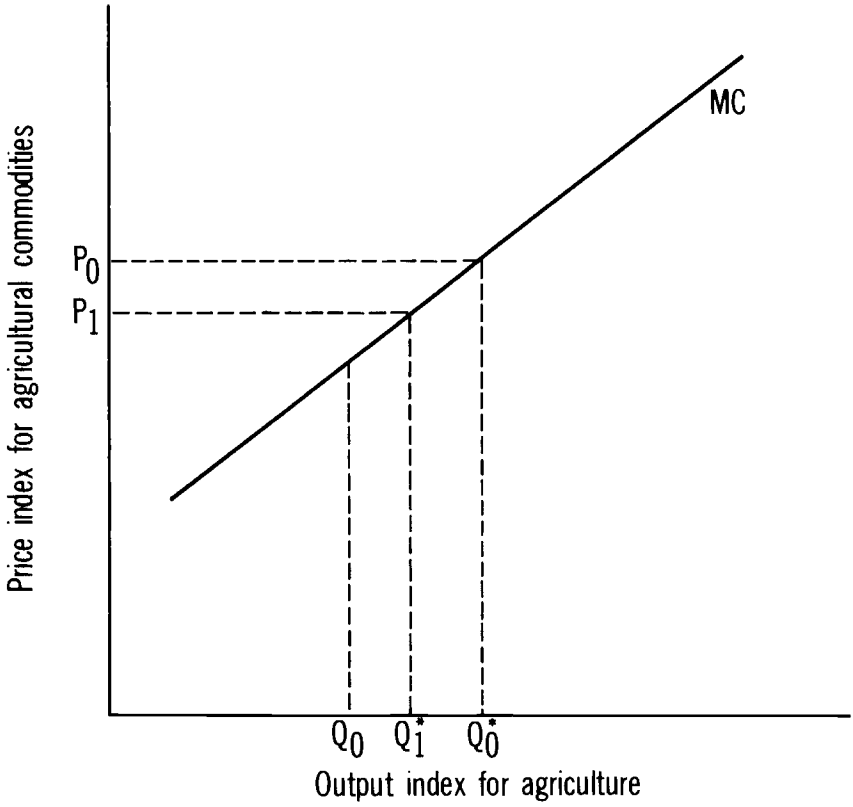



**Fig. 3.4** Long-run marginal cost curve for agriculture

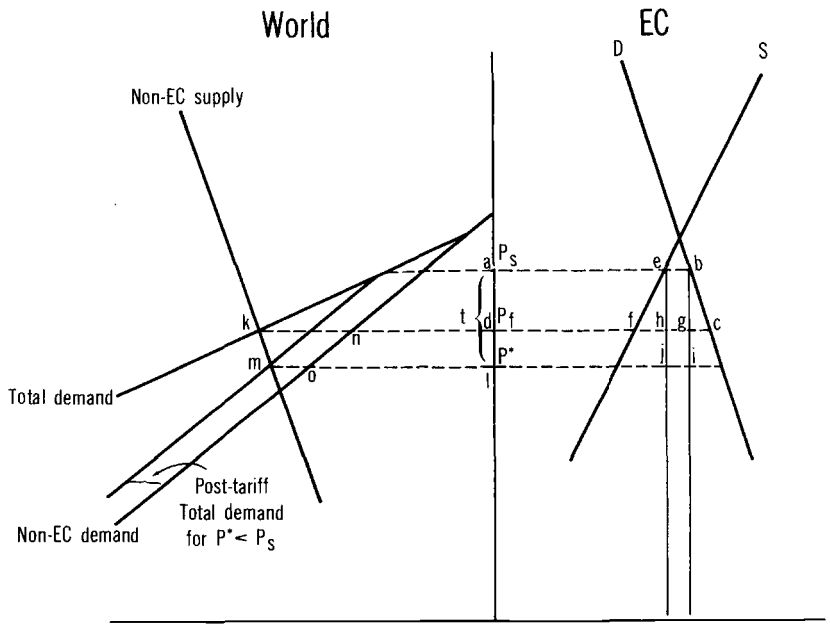
Consider an attempt to estimate the response of all producers to a general fall in the price level, if the agricultural sector is initially in disequilibrium. At initial price and output levels, $P_0$ and $Q_0$ in figure 3.4, producers have not yet adopted all of the intensive production methods to produce the desired output $Q^*_1$. If we now lower the price level to $P_1$, consider the effect on output. Individual producers realize that their revenue has dropped from $P_0 \times Q_0$ to $P_1 \times Q_0$ and are encouraged to become more efficient. One way to do this is to move more quickly to the optimum point on the marginal cost curve. This new point, $Q^*_1$, is greater than the amount currently being produced. The incentive, therefore, is to increase the rate of adoption of output-increasing technologies until the new equilibrium has been reached. Any measurement of the price elasticity of supply at this point would be negative, i.e., lower prices, higher output.

Within the Community, there is an enormous divergence between the yields that national research institutions claim to be economic and

those that are being achieved by the average farmer. If one defines the relevant region for a supply curve as the level of output that can be financed without changes in the system, despite the fixed amount of land available, the long-run supply curve is flat. Therefore, any attempt to maintain prices above a market-determined equilibrium are destined to fail. The reason for this prediction is shown in the following back-to-back diagrams.

### 3.2.3 Theoretical Considerations

In figure 3.5, the short-run welfare implication of maintaining specified internal price levels is compared with that of free trade. The internal EC market is modeled in the right-hand side of the diagram. The EC demand curve is *D*, and *S* is the corresponding supply curve. On the left-hand side of the diagram the rest of the world is modeled. In the absence of any trade barriers the EC demand would be *kn*, or




EC consumers' loss = abcd
EC producers' gain = aefd
Tariff revenue = ebij
EC gains/losses = hgij - (ehf + bcg)

Non-EC consumers' gain = ndlo
Non-EC producers' loss = kdlm
Non-EC losses = knom

**Fig. 3.5** Short run: Welfare comparison, free trade vs. EC support ($P_S$) with variable levy

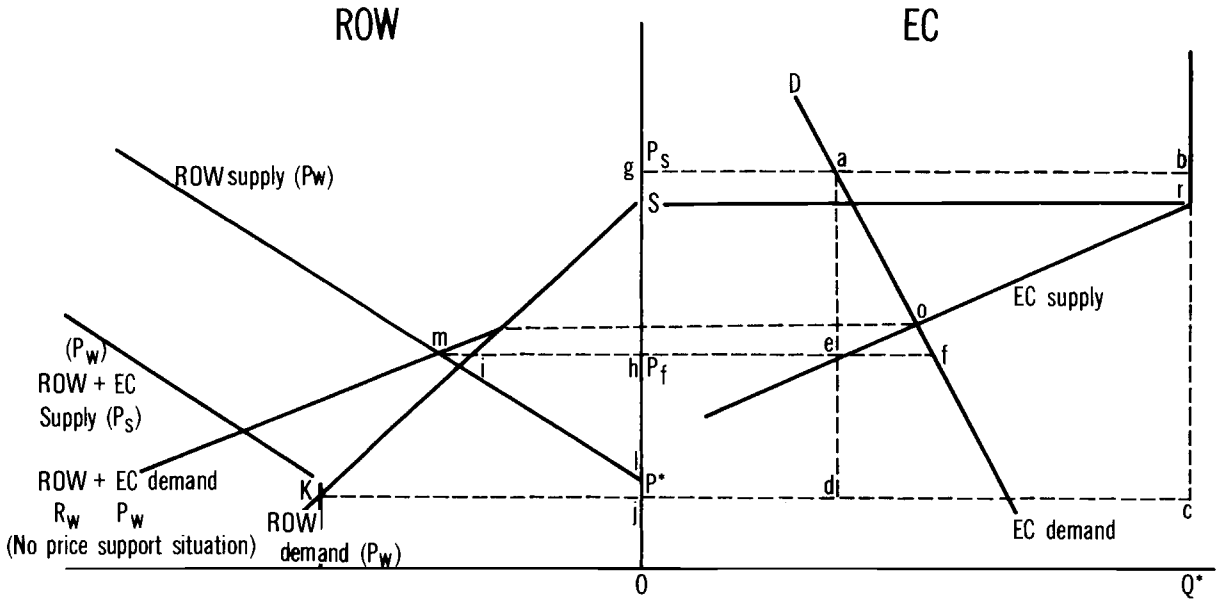
equivalently *fc*, the free trade price would be $P_f$. In order to achieve a posttariff internal price the EC must cut its imports to *eb*, or *mo*. This reduces the world price to $P^*$. The magnitude of the tariff imposed on foreign imports in order to make the domestic support price effective is *t*. The net welfare effect from the tariff is *hgij* − (*ehf* + *bcg*), which can be positive or negative depending on the elasticities of supply and demand in both markets.

It is interesting to observe how, in the long run, this policy can create a situation that yields a net loss to the EC. This is, in part, due to the dynamics of supply response. The EC supply curve in figure 3.5 is assumed to be of a short run nature. In the long run, this supply curve becomes more elastic. As the supply curve flattens, the EC moves from being a net importer until it eventually becomes a net exporter. This is illustrated in figure 3.6. At a constant support price, $P_s$, the EC becomes an exporter of the amount *ab*, given that it must impose a production quota constraint of *jc* or $OQ^*$ in order to contain export subsidies within its spending limits. (Notice that without this restriction the export subsidies required become infinite). On the world market the effect of these subsidized EC exports is to drive prices down to $P^*$.

Successive increases in the amount that EC producers are willing to supply at $P_s$ have two effects: (1) they increase the amount that must be exported, and (2) they increase the export subsidy that must be paid as these subsidized exports drive down world prices.

There is no long-run equilibrium solution to this situation. We have indicated this by imposing an output restriction at $OQ^*$. Unless governments in other producing countries intervene, their domestic industry will be eliminated. Again, this occurs because of a flattening of the EC supply curve. As the diagram is drawn, the most efficient foreign producers are unwilling to operate if prices consistently remain below *l*. The net welfare loss in the EC is large, as is the net gain in the rest of the world. The EC subsidy is *abcd*. The loss to consumers is *gafh* while the gain to producers is *gbreh*. Thus, the net loss to the EC from protection is *ofe* + *adcro*.

It is interesting to observe how many of the once major EC import goods have followed the pattern suggested in figures 3.5 and 3.6. The evidence suggests that when a country enters the EC, output expands rapidly (e.g., in the United Kingdom in figures 3.3 and 3.7). Also, the dynamics illustrated in figures 3.5 and 3.6 predict that, over time, the variable levies collected by the EC should diminish while the export subsidies should increase. This is occurring, as shown in figure 3.1. In 1977, EC import levies as a percentage of export subsidies were roughly 70 percent; by 1984 the percentage had decreased to under 30 percent by 1984.




EC consumers' loss = gafh
EC producers' gain = gbreh
Cost of export subsidies abcd - spending
Net gain = –adcro – ofe < 0

ROW consumers' gain = ihjk
ROW producers' loss = mhl (no production)
ROW net gain = ihjk – mhl

**Fig. 3.6** Medium term: Welfare comparison, free trade vs. price support at $P_S$

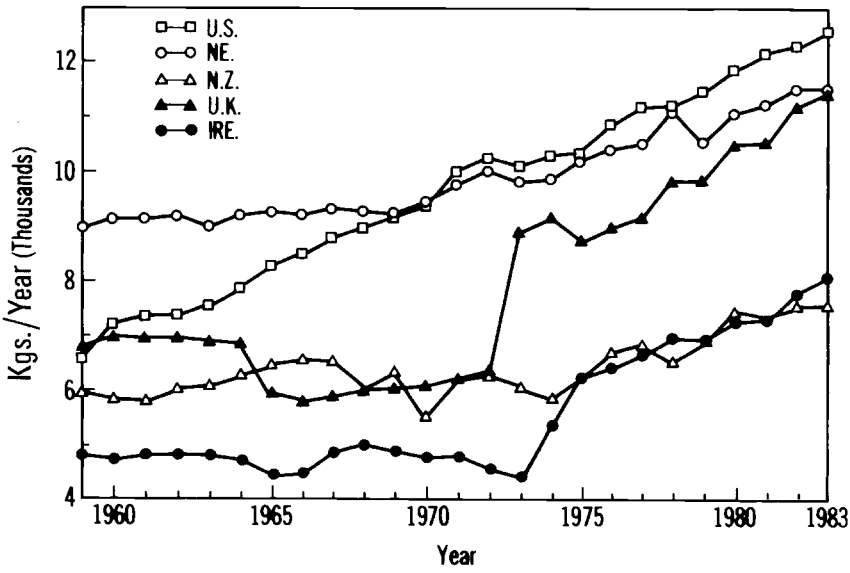



**Fig. 3.7** Milk yield per cow (1955/1959–1983)

### 3.2.4 Other Aspects of the Performance of the CAP

A recently published Green Paper of the Commission of the European Community (1985a) entitled *Perspectives for the Common Agricultural Policy* outlines the performance of EC agricultural policy, the environment in which it operates, and the problems it must overcome in the near future. The Green Paper creates a framework for a dialogue with Community institutions and professional organizations in order to define the future prospects for European agriculture. It lays out the "rules of the game" that proposed adjustments to the CAP should follow. The purpose of these adjustments is to allow the policy to continue into the next century. The Green Paper states: "The Common Agricultural Policy has sustained the developments of community agriculture over more than twenty years, with results that are substantial and positive."

The principles we will use to evaluate the performance of the EC's agricultural policies are those specified in the Treaty of Rome in 1957, those set forth at the conference at Stresa in 1958, and a general concept of economic "fairness." The five agricultural objectives of the Treaty of Rome are set forth in appendix A. Three of the targets specified are: (1) to optimize utilization of factors of production, (2) to stabilize markets, and (3) to ensure that supplies reach consumers at reasonable prices. We believe that the current policies have not achieved these

three objectives, but we agree with the Commission's evaluation that the other two targets specified in the Treaty of Rome have been met.

### 3.2.5 Optimum Utilization of Factors of Production

In table 3.5, data on the gross fixed capital formation per unit of gross value added for agriculture and for all sectors in the economies of the EC are presented. With the exception of Belgium in 1973, agriculture attracted a greater share of the annual available capital pool in all countries than did the economy as a whole. This investment bore no relation to market forces, however. It promoted a high investment rate in an industry with worldwide excess capacity. This capital inflow to agriculture and away from the rest of the economy affects the industries that most need capital—high technology and growth industries, thereby reducing their comparative advantage and the adoption and development of new technology.

The Community has supported farm prices through an invisible tax on food consumption. Its target prices are generally above the world level, thereby violating the third target specified. High food costs must result in either increases in wage demands to maintain living standards or lower real wages. In industries where the first occurs, the Community undermines its competitive base, since firms must charge more to pay high wage demands. Many of the Community's industrial competitors can afford to pay lower wages because they import subsidized agricultural products from the EC. In addition, these countries can shift factors out of agriculture and into export industries with the knowledge that the Community will subsidize exports in ever increasing quantities until adjustments are made to current policy.

Industries in which the effect of high food prices is especially unfavorable are those that are intensive users of human capital and operate in free nonunionized markets. Their workforce labor tends to be not only highly skilled but highly mobile. Consequently, the decrease in real wages resulting from increasing real food prices within the EC provides an incentive for this labor to emigrate. High-technology companies in the United States have access to these skills without the cost burden required to produce them.

Production quotas are already being used for milk and sugar, and forms of supply restriction are under consideration for cereals (Commission of the European Community 1985a, 25). We have previously shown that some form of output restriction is the inevitable consequence of current policies. These restrictions can only have negative consequences for resource utilization. They freeze production among certain producers and within certain areas, and the process whereby innovative producers force out the inefficient is stopped. It is particularly harmful when applied to the less-developed areas of the

**Table 3.5** **Investment Rate in Agriculture and the Total Economy, 1973, 1980, and 1983 (percent)**

| Indicator | West Germany | France | Italy | The Netherlands | Belgium | Luxembourg | United Kingdom | Ireland | Denmark | European Community[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| Investment rate in:[b] | | | | | | | | | | |
| Agriculture | | | | | | | | | | |
| 1973 | 24.6 | 17.9 | 16.2 | 23.2 | 17.1 | 29.7 | 28.9 | 24.1 | 30.5 | 20.2 |
| 1980 | 31.6 | 21.4 | 22.0 | 32.7 | 21.6 | 33.7 | 26.7 | 30.4 | 30.1 | 24.9 |
| 1983 | 25.3 | 21.8 | 21.9 | 22.0 | 17.7 | —[c] | 23.7 | — | — | 22.3 |
| Total economy | | | | | | | | | | |
| 1973 | 17.4 | 17.7 | 15.3 | 17.6 | 17.5 | 19.1 | 15.9 | 19.8 | 15.8 | 16.9 |
| 1980 | 17.5 | 16.5 | 14.3 | 15.6 | 16.2 | 18.2 | 15.0 | 23.4 | 14.6 | 16.1 |
| 1983 | 15.5 | — | 12.6 | 13.7 | 15.1 | — | 13.5 | — | — | — |

*Source*: Statistical Office of the European Communities, *Eurostat*, various issues.

[a]Includes West Germany, France, Italy, The Netherlands, Belgium, Luxembourg, United Kingdom, Ireland, and Denmark.

[b]Gross fixed-capital formation per unit of gross value added, current prices, and exchange rates.

[c]A dash indicates no data available.

Community which are, in effect, stopped from developing if their comparative advantage happens to be in a product the output of which is controlled. The exclusion of certain activities from EC support deters producers from entering these product lines. Given the choice between a product with output price guaranteed despite the absence of markets, and a nonsupported activity, which might prove viable in the long run even at world prices, producers will be biased toward the supported enterprise. Commodities that may have development potential but have been neglected include certain types of nuts and fruit, fish, lumber, cotton, protein, and oil crops.

One final comment should be made concerning the efficient use of resources. A series of budgetary crises has created uncertainty about the continuation of present commodity programs. This, coupled with the on/off nature of the intervention process, has pushed human resources into predicting the outcome of EC policy discussions rather than those of market forces.

### 3.2.6 Stabilizing Markets

The performance of the CAP in achieving the second objective of the Treaty of Rome—that of stabilizing markets—can be seen in figure 3 of the Commissions' Green Paper. From the statistics presented there, it can be seen that, relative to the unstabilized portion of the economies, agricultural incomes have been extremely volatile in recent years. When output prices are allowed to move freely, there is an inbuilt income stabilizer in operation. Uncontrolled prices move in the opposite direction to yields in years of above- or below-normal harvests.

### 3.2.7 Objectives of the Council of Stresa

Many of the targets of the Treaty of Rome were repeated as objectives of the Council of Stresa (appendix B). In addition, the treaty specifies that (1) balance should be sought between production and the possibility for outlets, (2) account should be taken of the specialization appropriate to economic structures and natural conditions of the Community, (3) the effort should allow the application of a price policy that avoids excess production and allows agriculture to become competitive, and (4) a greater industrialization of the rural regions should allow a gradual solution to the problems otherwise passed over by marginal farms.

There is little evidence of any attempt to balance production with markets. High internal prices encourage production and discourage consumption. Attempts to alleviate this imbalance in agricultural markets absorb more than half of European Agricultural Guarantee and Guidance Fund spending (table 3.6). The price-guarantee policy has absorbed most of the money that might have been used to improve the

**Table 3.6 Expenditure for Agricultural Market Organization in the European Community, 1973–1984[a]**

| | European Community (9)[b] | | | | | | | | European Community (10)[c] | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
| *Own resources (billion European currency units)*[d] | 8.3 | 9.2 | 10.1 | 12.1 | 14.1 | 15.0 | 16.7 | 18.6 | 19.8 | 22.2 | 24.4 | 25.9 |
| Annual growth rate (percent) | | 11.1 | 10.2 | 19.8 | 16.2 | 6.3 | 11.7 | 11.3 | 6.6 | 12.2 | 9.6 | 6.1 |
| *Expenditure for agriculture market organization (billion European currency units)*[e] | 3.9 | 3.1 | 4.5 | 5.6 | 6.8 | 8.7 | 10.4 | 11.3 | 11.0 | 12.4 | 15.9 | 16.5 |
| Annual growth rate (percent) | | −21.2 | 45.9 | 23.6 | 22.3 | 26.9 | 20.4 | 8.3 | −3.0 | 13.0 | 28.2 | 4.0 |
| Total expenditure (percent) | 79.3 | 72.6 | 75.2 | 73.6 | 70.8 | 77.5 | 72.6 | 69.4 | 61.8 | 62.3 | 61.5 | 64.8 |
| *Share of individual commodities in expenditure for agricultural market organizations (percent)* | | | | | | | | | | | | |
| Dairy products[e] | 40.3 | 40.7 | 26.5 | 40.9 | 43.2 | 48.2 | 44.3 | 44.1 | 34.4 | 31.2 | 32.8 | 33.6 |
| Beef | 0.5 | 10.4 | 20.5 | 11.0 | 6.9 | 7.4 | 7.2 | 12.1 | 12.9 | 9.4 | 9.3 | 8.5 |
| Cereals[f] | 26.8 | 12.4 | 13.0 | 11.8 | 9.2 | 12.9 | 15.0 | 14.8 | 17.3 | 14.8 | 15.5 | 15.7 |
| Sugar and isoglucose | 3.6 | 3.4 | 6.0 | 4.1 | 8.8 | 10.1 | 9.0 | 5.1 | 6.9 | 10.1 | 9.0 | 8.6 |
| Oilseeds | 2.1 | 0.4 | 0.6 | 1.8 | 1.3 | 1.6 | 2.1 | 3.3 | 5.2 | 5.8 | 6.1 | 6.7 |

[a]For 1973–1982, actual expenditure; for 1983–84, payment appropriations as of July 22, 1983.

[b]Includes West Germany, France, Italy, The Netherlands, Belgium, Luxembourg, The United Kingdom, Ireland, and Denmark.

[c]Includes the countries listed in footnote b plus Greece.

[d]Inxludes 1 percent VAT, 1973–1977 estimate.

[e]Before deducting revenue from the co-responsibility levy on milk.

[f]Excluding rice.

economic base in rural areas. The longer such policies continue, the greater will be the divergence between internal agricultural markets and those of the rest of the world.

### 3.2.8 Fairness

It is perhaps in the area of fairness that the performance of the CAP has been weakest. The policy has excluded some commodities, disallowed part-time farmers from the structural improvement scheme, and based price increases on lobbying activity and political considerations. In areas where the price policy has operated, the main beneficiaries have been landowners as opposed to those who work the land. Faced with high output prices, farmers bid up input prices rather than absorb the surplus themselves (Johnson 1984). Land, being the fixed factor, has absorbed most of the benefits accruing from the policy. High land prices, in turn, deter new entrants and allow large landholders to use their holdings as collateral for further purchases. In the long run, output prices and income from farming become independent.

The CAP has mainly increased the wealth of those who own the scarce resources, i.e., land and capital, not the labor and management that use these resources. This wealth transfer has been financed by high food costs that hurt the poor proportionately more than other groups. In a sense, therefore, the entire system is regressive. It avoids Treasury exposure, thereby shifting the burden of price support away from progressive income taxes and toward regressive taxes on consumption.

## 3.3 U.S. Agricultural Policy and US-EC Trade Relations

### 3.3.1 U.S. Behavior

The provisions of the CAP described above all conform to the rules for agricultural products contained in the GATT. They are legal because the United States demanded that exceptions be made from the basic GATT rules for primary products, especially for agricultural commodities. Specifically, there is a general derogation permitting export subsidies on primary products. In 1958 the U.S. was the leader in rejecting calls for a prohibition on these subsidies. The U.S. still possesses a "temporary waiver" granted over 30 years ago, while the EC does not. The EC obtained the right to support internal prices by consolidating its import duties on other products.

The U.S. dairy industry is supported by policies that bear remarkable similarities to the CAP (Petit 1985). Not surprisingly, the dairy problem in the two trading blocs developed along similar lines. Figure 3.7, which presents per cow milk production in various countries, indicates that

current U.S. yields are above those in Europe. The U.S. has its own cheese "mountain" and in 1983 lost more than a billion dollars in dairy price support programs. The emphasis in the U.S. dairy industry is on yield-increasing technology. A hormone recently developed promises to increase yields per cow by up to 40 percent. As in the EC, political lobbying ensures that neither the dairy supports nor the even more illogical tobacco and sugar quotas are changed.

For wheat, corn, and soybeans, however, the United States has until recently adopted a relatively free-market philosophy. In the paper by Sarris in this volume (see his table 4.1), the producer subsidy equivalents for the United States and the EC are presented. For wheat, corn, and rice the U.S. subsidies are dwarfed by those of the CAP prior to the crop year 1983–84. In the face of falling market shares and financial problems among producers, however, the U.S. has recently adopted new policies toward these products that, from a European perspective, are dramatically different from those of the past.

### 3.3.2 The 1985 Farm Bill

For grains, traditional U.S. policy has been to offer producers price supports to encourage them to set aside a certain proportion of their base acreage. At harvest, program farmers could borrow from the government, using their stored grains as collateral. The amount borrowed per bushel depended on the loan rate, which reflected expected market prices. If actual prices then rose above this rate the producer/storer could sell the grain and repay the loan. If not, he defaulted on the loan and the government became a storer. The producer received an additional deficiency payment that was set as the difference between a target price and the amount he received for his grain. The essential provision of this policy was that loan rates were set at the minimum that market prices were expected to be. Membership in the programs was large enough to ensure that the loan rate acted as a price floor for producers in the United States and in other exporting countries. If the EC wished to export wheat, it had only to offer an export subsidy slightly below this rate. The U.S., therefore, acted as a residual supplier.

The 1985 farm bill changed this. Loan rates have been cut by the maximum allowable under law (20 percent) and will now be set at 75–85 percent of the market price in previous years. Target prices remain unchanged; hence, the incentive for producers to join the program has risen. Participation rates are expected to increase to 85 percent in 1988–89 (Womack et al. 1986). In addition, there is an optional provision that if world prices fall below the loan rate, producers would repay only 70 percent of the loan. Hence, if world prices were above 70 percent of the loan rate but less than 100 percent, producers would not default and the government stocks would be reduced.

The act contains a specific set of provisons to expand market share. For markets where U.S. products compete with export subsidies, $325 million dollars have been allocated to counter this practice with a further $2 billion allocated to expand markets. This support will probably be in the form of the commodity itself (payment-in-kind), again reducing government stocks. It is interesting to note that the United States is attempting to reduce its stocks while those in the EC are expected to increase.

A further $5 billion has been made available for short-term export credit guarantees and an additional $1 billion dollars per year for intermediate credit. A barter program to exchange agricultural products for strategic commodities has also been initiated. The PL480 program has been revitalized with 150,000 tons of dairy products and 500,000 tons of grain and oilseeds. For meat promotion, at least 15 percent of the total value of the payment-in-kind export commodities must be poultry, beef, pork, or meat products.

### 3.3.3 Short-Run Effects of the 1985 Act

In effect, the U.S. has changed its policies so that its prices are below those of its competitors. In addition, the government is attempting to reduce its stocks. In years when worldwide yields are high or when demand is low, there is no limit to how far world prices can fall. The export subsidies of the EC are set to be just below those of the United States, which in turn are set just below those of its competitors. It is estimated that wheat prices will fall an additional 25 percent (Womack et al. 1986).

### 3.3.4 Long-Run Implications

As the target and loan prices diverge, all producers will eventually enter the program. Once they respond to target prices, which will be above those on world markets, they will no longer face price risk. When this occurs yields may well follow the pattern set in Europe.

The Food Security Act of 1985 has provisions for removing from production a large proportion of the total land area, but in other respects it is similar to the policies that have caused surplus production in Europe. With most producers responding to target prices, which are known in advance, equilibrium market prices will become irrelevant. The long-run outcome of such a policy is similar to that outlined in figure 3.6 with more and more output being exported. In fact, provisions for production controls are contained in the bill to limit the cost of export subsidies.

When producers are guaranteed output-price supports for specific commodities, they lose all incentive to develop outlets for their production. It is difficult to imagine the hundreds of varieties of European

cheeses being developed had these producers received a milk price support. The governments of the EC-10 and the U.S. have, in effect, taken over this marketing work for the commodities they support. The fact that both are major exporters of unprocessed agricultural commodities bears witness to the failure of their efforts.

## 3.4 The Current Price War and Its Future Direction

### 3.4.1 The Impact of the Current Price War on Economic Performance

Consumers in Europe are effectively insulated from world market prices. U.S. consumers pay the equivalent of world prices but most bear the tax burden when these prices are below the cost of production. Johnson (1984) analyzes the source of growth in grain exports during the seventies: "The centrally planned economies accounted for almost half of the world import growth. . . . The next most important source of growth was the middle-income developing countries (Korea, Brazil, and Mexico). The low-developing countries had almost no net increase in grain imports during the period." He concludes that Japan and the Capital Surplus Oil Exporters were the only wealthy countries with major increases in food imports.

It is commonly believed that, because expenditures on food are low in developed countries, economic performance and food prices are unrelated in the sense that a country can tax food consumption heavily without altering its comparative advantage. The fallacy of this argument was demonstrated when OPEC increased the price of oil, which accounted for a smaller percentage of expenditure than food. Comparing prices in rural areas with those in cities provides a second rebuttal to the argument. When rents are high, everybody must be paid more. This has the effect of increasing the cost of living by much more than one would expect from the share allocated to rent. Perhaps the most significant refutation to the argument can be found by comparing recent increases in GNP among countries that benefit from subsidized food products and those that pay for these subsidies.[2] In this respect the Soviet Union has an optimal approach to agricultural production in that it maintains food prices below equilibrium while encouraging subsidized imports. Though some Soviet officials bemoan the country's agricultural performance, the current party chairman was previously responsible for the agricultural sector and has not been unduly punished for its poor performance.

The World Bank (Tyers and Anderson 1986) has recently estimated that trade liberalization in both developing and industrial market economies would result in a $45.9 billion gain for industrial countries, an

$18.3 billion gain for developing countries, and a loss of $23.1 billion for East European nonmarket economies. If only the industrial countries liberalized, the respective figures would be $48.5, $11.8, and $11.1 billion.

### 3.4.2 The Future

The most likely outcome of the current price war is the imposition of quotas on all agricultural commodities in both the United States and the EC. Such controls already exist in both communities (sugar, milk, and tobacco) and are mentioned in both the Green Paper and the 1985 Farm Bill. This outcome is undesirable for a number of reasons. It is forbidden under the Treaty of Rome by the provisions dealing with the efficient use of resources. Inputs taken out of production in a restricted commodity will end up in other enterprises making them the subject of new controls; for instance, land freed up by the dairy quota can now be used for grain production. In figure 3.6 it can be seen that quotas provide a benefit or rent to their owner (the area *gbrs*). The owners then form an effective lobby against changes. The eventual beneficiaries are not the currently efficient producers of the product but those who were the most efficient producers at the time the restrictions were imposed. An examination of the U.S. tobacco industry makes it clear that these are two very separate groups. It is important therefore that some alternative is found before lobbying groups are formed.

A possible solution is that the governments of both countries simply transfer wealth to producers in the form of direct income payments. This approach is very difficult to implement. Producers themselves are against this overt form of charity, since it would lead to large budget outlays. A precise definition of a farmer is also difficult to determine. It is likely that many small hobby farmers or retirees would take advantage of such a program.

## 3.5 To Ease the Tensions

### 3.5.1 An Alternative

It is now politically infeasible to lower prices to their new equilibrium level, yet as long as market prices are above that level, the problem outlined in figure 3.6 will arise. There is, however, another alternative that avoids the problem outlined above. It is a policy that could be used as the basis for a bilateral alignment of the policies of both countries in the next round of GATT.

The adjustments we propose can reduce the net welfare loss of EC policy. They are stable in the long run and obey the rules of the game as set forth by the Commission. In addition, they avoid the weaknesses

of the CAP outlined above. We feel that the inherent instability of the present system will eventually make adjustments similar to the ones we propose optimal. Implicit in the proposed set of adjustments is the assumption that EC governments have a mandate to support employment in agriculture. This involves assisting uneconomic units to slow their movement out of the industry, thereby maintaining the rural fabric and avoiding the enormous units that the free market seems to dictate. Alternatively, this proposed policy could be used as the basis for a bilateral alignment of the agricultural policies in both areas. The current price war is the result of the domestic policies of both the United States and the EC, and the situation cannot be resolved unless these are changed first. Trade negotiators must deal with the cause of the food surplus rather than attempting to dispose of this surplus.

### 3.5.2 The Proposed Adjustments

The proposal consists of the following:

1. Select a farm size (in terms of gross input) that the EC would most like to support. The choice of this unit has structural implications in that the proposed policy would favor this farm size over and above all others. It should be at or below the present Community average.
2. Collect data on costs of production for the target farm size, using efficient technology for all commodities.
3. Announce the proposed policy adjustments, making it clear that only farms enrolled in a modernization plan will be eligible. The design of the structural plan should be altered to admit all producers regardless of off-farm employment, income level, or commodity produced.
4. Each year specify either a total finance cap for the community or a maximum reference income per producer up to which there is a mandate to support agricultural incomes. It is important for the political feasibility of the proposal that individual countries be allowed to increase this reference level from national finances. The fair choice of such a total finance cap can be estimated once producers have had time to adjust their output, by estimating the following price and quantity vectors for the Community:

$$\{\mathbf{P}_N\mathbf{Q}_N - C[\mathbf{Q}(\mathbf{P}_N)]\mathbf{Q}_N\} - \{\mathbf{P}_p\mathbf{Q}_p - C[\mathbf{Q}(\mathbf{P}_p)]\mathbf{Q}_p\}$$

where

$\mathbf{P}$ = price vector of all commodities produced in the Community,
$\mathbf{Q}$ = quantity vector of all commodities produced in the Community,
$N$ = current prices and quantities,
$p$ = world prices and the quantities that would be produced in the Community if the proposals were implemented, i.e., if world market prices prevailed,

and

C = average cost of producing each of these commodities, as determined by the level of inputs which, in turn, depends on market prices.

The difference between the two parts of the equation in braces is the financial burden that should be borne by taxpayers to make producers, in the aggregate, indifferent between the proposed and the current policies. Initially, needed estimates of consumer benefits could be obtained from a model such as that developed by Thomson and Harvey (1981).

5. Measure actual market prices $P_P$, in each area.

6. Each year estimate the quantities of output, $Q^*$, that the target farm size in each region would produce given prevailing prices and weather conditions.

7. Estimate the target price, $P_T$, for each commodity from the equation

$$(1) \qquad (P_T - C^*)Q^* = \text{reference income},$$

where $C^*$ refers to the average cost that an efficient producer of $Q^*$ would incur.

8. Estimate the per unit producer subsidy, $S$, for each commodity from the equation

$$(2) \qquad P_T - P_p = S.$$

9. All production should be sold at whatever price the market will yield, $P_p$. Producers should receive a check at the end of the year estimated by measuring their agricultural sales, $Q$. The maximum allowable amount of the producer's output that will be subsidized, $Q^s$, should be such that

$$(3) \qquad SQ^s + (P_p - C^*)\, Q^s \leq \text{reference income}.$$

10. Producers of several commodities, should choose the commodity on which they want to earn the producer's subsidy. If many such producers choose a particular commodity, the target price, $P_T$, and, therefore, $S$, for that commodity should be revised downward. If producers ask for more than one commodity to be included, estimate

$$(4) \qquad \Sigma P_p^i\, Q^{i*}\; ST \sum_{i=1}^{N} S^i\, Q^i + (P_p^i - C^i)\, Q^i \leq \text{reference income}.$$

### 3.5.3 The Welfare Effects

To see how these proposals would influence the income position and incentives of producers, consider figure 3.8. The three marginal-cost curves represent small, medium, and large producers of the commodity.

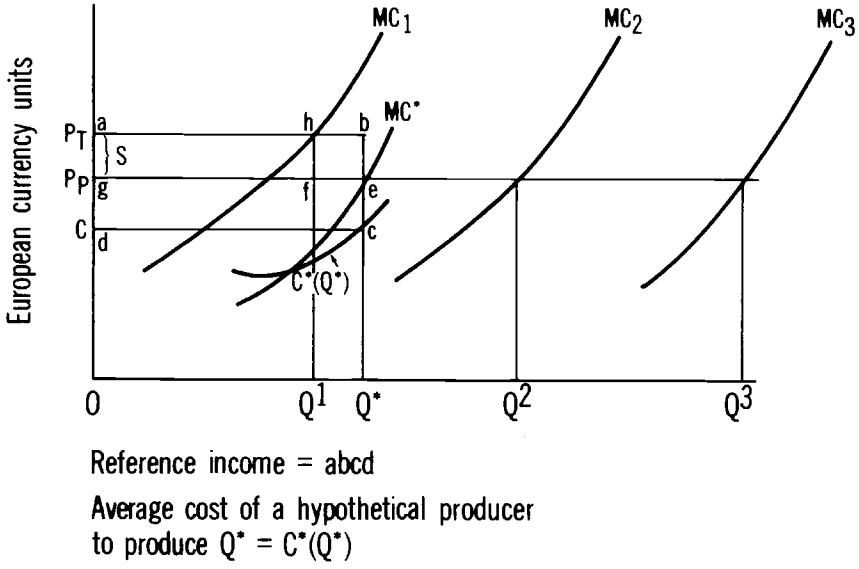



**Fig. 3.8** Price incentive facing producers by farm size

The small producers receive $P_T$ for all their output. This encourages them to expand output to $Q^1$ by adopting a more intensive enterprise or by intensifying their present one. The medium and large producers are guaranteed the reference income, *abcd,* plus whatever they earn from producing beyond $Q^*$.

All producers have an incentive to increase the price they receive for their output, which they could do by marketing or differentiating their product. The EC would estimate $P_p$ at a national or Community level. Producers could increase their income by marketing their produce so as to earn a price greater than $P_p$. Producers would have an incentive to reduce costs below those used to estimate $C(Q^*)$. Those who produce $Q^*$ at a higher average cost would be penalized. The EC would mail the small producer a check for *ahfg,* and the other two would receive at least *abcd* either via their actual profits or from the EC. Notice that if the price $P_p$ of this commodity is well above its cost of production, large producers would require no government payments. They would earn the reference income without government assistance. Since most output now comes from large farmers, the largest percentage of output would then be produced in response to world prices.

In figure 3.9, the present situation and proposed schemes are compared. This diagram makes clear the benefits that would accrue to the

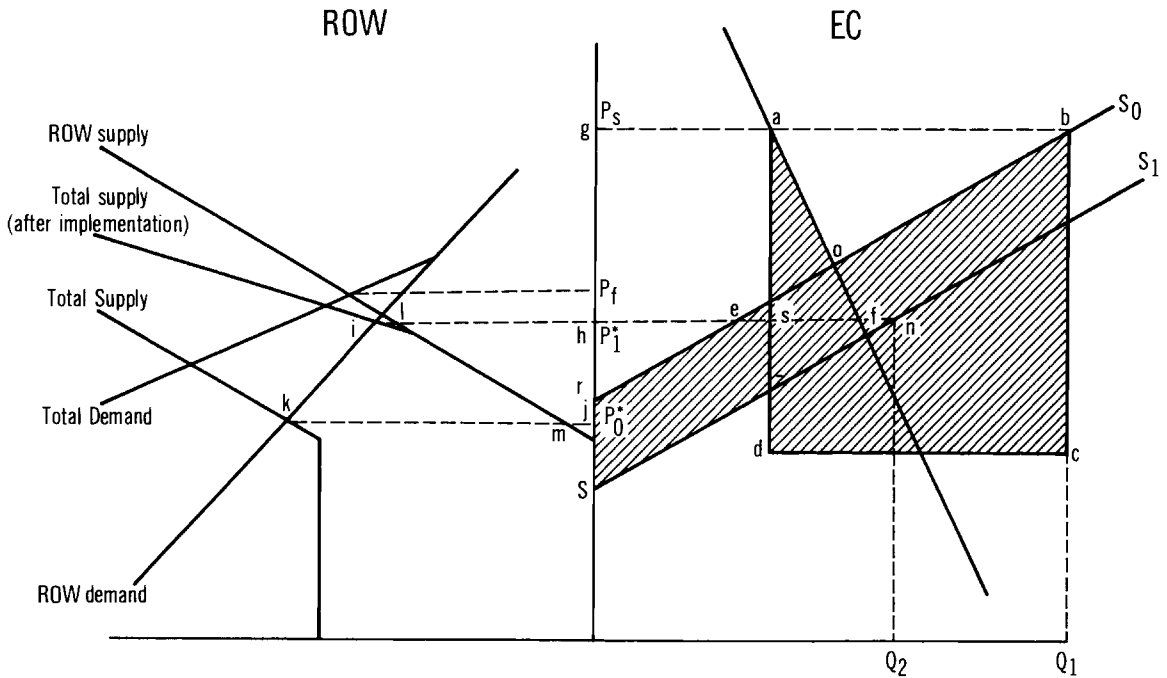



**Fig. 3.9** Welfare comparison: Present situation vs. proposed policy

EC should the proposals be adopted. The abolition of export subsidies increases world prices from $P_0^*$ to $P_1^*$ while saving the EC the amount *abcd*. It shows the decrease in EC output in this commodity from $Q_1$ to $Q_2$ because (1) producers can now try other enterprises, such as lumber production, since they will obtain a certain minimum income; (2) at the margin, producers face increased price risk and lower prices so they are less likely to adopt output-increasing technologies that are uneconomic at world prices; and (3) they have an incentive to reduce costs by experimenting with low-cost production methods.

There is a large net gain in welfare within the Community. Consumers gain *gafh;* producers as a group lose the area *gbeh* but receive an amount equal to this surplus (see adjustment no. 4). In addition, small producers gain rents due to the additional output they produce whenever $P_T$ is their marginal price. The EC treasury gains *abcd* but must pay *gbeh* so that producers as a group are indifferent. There is a welfare gain within the Community equal to the shaded area plus the area *ofe*. Large landowners will lose the rents that have accrued since EC membership. This will be mitigated by the guaranteed minimum income available from farming. In addition, they avoid the inevitable output restrictions. These farmers could be helped by nationally financed interest subsidies on preexisting loans. The EC holds no intervention stocks and saves the associated storage costs. Production will occur in areas where Europe has a competitive advantage at world market prices.

In the rest of the world, producers gain *lhjm* and consumers lose *ihjk*. Countries that export the commodity will gain and therefore face less pressure to support their own producers. Countries that import the commodity will have higher food costs and will lose some of their present comparative advantage in manufacturing (for a quantification of these areas, see Stoeckel 1985).

The owners to quota rights in the EC will lose *gbrs* (figure 3.6). It is important that some change is made in the present system before the rents accruing to quotas give rise to lobbying efforts to maintain them. Demand in the EC is stimulated by lower food prices and increased marketing efforts by producers. The situation is stable at the new equilibrium.

In 1980, the total EAGGF expenditure (table 3.4) was 11,909.3 million European currency units (MECU). For the same year, it has been estimated by Thomson and Harvey (1981) that the total loss in producer income that would occur if there were full movement to free trade would have been 19,144 MECU. They have also estimated (p. 68) that a complete move to free markets would initially involve a 30 percent fall in agricultural prices and this would be passed on to consumers. The difference between current EAGGF expenditures and the estimated loss in producer surplus of 7,000 MECU would be dwarfed by

this gain in consumer surplus. This policy does not result in an income transfer. Producers would receive support only for output they produce. Inefficient producers could still lose if their costs are above those of the results achieved on the target or model farm.

Johnson (1984) presents a review of studies on the effect of EC trade liberalization on prices. For wheat the price rise was 9.6 percent (Koester 1982), 15 percent (Schiff 1983), and 20 percent (Anderson and Tyers 1983). These figures should be compared with the 25 percent fall in prices expected by Womack et al. (1986), based on the provisions of the 1985 Food Security Act.

In the long run, it should be possible for producers to reduce this loss in income by adopting low-cost technologies and marketing their products to achieve a premium over world market prices. The proposed adjustments would increase the incomes of small producers, thereby allowing national governments to reduce the social security expenses of these producers. In 1980, these totaled 16,600 MECU. If this total were cut by less than 5 percent, no increase in taxation would be necessary to finance the changes.

Since 1984 the situation has deteriorated. The present decline in the value of the dollar coupled with the inherent increase in export subsidies makes it inevitable that the proposed adjustments must some day be implemented to lower EC-Treasury exposure. Current price supports pass the producer surplus on to the owners of the fixed resource—principally land. Under the proposed scheme, benefits would flow directly to those who work the land, i.e., the rents would accrue to labor and management which would then be the fixed factor. People who farm large acreages would therefore gain, benefiting from economies of scale as well as the guaranteed income they would earn. They would lose from lower land values. The adjustment costs to free-trade prices at the margin could be lessened by specifying in advance the yearly reductions in current support prices. This adjustment could take several years to complete. The absentee farmers in the United Kingdom would lobby against the adjustment but the country would gain from lower consumer prices and the comparative advantage its more efficient units would have at free-trade prices. This might justify additional U.K. expenditures to increase the target farm size for its producers. Such national adjustments should be allowed. They would not inhibit the free movement of agricultural products between Community members.

## 3.6 Conclusions

Fixing output prices by means of export subsidies or giveaways, import levies or quotas, intervention buying or government storage, is not a feasible long-term solution to the problems facing the agricultural industries of Europe or the United States.

By removing the price risk and attempting to maintain prices above equilibrium these policies encourage producers to adopt intensive high cost technologies in enterprises where the EC does not have a comparative advantage or a potential market.

The Ricardian rents that accrue cause land prices to rise, increasing the wealth of landowners as opposed to farm income. The system is regressive in that it transfers wealth from consumers to landowners via income taxes or invisible taxes on food.

The inevitable surpluses such programs generate have driven world prices down. This causes havoc in food-exporting countries, encouraging their producers to seek similar support. In addition, low world food prices artificially increase the magnitude of the export subsidies needed to dispose of this surplus.

Major food importers are among the beneficiaries of these distortions. The centrally planned economies, Japan, and upper-income developing countries serve to benefit from the price war between Europe and the United States, which has just begun. Relative prices have shifted in a manner that promotes an expansion of the agricultural industries in Europe and the U.S. at the expense of industries that have viable markets. This situation is reversed for countries that compete with Europe and the U.S. in industrial products.

It seems inevitable under present policies that quotas will eventually be used for most agricultural products on both continents. Once in place, these quotas will be impossible to eliminate. They will not increase the income of farmers but rather that of those who own the quota rights. Consumers in both communities will be saddled with an inefficient and expensive food supply.

We have proposed an alternative to the present policy that would help alleviate the world oversupply situation in agriculture and reduce costs. It shifts the emphasis of producers from output-increasing technology to cost reduction and output-price enhancement. It would encourage producers to adopt high-risk enterprises rather than high-risk technologies in low-risk enterprises. If at the end of the year medium or large producers found they had made no profit from farming, they would still be assured of receiving a certain minimum income from the government. Consumers would benefit as would small farmers. Worldwide, the United States, Canada, and other exporters would gain, but importers would lose due to rising world agricultural prices.

However, there would be losers if the proposed policy were enacted; these would generally be nonfarming *owners* of large farms.

In conclusion, the increase in agricultural output in the EC since the early 1970s has been astronomical and unsurpassed by any of the traditional agricultural exporters including the United States. This increase in output that is, in large part, due to the CAP, has played havoc

with the world markets. The United States has responded with a similar program of its own. In the ensuing price war both parties will lose significantly. The final solution will be some form of output restriction on both sides of the Atlantic or along the lines proposed in this study.

## Appendix A
## *Excerpts from the Treaty of Rome*

The objectives of the CAP contained in the Treaty of Rome are repeated below:

a. To increase agricultural productivity by promoting technical progress and by ensuring the rational development of agricultural production and the optimum utilization of the factors of production, in particular, labor.
b. To ensure a fair standard of living for the agricultural community, in particular, by increasing the individual earnings of persons engaged in agriculture.
c. To stabilize markets.
d. To assure the availability of supplies.
e. To ensure that supplies reach consumers at reasonable prices.

## Appendix B
## *Recommendation from the Council of Stresa*

A close correlation should be established between the policy for adapting structures and the policy for markets. Structural adaptation should help to bring about a convergence of costs of production and a rational orientation of production. Market policy should be conducted so as to encourage the improvement of productivity. A balance should be sought between production and the possibilities for outlets, taking account of the exports and imports which can be made, and of the specialization appropriate to the economic structures and natural conditions of the Community. The effort thus made to increase productivity should allow the application of a price policy that avoids excess production and allows agriculture to remain or become competitive.

The improvement of agricultural structures should allow the capital and labor employed in European agriculture to attain or maintain a

level of remuneration comparable with what they would receive in other sectors of the economy. Given the importance of the family structure in European agriculture and the unanimous desire to preserve its family character, every means should be imployed [*sic*] to increase the economic and competitive capacity of family farms. Professional retraining of the agricultural workforce and greater industrialization of the rural regions should allow a gradual solution to the problems otherwise posed by marginal farms which cannot become economically viable.

## Notes

1. The cost per bushel of producing corn, wheat, and soybeans, based on a 5-year average yield is 2.70, 3.78, and 6.12 respectively (Sullivan and Wilson 1986). The 22 August 1986 futures prices for these commodities are 1.60 for corn, delivery in December 1986; 2.35 for wheat, delivery in July 1987; and 4.93 for soybeans, delivery in November 1987. Recent work by Stanton (1986) indicates that European costs for corn and wheat are at least as high as those quoted above.

2. A recent study (Stoeckel 1985) indicates that the expansion of agriculture and deindustrialization of the community caused by the CAP could have cost the community one million jobs.

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