

AN ANALYSIS OF THE CAP REFORM

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AN ANALYSIS OF THE CAP REFORM

Introduction

The Treaty of Rome, which established the European Economic Community in 1957, defined the objectives of the Common Agricultural Policy (CAP). These objectives, contained in Article 39, follow:

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

The objectives of the CAP have been met, mostly through price policies that traditionally have been tied to production. The result of these policies is that production of many agricultural commodities has increased beyond levels necessary to meet CAP objectives and excess supplies have accumulated, been exported with subsidies, or both, at great expense to the European Community.

Perhaps the most familiar example is the case of wheat. In the 1960s and early 1970s, the European Community was a significant net importer of wheat, although imports gradually decreased. In 1974 and 1975, the European Community became a minor net exporter, then permanently changed to net exporter status in 1978. Exports continued to increase and stocks began to build rapidly in the early and mid-1980s. The continual increase in support through the intervention system began to create surpluses that were difficult to reduce. The intensive nature of EC agriculture was also adversely affecting the environment.

In 1985, in an effort to stem the tide of overproduction and the resulting increases in expenditures, the EC Agricultural Commission reduced intervention prices for grains by approximately 2 percent. The stabilizer system with co-responsibility levies was introduced the following year. Although this system shifted some of the fiscal responsibility for export expenditures to the producer, it accomplished little in reducing surplus production or addressing continuing environmental deterioration. Some inventory reduction occurred, but mostly as a result of aggressive export activity. By the end of the 1980s, however, production levels had risen to the point that stocks were again increasing, despite continued high export levels. The CAP budget reached record levels, and the intervention system and export subsidies were the largest budget items.

Because of the high export levels resulting from CAP support policies, other exporting countries were facing stiffer competition in world markets and market shares were being eroded. The intervention policies that provided incentive for overproduction were viewed by these countries as trade-distorting. In 1986, the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) talks opened, and agricultural trade was seriously reviewed for the first time in GATT history. Over the next several years, negotiations focused on internal support, export subsidization policies, and market access. The combination of overproduction, with its associated expense, and the world focus on trade-distorting policies certainly contributed to eventual acknowledgment by the EC Agricultural Commission that substantial CAP reform was needed.

In February 1991, EC Agricultural Commissioner Ray MacSharry submitted a proposal for CAP reform. Leaks and rumors that preceded the formal submission had already made the reform proposal controversial. The proposal was perceived by some EC commissioners as favoring some countries over others. This controversy set the stage for more than a year of negotiations and adjustments to the proposal before it was finally agreed upon in May 1992. The effects of this reform

likely will be substantial, almost surprisingly so, considering that the reform is a unilateral move by the European Community and not contingent on any GATT outcome.

This paper evaluates the impacts of the reform package on production, consumption, trade, and prices for cereals, oilseeds, beef, pork, poultry, and dairy products. The analysis assumes only a unilateral change in agricultural policies by the European Community and does not consider any response by any other country. It also assumes that the reform is implemented in a way that gives all commodities equal exposure to policy changes. In the following section, the reform package is discussed in detail. Then, the modeling system used in the analysis is briefly described. Assumptions are outlined and the impacts of the reform package on the European Community are presented.

The results, like the results of similar types of projects, should be viewed with caution. The CAP reform package is complex and contains features with little or no historical precedence for the European Community. The scenarios are based on assumptions that future responses to policy parameters will be similar to past responses, even at different parameter levels. It is further assumed that the policy changes are accurately reflected in changes to the model parameters.

The CAP Reform Package

When the CAP reform package was approved in May 1992, Agricultural Commissioner Ray MacSharry emphasized that the reform agreement amounted to the European Community's answer to the Dunkel paper (*Agra Europe* 1992). Whereas the Uruguay Round might have been the force that pushed the CAP over the edge, a number of other factors aided in dragging it to the brink. Among them were persistent arguments regarding the efficiency of the CAP. The CAP had been widely viewed as an inefficient income transfer mechanism that penalized European consumers while subsidizing both European producers and food-importing countries. It has also been argued that the CAP, with its artificially high incentives for marginal production, had contributed to inefficient allocation of resources to agriculture. While this system enabled EC producers to raise self-

sufficiency levels and improve productivity, it led many producers to ignore market realities and seek to produce quantities well in excess of what the market could absorb (OECD).

Under the CAP, benefits were not equitably distributed. Studies have shown that most of the benefits accrued to wealthier producers (Hayes and Schmitz). At the same time, efforts to reduce overproduction have affected small-scale producers to the same or a greater extent than large-scale producers. Co-responsibility levies and marketing quotas have penalized small-scale producers by the same amount per unit of production. These revenue reductions often translated into a smaller profit for the large-scale producer, who could more readily absorb the reductions.

Although the final version of the reform package is not the original proposal, it is recognizable as the result of negotiations based on the initial proposal. It has adopted features similar to U.S. farm programs. For example, a compensatory payment is made to producers for production based on historical regional average yields and historical area. This payment is contingent upon idling a certain proportion of historical base area and is meant to bridge the income gap created by the substantial reduction in intervention system support. The intervention system will remain in place, but the floor for domestic prices will be reduced in much the same way as the lower loan rates of the past few years have reduced floor prices for U.S. grains. At the same time, lower grain prices should make EC livestock producers more competitive in world markets.

Unlike U.S. deficiency payments, however, compensatory payment levels are not dependent on the difference between the domestic market price and the target price, but are a fixed amount per metric ton. Intervention prices are well above world market prices, in contrast to U.S. loan rates, which are generally below world prices. Small-scale producers will be exempt from set-aside requirements, and production of crops for nonfood use will be allowed on set-aside area. Direct payments will be made to some livestock producers, although some of these payments will be for extensification, or reducing the number of animals grazed on a certain area, resulting in lower stocking rates in some areas. Milk marketing quotas will be maintained (or possibly reduced,

depending on results of negotiations in the fall of 1992). The general thrust of the CAP reform package is to reduce production while maintaining producer income to the greatest extent possible, particularly for the small-scale producer.

Cereals

Under the reformed CAP, policy instruments such as target prices, threshold prices and their associated variable import levies, intervention prices, and export subsidies will continue to insulate the domestic market from the world market. However, these price levels will be considerably lower than in the past. The target price for cereals is set at 130, 120, and 110 European currency units (ECUs) per metric ton for the 1993/94, 1994/95, and 1995/96 marketing years, respectively. With the target price reduction, price cuts are estimated to be 29 percent of current effective support levels of approximately 155 ECUs per metric ton. Corresponding intervention prices are 117, 108, and 100 ECUs per metric ton for the same years. Compensatory payments of 25, 35, and 45 ECUs per metric ton will be applied for these years, based on regional average yields and base area. Base area under regional schemes is equal to the average area cultivated or set aside in 1989, 1990, and 1991. To be eligible for compensation, land must have been planted with arable crops or enrolled in a set-aside scheme. Threshold prices will be set at 45 ECUs above the target price to encourage EC preference. These basic policy prices will apply to all cereals, but the aid for durum will be continued.

Co-responsibility levies for cereals will be suspended from 1992/93 through 1995/96. This suspension applies to both the basic co-responsibility levy and the additional levy applied when total cereal production exceeds the maximum guaranteed quantity (MGQ) of 160 million metric tons (mmt). The stabilizer mechanism for cereals is deleted beginning in 1993/94.

There will be a 15 percent compensated, rotational set-aside from base area. An exemption is made for small-scale farms that would produce a maximum of 92 metric tons of cereals, based on

regional cereal yields. Producers with less than 20 hectares, on average, of grains, oilseeds, and protein crops are exempt from setting land aside. The compensation amounts to 35 ECUs per metric ton of regional average yield per hectare. All set-aside is eligible for full compensation, and set-aside area can be used for nonfood purposes, if certain restrictions are met.

Oilseeds

The oilseed regime adopted for the 1992/93 crop year is continued after that time but is subject to set-aside requirements beginning in 1993/94. Compensation averaging 359 ECUs per hectare (adjusted for regional differences in cereal yields) is paid for all oilseeds. The per metric ton equivalent of this payment is added to the EC reference price of 163 ECUs per metric ton. The reference price is adjusted to reflect movements in the world market price of oilseeds outside of a certain range. If the world price varies more than 8 percent above or below the reference price, world price changes are allowed to be transmitted to this component of the oilseed support price.

The oilseed stabilizer system is deleted in 1992/93 and replaced by a system that penalizes producers for exceeding a maximum guaranteed area (MGA). With the inclusion of oilseeds in regional base areas beginning in 1993/94, oilseed area will likely remain well below the MGA levels for each oilseed. Oilseeds will be subject to the same set-aside requirements as cereals. Compensation for set-aside will be paid on the basis of regional average cereal yields.

Livestock and Products

The reduction in cereal prices resulting from CAP reform will have a major impact on the EC livestock sector. Lowering grain prices will reduce feed ration costs, mainly for pork and poultry producers. The reduction in feed costs will make it possible for EC producers to be competitive with producers outside the European Community at lower output prices. Another result should be reduced border protection through lower export subsidies.

Beef intervention prices will be reduced 15 percent over three years, ending with 1995. Much of this reduction will offset lower feed prices. Because a large proportion of the EC beef industry is grass based, many of the policy changes for beef deal with maintaining income for producers of grass-fed beef while promoting environmental quality. To compensate these producers, a 90 ECU headage premium is paid a maximum of twice in the life of the animal, once at the age of ten months and again after the age of 22 months. In addition, a 120 ECU suckler cow premium is available. The headage premium is limited to 90 animals per farm, but the suckler cow premium has no limits. To receive premium payments, farms must have a stocking density of no more than two livestock units per forage hectare by 1996. Producers who can prove a maximum stocking density of 1.4 livestock units per forage hectare are eligible for an additional 30 ECUs per head for both the headage and suckler cow premiums. Each member state shall apply the option of either a calf conversion premium or intervention arrangements for lightweight animals (150 to 200 kg carcass weight) to control beef production.

The reform package, as it relates to dairy, has been considerably weakened from the original proposal. At the time of this writing, no milk marketing quota cut has been approved by the EC Agricultural Commission. The Commission still hopes for and will probably request a 2 percent cut (1 percent each year for 1993/94 and 1994/95), but the ministers can block any such proposal. The new quota regulations are due by the end of 1992.

Butter intervention prices are reduced by 2.5 percent in each of 1993/94 and 1994/95 from levels set in 1992/93. Skimmed milk powder prices remain unchanged. These revisions will be subject to annual review, depending on market situations. Originally, a dairy cow premium was proposed but was dropped from the final agreement.

Analytical System and Procedures for the Quantitative Analysis

To assess the impact of the proposed CAP reform, results for EC and world agriculture over the period 1992-97 are compared under two alternative scenarios:

1. baseline scenario that continues existing policies in the European Community and other major trading countries, and
2. CAP reform scenario that incorporates proposed changes in EC agricultural policies but assumes no changes in agricultural policies in other countries.

The analysis is conducted by utilizing the agricultural commodity models of the Food and Agricultural Policy Research Institute (FAPRI) and additional models created at the Center for Agricultural and Rural Development (CARD). For major trading countries, the FAPRI models are econometric models that estimate the supply, utilization, net trade, and prices of wheat, feed grains, rice, and soybeans (Devadoss et al. 1989). For purposes of analyses related to the GATT negotiations, CARD has developed models of the world beef, pork, poultry meat, dairy, and sugar markets (CARD 1991). All the components of the modeling system used in this analysis are dynamic, meaning that both short- and long-term effects of policy changes can be identified. The models are calibrated to reproduce recent historical data as closely as possible and to generate projections for the next ten years that are plausible, given what we know about the forces likely to shape world agricultural markets in the years ahead.

For the European Community, models of the wheat, barley, corn, soybean, rapeseed, beef, pork, and poultry meat sectors are structural econometric models, based on historical relationships among prices, quantities produced and consumed, and other economic variables. A synthetic model of the EC dairy sector is used to determine results for the EC milk, butter, cheese, and skim milk powder markets. Projections of total EC commodity supply and utilization include results for the new eastern states of Germany, based on synthetic models of eastern German agriculture.

Conditioning Assumptions for the Analysis

The results of the analysis are conditional upon the underlying assumptions used in the baseline and CAP reform scenarios (see Table 1). Assumptions about the macroeconomy, weather, rate of technological change, and agricultural policies in countries outside the European Community are common to both scenarios. Agricultural policy assumptions for the European Community have been changed in accordance with the May 1992 CAP reform agreement.

Assumptions Common to Both Scenarios

Macroeconomic assumptions used in the analysis are based on the forecasts of The WEFA Group (January 1992) and Project LINK (December 1991). For the European Community, Project LINK forecasts an increase in the rate of real economic growth in 1992 and 1993 from the low 1991 level. Growth averages between 2 percent and 3 percent per year through 1997, with inflation at moderate levels of just over 4 percent. During the 1993-95 transition period, inflation exacerbates the effects of policy price reductions for the EC producer. Although they remain constant in nominal terms after CAP reform reductions, EC prices continue to fall in real terms through 1997, but at slower rates than under the baseline scenario in which the stabilizer system is intact. After strengthening in 1991, the U.S. dollar is forecast to depreciate relative to the ECU by an average of approximately 1 percent per year throughout this analysis. Even though a weaker U.S. dollar implies that EC commodities are less competitive on world markets, the magnitude of the price reductions resulting from CAP reform will more than offset any effects of the depreciating U.S. dollar. If the U.S. dollar were to appreciate in value relative to the ECU, the potential would exist under CAP reform for some commodity prices to fall to world market levels. If this situation were to occur, the European Community could compete in world markets without using export subsidies.

Normal weather conditions are assumed to prevail in all regions from 1992-97. Under this assumption, yield growth is not affected by year-to-year variations in rainfall and temperature.

Table 1. Assumptions of the baseline and CAP reform scenarios

| | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
|--------------------------------|-------|-------|-----------------------|-------|-------|-------|
| | | | (percent) | | | |
| Real GDP Growth | 2.5 | 2.9 | 2.6 | 2.5 | 2.2 | 2.1 |
| GDP Deflator Inflation | 4.4 | 4.3 | 4.3 | 4.4 | 3.8 | 3.9 |
| | | | (Dollars per ECU) | | | |
| Exchange Rate | 1.23 | 1.25 | 1.26 | 1.27 | 1.28 | 1.30 |
| | | | (ECUs per metric ton) | | | |
| Wheat and Corn Prices | | | | | | |
| Baseline Net Producer Support* | 151 | 146 | 141 | 137 | 133 | |
| 129 | | | | | | |
| Scenario Intervention | 159 | 117 | 108 | 100 | 100 | 100 |
| Scenario Net Producer Support* | 159 | 142 | 143 | 145 | 145 | 145 |
| Barley Prices | | | | | | |
| Baseline Net Producer Support* | 142 | 138 | 133 | 129 | 125 | 121 |
| Scenario Intervention | 150 | 117 | 108 | 100 | 100 | 100 |
| Scenario Net Producer Support* | 150 | 142 | 143 | 145 | 145 | 145 |
| Soybean Net Producer Support* | | | | | | |
| Baseline | 308 | 294 | 300 | 302 | 300 | 286 |
| Scenario | 310 | 316 | 329 | 321 | 318 | 305 |
| Rapeseed Net Producer Support* | | | | | | |
| Baseline | 326 | 326 | 326 | 326 | 326 | 326 |
| Scenario | 326 | 333 | 338 | 329 | 326 | 315 |
| Beef Intervention Price | | | | | | |
| Baseline | 3,430 | 3,430 | 3,430 | 3,430 | 3,430 | 3,430 |
| Scenario | 3,430 | 3,259 | 3,087 | 2,916 | 2,916 | 2,916 |
| Milk Target Price | | | | | | |
| Baseline | 268 | 268 | 268 | 268 | 268 | 268 |
| Scenario | 268 | 261 | 255 | 255 | 255 | 255 |
| Butter Intervention Price | | | | | | |
| Baseline | 2,928 | 2,928 | 2,928 | 2,928 | 2,928 | 2,928 |
| Scenario | 2,928 | 2,855 | 2,781 | 2,781 | 2,781 | 2,781 |
| Crop Set-Aside Rate | | | | | | |
| Baseline | 0 | 0 | 0 | 0 | 0 | 0 |
| Scenario | 0 | 15 | 15 | 15 | 15 | 15 |

*Guaranteed producer price, minus effects of stabilizers, plus government payments.

Projected agricultural productivity growth rates depend on trends reflecting technological change. Rates of technological change are assumed to be the same in the projection period as in the recent past. It is further assumed that producer response to prices will be similar to that in recent years and any underlying trends in producer response will continue.

Current agricultural policies in countries outside the European Community are assumed to remain in force. In the United States, the Food, Agriculture, Conservation, and Trade Act of 1990 (FACTA-90) provides the framework for agricultural policy through 1995, and it is assumed that provisions of FACTA-90 will be extended through 1997. In Japan, Canada, and all other countries and regions included in the model, agricultural policies are assumed to continue through 1997. No GATT agreement or North American Free Trade Agreement (NAFTA) is assumed. Conversely, no protectionist response is assumed from any country without a GATT agreement or NAFTA. For example, the United States is assumed to continue to use the Export Enhancement Program (EEP) to subsidize wheat exports, and the per unit subsidy is assumed to average around U.S. \$35 per metric ton, which is comparable to 1991 levels.

There is a distinct possibility that CAP reform could result in policy responses in other countries. Reduced EC export quantities and expenditure levels could induce reduced export subsidies from other countries. The effects of CAP reform could move the world closer to a GATT agreement on agriculture. On the other hand, CAP reform could result in the impression, at least to the United States and perhaps the Cairns Group, that a GATT agreement no longer holds the importance that it did in 1986.

CAP Assumptions in the Baseline

The baseline assumes that the CAP that existed in 1991/92 continues throughout the analysis period. Under this assumption, price policies that existed in 1991/92 remain unchanged. This assumption means that target, threshold, intervention, guide, and minimum prices of various EC

agricultural commodities will either remain at the 1991/92 levels or be reduced in accordance with stabilizer mechanism triggers as they existed in 1991/92, as in the case of grains and oilseeds. Milk quotas are frozen at 1991/92 levels. With nominal support prices remaining constant or falling, real support prices fall between 1992 and 1997.

EC cereal production (excluding the states of eastern Germany) exceeds the MGQ of 160 mmt in each year of the analysis period. This production level triggers the stabilizer mechanism, resulting in a 3 percent reduction in basic cereal intervention prices for 1993/94. The accumulated support reduction amounts to 22 ECUs from 1992/93 to 1997/98.

The reformed EC oilseed regime was assumed for the baseline, beginning in 1992/93. Under this regime, oilseed prices are supported at similar levels in each year. The oilseeds price is composed of an EC reference price (meant to reflect a world equilibrium price) and a compensation payment of 384 ECUs per hectare. Because of a built-in adjustment meant to equalize the world price and the EC reference price, the world price must be either 8 percent above or 8 percent below the reference price before any price variability affects the price to EC producers. A 1 percent penalty is assessed for each 1 percent that the maximum guaranteed acreage (MGA) for each individual oilseed is exceeded. Because MGAs are fairly high and the oilseed support is reduced under this regime compared to that of the late 1980s and early 1990s, little adjustment to oilseed support exists in the baseline, resulting in relatively stable oilseed prices.

In the livestock and dairy sectors, there are no automatic stabilizer mechanisms under the current CAP. There is a maximum 100 percent producer levy on milk deliveries exceeding the milk marketing quota, but this levy has no effect on support for production under the quota. Beef, butter, and skim milk powder intervention prices and milk target prices are assumed to remain constant at 1991 levels in the baseline. With no change in support prices, beef producer prices are assumed to remain unchanged, and pork, poultry meat, and mutton prices are assumed to remain constant in nominal terms. Milk marketing quotas are assumed to remain frozen at 1991/92 levels.

CAP Assumptions in the Reform Scenario

The CAP reform scenario assumes that the reform package agreed to in May 1992 is taken at face value. Set-aside land is taken in equal proportions out of each affected crop in each region. EC market prices for grains, meats, and some dairy products are reduced as support is cut, but direct payments to producers in each sector offset much of the accompanying decrease in market receipts. Compensation for set-aside reduces the impact of farming reduced area; likewise, increased livestock premiums help offset the effects of extensification.

Institutional prices are reduced under CAP reform over a three-year period. All co-responsibility levies are deleted from 1992/93 through 1995/96. This move was seen as a "sweetener," designed to lure German acceptance of cereal price cuts. It is further assumed that co-responsibility levies will not be reinstated after 1995/96. The cereal stabilizer mechanism is completely removed from the CAP beginning in 1993/94. Beginning in 1995/96, the cereal target price is set at 110 ECUs per metric ton and the intervention price is 100 ECUs per metric ton. Beginning with the phase-in period in 1993/94, the threshold price is set at 45 ECUs above the target price, resulting in a threshold price of 155 ECUs per ton in 1995/96 and thereafter.

To offset the reduction in market prices, the producer is eligible to receive a compensatory payment that increases from 25 ECUs per metric ton in 1993/94 to 45 ECUs per metric ton in 1995/96 and thereafter, multiplied by the regional average yield. Because the payments are not based on each producer's actual production, they are seen as decoupled from decisions about input usage and therefore from yields. The payments are not decoupled from decisions on area planted at levels below base area, however, because area must be planted to receive the compensatory payment. With the compensatory payment, the effective support price related to area is similar in 1993/94 and 1994/95 in the CAP reform and baseline scenarios. Because the stabilizer mechanism continues to reduce the effective intervention price in the baseline scenario, support levels in the CAP reform

scenario exceed support levels in the baseline scenario beginning in 1995/96. Because of the set-aside program, however, area in the CAP reform scenario falls below that in the baseline scenario.

In the oilseed sector, the reformed oilseed regime was included in the baseline, leaving relatively little change to introduce under the CAP reform scenario. The compensatory payment is reduced from 384 ECUs per hectare in the baseline to 359 ECUs per hectare under CAP reform in 1993/94 and thereafter. The addition of set-aside requirements is the only other change in assumptions for oilseeds under CAP reform.

A 15 percent compensated, rotational set-aside of combined cereal, oilseed, and protein crop area will occur. An exemption is made for producers whose farms would produce less than 92 metric tons of cereals, based on regional average yields. With such exemptions available, approximately 27 percent of land would be exempt from set-aside, and the effective set-aside level for the European Community as a whole would be approximately 11 percent. Slippage, a factor related to base area exceeding actual projected plantings, further reduces the calculated effective set-aside level to approximately 9 percent.

Because farm size generally increases from south to north in the European Community, some countries will have higher proportions of land exempt from set-aside than will others. For example, Greece has the highest proportion of area in farms small enough to be exempt from set-aside of any EC country. Based on the area that would be exempt, Greece would have an effective set-aside rate of approximately 2.5 percent, before accounting for slippage. On the other hand, the United Kingdom has relatively little land on farms that would be exempt from set-aside requirements, resulting in an effective set-aside rate of 14.5 percent before slippage.

Because all crops are not produced uniformly over the European Community, different crops will have different effective set-aside rates (Table 2). Crops produced predominantly in the south, such as soybeans, tend to have lower-than-average set-aside rates, and those produced predominantly in the north, such as rapeseed, tend to have higher-than-average set-aside rates.

EC Cereal Sector Results

Results for the EC cereal sector are summarized in Table 3. Average area harvested, production, consumption, trade, and prices are reported for the baseline and CAP reform scenarios for the 1993-97 period.

Aggregate area for wheat, barley, corn, soybeans, and rapeseed declined by an average 9.2 percent in the CAP reform scenario relative to the baseline. The reduction of 3.2 million hectares from baseline levels is less than the set-aside area of 3.9 million hectares attributable to slippage. Most of the difference can be explained by the effects of the stabilizer program in the baseline, in which producer support falls over time as intervention prices are reduced by 3 percent per year, contributing to less base area in the baseline than under CAP reform. In the CAP reform scenario, area falls for all crops relative to the baseline; however, relative reductions are not equal for all crops. Several factors contribute to this disproportionate reduction. First, support reductions are relatively larger for some crops than for others. For example, under CAP reform, wheat and corn effective support prices are reduced by more than barley support prices are reduced, resulting in relatively less impact on barley than on either wheat or corn. (In the baseline, barley intervention prices are lower than those for corn and wheat; in the CAP reform scenario, support prices and compensation payments are identical for all cereals.) Second, because of regional cropping patterns, not all crops are subject to the same percentage set-aside. In general, however, the difference in reductions attributable to regional cropping patterns tends to partially offset the effects from differences in relative support changes. The third, and perhaps most important, reason for differences in area reduction between crops is the area path under the baseline scenario. Barley area was declining at a faster rate than either wheat or corn, so the table 3 reductions necessary to meet set-aside requirements under CAP reform are less for barley than for the other grains.

Average EC crop yields also decline under CAP reform. The reduction in market prices and the fact that yields are decoupled from compensatory payments result in lower yields. Producers are

The limit to ewe premium eligibility is set at 1,000 head in less favored areas and 350 head elsewhere. These proposed changes in the mutton sector are incorporated into the analysis via a corresponding reduction in the ewe premium levels and in the mutton producer price.

Because no specific reduction in milk marketing quotas seems likely at this time, none was assumed. The milk marketing quota reduction will be the subject of further analysis. A 2.5 percent cut in the butter intervention price is set for both 1993 and 1994. Policy prices for cheese and skim milk powder are left unchanged.

Other provisions of the reform agreement are not explicitly considered in this analysis; however, some of them could prove to be important. Environmental proposals such as additional set-aside could change cropping patterns in some regions of the European Community, depending on the amount of compensation that will be applied to these areas. Measures promoting early retirement could result in aggregation of land into larger farms, resulting in the possibility of changes in products grown and productivity. The 15 percent set-aside requirement is attached to the aggregate of cereal, oilseed, and protein crop land. In a particular region, there is no requirement that set-aside must come proportionally from all crops. It is probable that some crops will be favored over others in certain regions, resulting in little set-aside for crops such as wheat and larger amounts for crops such as protein crops, rapeseed, and some feed grains. This analysis illustrates the impacts if set-aside is distributed in equal proportion among all the crops to which it applies. It also assumes that set-aside is maintained at 15 percent over the analysis period. In reality, the set-aside requirement will probably change with year-to-year EC market situation changes.

Results of the Analysis

Conditioned on the assumptions outlined in the previous section, FAPRI models of EC and world agriculture are solved to obtain results for baseline and CAP reform scenarios. This section reports results for the EC crop and livestock sectors and world prices.

The beef intervention price is reduced by 15 percent from the 1992 level over the 1993-95 period. This reduction is assumed to result in a corresponding 15 percent reduction in the beef producer price. To temper the impact of the reduced intervention price, beef special premium requirements are revised under the CAP reform agreement. A regional reference herd, equal to the number of premiums paid in the reference year (1990, 1991, or 1992) is established for regions within member countries. The reference herd sets a limit on the number of animals eligible for premium payments. The stocking density limitation of premiums will be progressively phased in, starting at 3.5 livestock units per hectare in 1993 and decreasing to 2.0 livestock units per hectare by 1996. An extensification premium of 30 ECUs per head is available to producers who reduce the stocking density to 1.4 livestock units per hectare or less. Suckler cow premiums for small-scale producers are set at 120 ECUs per animal and will be limited to the number of premiums paid in 1990, 1991, or 1992. Intervention ceilings on beef purchases are to be reduced from 750 thousand metric tons in 1993 to 350 thousand metric tons in 1997.

Given the vast differences in herd sizes and stocking densities among member countries, it is assumed that 50 percent of EC cattle will qualify for the premium payments. These premium payments are translated into an adjustment to the beef producer price that enters the supply equation of the model by adding the per metric ton equivalents to the market price for beef.

CAP reform does not call for specific recommendations for the pork and poultry sectors. Basin prices for pork and sluicgate prices for poultry are based on average production costs, of which a major portion are feed costs. The proposed cuts in cereal prices to lower feed costs would result in increased pork and poultry production relative to beef production. To maintain relative competitiveness among these industries within the European Community and relative to producers outside the Community, pork basin prices and poultry sluicgate prices would be reduced. It is assumed that pork and poultry producer prices are reduced in line with the reductions in the beef price.

Table 2. Set-aside rates for EC crops under the CAP reform scenario

| 1993/94 | 1994/95 | 1995/96 | 1996/97 | 1997/98 | |
|----------------------|---------|---------|-----------|---------|------|
| | | | (percent) | | |
| Set-Aside | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| Average for Cereals* | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 |
| Wheat | | | | | |
| From Base Area | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 |
| From Baseline | 8.9 | 8.7 | 8.5 | 8.4 | 8.2 |
| Barley | | | | | |
| From Base Area | 11.2 | 11.2 | 11.2 | 11.2 | 11.2 |
| From Baseline | 7.5 | 7.2 | 6.9 | 6.7 | 6.6 |
| Corn | | | | | |
| From Base Area | 10.4 | 10.4 | 10.4 | 10.4 | 10.4 |
| From Baseline | 10.7 | 11.4 | 12.0 | 12.2 | 12.3 |
| Soybeans | | | | | |
| From Base Area | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 |
| From Baseline | 0.4 | 1.2 | 1.4 | 1.2 | 0.2 |
| Rapeseed | | | | | |
| From Base Area | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| From Baseline | 23.1 | 22.8 | 22.4 | 21.9 | 21.3 |
| Total | | | | | |
| From Base Area | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 |
| From Baseline | 9.5 | 9.3 | 9.2 | 9.0 | 8.9 |

*Based on 15 percent set-aside adjusted for 27 percent exemption based on farm size.

Table 3. EC grains and oilseeds under the baseline and CAP reform scenarios

| | 1993-97 Average Levels | | Change from Baseline Level | |
|---------------------------|-----------------------------------|------------|----------------------------|-----------|
| | Baseline | CAP Reform | | |
| Grain and Oilseed Area | ------(thousand hectares)----- | | | (percent) |
| Harvested | 35,013 | 31,802 | -3,211 | -9.2 |
| Set Aside | 0 | 3,951 | 3,951 | 0.0 |
| Total | 35,013 | 35,682 | 669 | 1.9 |
| Wheat | ------(thousand metric tons)----- | | | |
| Production | 84,817 | 74,635 | -10,182 | -12.0 |
| Consumption | 66,650 | 68,115 | 1,465 | 2.2 |
| Net Exports | 18,376 | 6,912 | -11,464 | -62.4 |
| Barley | | | | |
| Production | 51,009 | 45,488 | -5,521 | -10.8 |
| Consumption | 43,971 | 44,886 | 915 | 2.1 |
| Net Exports | 7,131 | 990 | -6,142 | -86.1 |
| Corn | | | | |
| Production | 26,823 | 22,620 | -4,203 | -15.7 |
| Consumption | 28,320 | 29,251 | 930 | 3.3 |
| Net Imports | 1,548 | 6,676 | 5,128 | 331.4 |
| Soybeans | | | | |
| Production | 1,911 | 1,894 | -17 | -0.9 |
| Crush | 12,815 | 14,203 | 1,388 | 10.8 |
| Net Imports | 12,698 | 14,216 | 1,517 | 11.9 |
| Rapeseed | | | | |
| Production | 7,065 | 5,330 | -1,735 | -24.6 |
| Crush | 6,828 | 5,265 | -1,563 | -22.9 |
| Net Imports | 222 | 295 | 73 | 32.9 |
| Soybean and Rapeseed Meal | | | | |
| Production | 14,217 | 14,398 | 181 | 1.3 |
| Consumption | 24,986 | 24,655 | -331 | -1.3 |
| Net Imports | 10,771 | 10,271 | -500 | -4.6 |
| Market Prices | ------(ECUs per metric ton)----- | | | |
| Wheat | 137 | 105 | -32 | -23.5 |
| Barley | 129 | 105 | -24 | -18.4 |
| Corn | 138 | 112 | -26 | -19.1 |
| Soybeans | 191 | 212 | 21 | 11.0 |
| Rapeseed | 167 | 188 | 21 | 12.6 |
| Net Producer Support* | | | | |
| Wheat and Corn | 137 | 144 | 7 | 4.8 |
| Barley | 129 | 144 | 15 | 11.7 |
| Soybeans | 296 | 318 | 22 | 7.3 |
| Rapeseed | 326 | 328 | 3 | 0.8 |

*Guaranteed producer price, minus effects of stabilizers, plus government payments.

expected to use fewer inputs such as fertilizers and pesticides, thereby reducing costs. It is unclear how the set-aside scheme will affect crop yields. In the United States, where set-aside programs have been used for years, producers tend to idle their least productive land. However, set-aside under CAP reform is subject to rotational requirements so that, in the long run, higher quality land would be idled. However, the rotational effects could enhance yields somewhat on all area. Thus, this analysis reduces yields slightly based on the effects of reduced and decoupled support, but does not adjust for the effects of set-aside.

A possible alternative to idling higher quality land on a rotational basis is nonrotational set-aside, which is subject to higher set-aside rates. Under this provision, yields would increase with the idling of less productive land, but idling a larger area could offset production increases caused by yield increases. In the CAP reform scenario, rotational set-aside was assumed, resulting in price effects being the major factor affecting yields. Cereal yields decrease by an average of 4 percent to 5 percent by 1995/96, when support price changes are fully implemented.

Area and yield reductions result in an average 12 percent decrease in wheat production from baseline levels. Barley production falls by 10.8 percent, and corn production decreases by 15.7 percent. The decrease in corn production is considerably larger than that for either barley or wheat because corn area in the baseline was slightly above the base area calculated for CAP reform, whereas area for the other cereals was below CAP reform levels. The decrease in total wheat, barley, and corn production averages 19.9 mmt.

Despite the large cut in cereal production, cereal market prices fall relative to the baseline because the underlying support levels decrease. Wheat prices average 23 percent below baseline levels, and barley and corn market prices average 18 percent and 19 percent below baseline levels, respectively. Lower prices result in more cereal use in livestock rations, despite little change in livestock inventories from the baseline. Some of this increase in cereal utilization is because of lower prices, but much of the change results from substituting cereals for alternative feeds now used by the

European Community. Cereal utilization increases an average of 3.3 mmt, with wheat increasing the most in absolute terms and barley increasing the least. As expected, the smaller relative price decline for barley results in the smallest percentage increase in utilization.

It is assumed that the CAP is run in a manner that maintains market prices of exported commodities such as wheat and barley near the intervention level. It is possible, however, that larger export subsidies could be applied and that these market prices could be supported near the target price level. Corn prices average somewhat above the intervention price level. The decreased level of corn production results in greater excess demand than under the baseline, making it necessary for the average market price to increase relative to the intervention price and relative to the prices of wheat and barley. If the price increases enough to overcome the threshold price in the most grain-deficit regions, imports will increase.

Net cereal trade averages 24 mmt in the baseline but is dramatically reduced to just over 1 mmt under CAP reform. While maintaining net exports of wheat at an average of nearly 7 mmt, the EC becomes a net importer of 5.7 mmt of feed grains, on average. Exports of 1 mmt of barley are more than offset by imports of 6.7 mmt of corn. If CAP reform policies are assumed to hold into the future, productivity gains would likely increase wheat and barley exports and reduce corn imports, but net trade would not reach levels similar to those that would exist without CAP reform.

Oilseed Sector Results

The oilseed policies implemented in 1992/93 are little changed under CAP reform. The major difference between the oilseed regime in the two scenarios is in the set-aside requirement affecting oilseeds beginning in 1993/94 under CAP reform—none was in place under the baseline. Because of the set-aside requirement, the soybean support level in CAP reform is actually higher than under the baseline. In the baseline, soybean area exceeded the MGA and penalties were assessed, reducing the producer support level. Under CAP reform, the set-aside reduces area, thereby reducing the amount

by which the MGA is exceeded, drastically reducing the penalty. For rapeseed, the MGA is not exceeded in either scenario. For both oilseeds, world prices under the CAP reform scenario are considerably higher than under the baseline. Once the world price exceeds the EC reference price of 163 ECUs per metric ton by more than 8 percent, price increases are transmitted to the domestically produced oilseed price. With increases in this portion of the oilseed support price, total oilseed support increases marginally for rapeseed but by more than 7 percent for soybeans under CAP reform.

Baseline soybean area is less than the calculated base area for the CAP reform scenario. Because of the relatively low area, reductions required to meet set-aside requirements are marginal under CAP reform. Soybean area is reduced by less than 1 percent, on average, from baseline levels. Baseline rapeseed area, on the other hand, is well above calculated CAP reform base area, which leads to substantial reductions under CAP reform when set-aside requirements are met. Rapeseed area declines more than does area for any other crop in this analysis under the CAP reform scenario.

Because soybean area is only marginally lower in the CAP reform scenario, average production decreases by less than 1 percent. Rapeseed production is reduced nearly 25 percent because of imposed base area restrictions and the effects of set-aside on area.

Because of reduced rapeseed production and limited supplies from exporters such as Canada, EC rapeseed crush decreases by 23 percent. Reversing the trend of the 1980s and early 1990s, soybeans are expected to substitute for most, but not all, of the reduced rapeseed crush as processors continue to produce soybean meal and oil. With little change in soybean production, increased crush makes it necessary to import more soybeans than in the baseline scenario. Soybean imports increase by approximately 1.5 mmt, while rapeseed imports increase only marginally.

Because soybeans and rapeseed have different meal and oil yields, maintaining crush in the CAP reform scenario at nearly baseline levels will not produce baseline levels of meal and oil. Soybeans have higher meal and lower oil percentages than does rapeseed, so replacing rapeseed with

soybeans in crushing will result in changes in relative quantities of meal and oil production. Although total crush is slightly lower in the CAP reform scenario than in the baseline, total meal production is actually higher under CAP reform and total oil production is lower.

Although livestock production is similar in the two scenarios, total protein meal disappearance is approximately 300 thousand metric tons lower under CAP reform. Reduced grain prices result in some substitution of grains for meals in livestock rations. In addition, meal prices are generally higher in the CAP reform scenario. Rapeseed meal consumption is reduced by approximately 1 mmt because of lower production and limited capabilities to increase production in other countries. Some of this lost consumption is replaced by increased soybean meal consumption and some shifts to grains.

With production increases of soybean meal greater than consumption increases, net soybean imports decline in the CAP reform scenario. Rapeseed meal imports show only marginal increases from baseline levels. Net meal imports are reduced by more than 500 thousand metric tons. However, total oilseed complex trade increases under CAP reform with increased soybean imports and decreased soybean oil exports. Oilseed production, consumption, and trade changes in the CAP reform scenario are small compared to changes in grains because the market for grains is larger than that for oilseeds and CAP reform results in much more substantial changes in grain policies than in oilseed policies.

Livestock, Poultry, and Dairy Sector Results

Results for the EC livestock, poultry, and dairy sectors are summarized in Table 4. Lower beef intervention prices, lower feed prices, and revisions in extensification premiums result in modest increases in cattle inventories. The net effect of these changes is a slight increase in beef production, averaging 0.5 percent per year during 1993-97.

On average, pork production under CAP reform is estimated to be unchanged relative to the baseline as lower feed prices offset the effect of an assumed reduction in pork producer prices. On

Table 4. EC livestock, dairy, and poultry meat sectors under the baseline and CAP reform scenarios

| | 1993-97 Average Levels | | | |
|-------------------------|------------------------|------------|----------------------------|----------------------------------|
| | Baseline | CAP Reform | Change from Baseline Level | |
| Inventories | | | | |
| | | | | (million head) |
| Dairy Cows | 23.24 | 23.22 | -0.02 | (percent) |
| All Cattle and Calves | 81.16 | 81.70 | 0.54 | |
| Hogs | 108.85 | 108.95 | 0.10 | |
| Beef | | | | (1,000 metric tons) |
| Production | 8,234 | 8,271 | 37 | |
| Consumption | 7,665 | 8,106 | 441 | |
| Net Exports | 589 | 173 | -416 | |
| Pork | | | | |
| Production | 13,769 | 13,789 | 20 | |
| Consumption | 13,276 | 13,450 | 173 | |
| Net Exports | 493 | 340 | -153 | |
| Poultry | | | | |
| Production | 7,083 | 7,027 | -57 | |
| Consumption | 6,699 | 6,915 | 216 | |
| Net Exports | 384 | 112 | -272 | |
| Dairy Products | | | | |
| Milk Production | 114,056 | 114,097 | 41 | |
| Consumption | | | | |
| Fluid Milk | 30,936 | 30,973 | 37 | |
| Butter | 1,460 | 1,467 | 7 | |
| Cheese | 4,711 | 4,711 | 0 | |
| Nonfat Dry Milk | 1,000 | 998 | -2 | |
| Net Exports | | | | |
| Butter | 244 | 226 | -18 | |
| Cheese | 335 | 360 | 25 | |
| Nonfat Dry Milk | 432 | 421 | -10 | |
| Prices | | | | (ECUs per metric ton) |
| Beef Unit Value | 2,600 | 2,288 | -312 | |
| Pork Unit Value | 1,600 | 1,489 | -111 | |
| Poultry Unit Value | 1,450 | 1,276 | -174 | |
| Milk Producer | 303 | 300 | -2 | |
| Concentrate Feed | | 228 | 228 | |
| Per Capita Consumption | | | | (kilograms, retail weight basis) |
| Meat and Poultry | 65.41 | 67.39 | 1.98 | |
| Per Capita Expenditures | | | | (ECUs, at producer prices) |
| Meat | 162.13 | 151.81 | -10.32 | |

the other hand, lower poultry producer prices have a greater effect on poultry production than do lower feed costs, resulting in a modest decrease in poultry production. The announced changes in ewe premiums result in a 5 percent reduction in mutton producer price by 1997 and a slight decrease in mutton production.

Lower domestic meat prices result in increased consumption of all meats. Per capita meat consumption in the CAP reform scenario increases by an average of 3 percent for 1993-97, relative to the baseline. The largest increase occurs for beef, where consumption increases almost 8 percent in 1997. Per capita meat expenditures are reduced by an average of 6 percent from 1993-97, despite increased consumption. Consumers are clearly beneficiaries of the reform as they spend less on meat but consume more than in the baseline.

With unchanged or lower domestic production and increased consumption, net exports of beef, pork, and poultry substantially decline under CAP reform. In the case of mutton, imports increase to meet the increase in domestic demand.

Reductions in the butter intervention price coupled with extensification premiums result in very little change in milk cow inventories and milk production. The 2.5 percent cuts in the butter intervention price in 1993 and 1994 result in a modest reduction in butter and nonfat dry milk production. With no cuts in cheese prices or milk-marketing quotas assumed in this analysis, cheese production increases marginally. The lower butter intervention price results in a lower milk farm price and lower prices for dairy products. These price reductions result in a modest increase in domestic consumption of butter and cheese.

World Price Results

The only provision attached to the CAP reform agreement that affects grains for 1992/93 results in a slight decrease in grains prices (Table 5). Deletion of the co-responsibility levies for the

Table 5. World agricultural commodity prices under the CAP reform scenario

| | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1993-97 Avg |
|-----------------------------|--------------------------------|------|------|------|------|------|-------------|
| | (percent change from baseline) | | | | | | |
| Wheat (U.S. Gulf FOB) | -1.7 | 21.4 | 25.9 | 18.2 | 12.3 | 11.3 | 17.8 |
| Barley (U.S. Pacific FOB) | -1.0 | 11.8 | 8.0 | 12.9 | 4.6 | 5.8 | 8.6 |
| Corn (U.S. Gulf FOB) | -0.7 | 14.6 | 10.2 | 12.4 | 9.4 | 9.0 | 11.1 |
| Sorghum (U.S. Gulf FOB) | -0.8 | 12.2 | 5.1 | 9.9 | 4.2 | 4.0 | 7.1 |
| Soybeans (U.S. Gulf FOB) | 1.0 | 14.8 | 17.9 | 9.1 | 8.3 | 9.9 | 12.0 |
| Soybean Meal (U.S. Decatur) | 2.3 | 7.4 | 6.2 | -2.0 | -1.6 | 1.0 | 2.2 |
| Soybean Oil (U.S. Decatur) | -1.7 | 22.0 | 29.9 | 26.1 | 20.5 | 17.6 | 23.2 |
| Rapeseed (W. Canada) | 1.0 | 20.9 | 25.8 | 14.4 | 12.5 | 14.5 | 17.6 |
| Beef (U.S. Omaha Steers) | 0.0 | 2.4 | 4.7 | 5.7 | 4.2 | 2.7 | 3.9 |
| Pork (U.S. Barrows & Gilts) | 0.0 | 3.1 | 4.1 | 2.3 | 5.5 | 7.0 | 4.4 |
| Broilers (U.S. Wholesale) | 0.0 | 2.2 | 5.8 | 6.4 | 4.7 | 5.0 | 4.8 |
| Butter (N. Europe FOB) | 0.0 | 1.3 | 2.4 | 1.8 | 1.6 | 1.9 | 1.8 |
| Cheese (N. Europe FOB) | 0.0 | -1.0 | -2.7 | -3.6 | -4.1 | -4.0 | -3.1 |
| Nonfat Dry (N. Europe FOB) | 0.0 | 0.9 | 1.7 | 1.5 | 1.2 | 1.4 | 1.3 |

1992/93 marketing year induces slightly higher production and lower consumption. Wheat and barley exports increase and corn imports decrease. The end result is lower world prices of these grains. The remainder of this discussion addresses world price effects in the period beginning 1993/94.

Reductions in EC net exports of cereals and meats under CAP reform result in world price increases for those products. Table 5 reports annual percentage changes in world price levels in the CAP reform scenario relative to the baseline.

World prices increase for wheat in the CAP reform scenario. The effects of the set-aside on EC wheat exports is dampened somewhat in 1993/94 by a stock reduction; however, there is still a large price increase as production and consumption in other countries adjust. After this time, the United States, Canada, Australia, and other countries are able to increase production in response to higher prices. After 1995/96, price declines cease in the European Community and productivity increases result in annual increases in exports. This change contributes to the easing in upward pressure on world prices. For the 1993-97 period, world wheat prices increase an average of 17.8 percent from baseline levels. The world price level is without export subsidies from the EEP applied. If these subsidies were removed or substantially reduced, the European Community could export wheat without subsidy and world prices could be transmitted to the EC market, making the European Community competitive in the world wheat market at world prices.

In contrast, barley and corn price increases are not dampened in the first year by a large drawdown in EC stocks. As prices, however, with wheat, barley and corn prices will stabilize once CAP reform is fully implemented and other countries have increased production in response to higher world prices. The increases in corn and barley prices relative to the baseline are less than those for wheat. The reductions in exports of coarse grains are smaller than reductions in wheat exports, putting less upward pressure on prices. Much of the production increase in response to higher prices will come from the United States, which has a comparative advantage in corn production and can respond rather quickly to increases in excess coarse grain demand. However,

reduced livestock exports from the European Community shift some meat production to other countries, and more coarse grains will be used for livestock feed. EC internal coarse grain prices will remain substantially above world market levels in the CAP reform scenario. It would take an extreme production shortfall in the United States and perhaps other major coarse grain producers as well to push prices high enough for the European Community to respond to world price signals. Even if this were to happen, it is not likely that world prices would remain at this level for an extended period of time.

Average oilseed and oilseed product prices increase in the CAP reform scenario relative to the baseline. The reduction in rapeseed production results in increased excess demand for oilseeds and products, particularly soybeans and soybean oil. Although there is some substitution of grains for protein meals in the European Community under CAP reform, it is not enough to completely offset reduced oilseed and vegetable oil production.

Because world grain prices increase in the CAP reform scenario, grains will compete with oilseeds for land, adding upward pressure on oilseed prices. Similar to grain utilization, protein meal utilization will increase as the United States increases livestock production in response to lower meat exports from the European Community and higher world meat prices. Soybean prices increase by an average of 12 percent and rapeseed prices increase by 17.6 percent from 1993-97. The soybean price increase is larger than the meal price increase because the European Community imports less soybean meal but imports more soybeans. Soybean oil prices also increase by more than do meal prices as soybean oil exports from the European Community are reduced because soybean oil substitutes for some rapeseed oil in EC domestic consumption.

World meat prices increase because of reduced EC exports and the effects of increased feed costs. Beef and pork prices increase by an average of 4 percent during the 1993-97 period, and broiler prices increase nearly 5 percent. Competing exporters of these meats will benefit from these

price increases. For example, the United States and Eastern Europe are expected to gain market share in broiler trade lost by the European Community under CAP reform.

While EC net butter and nonfat dry milk exports decline under CAP reform, net cheese exports increase an average of 7 percent over the analysis period. The results are higher world prices for butter and nonfat dry milk and lower prices for cheese. The world cheese price declines by between 1 percent and 4 percent during 1993-97. The world price increases for butter and nonfat dry milk induce increased production and exports from countries such as Australia and New Zealand.

Alternative Implementation of Set-Aside

This analysis of the effects of CAP reform assumed that set-aside land would come from each crop in equal proportions for specific regions within the European Community. This assumption provides results based on viewing the CAP reform agreement from the point of view of its most literal interpretation. However, the language of the agreement defines base area as the total of cereal, oilseed, and protein crop area. It is this total area to which set-aside requirements are applied. Within a given region, wheat area might not be set aside or it may be set aside at a reduced rate, making it necessary to idle more land that would ordinarily be planted to other crops. It is likely that the relative profitability of crops within a region will determine which crops are planted on base area and which crops are most affected by set-aside requirements.

The possibility has been considered in discussions with analysts from several organizations that wheat would be planted at the expense of protein crops, rapeseed, and barley, at least in the northern regions of the European Community. Because feed-quality wheat will no longer qualify for intervention, only increased utilization of feed wheat or increased export subsidies would maintain feed wheat prices at levels equivalent with feed-grain prices. The result would likely be increased feeding of wheat relative to barley and corn, thereby reducing the need for net imports of feed grains while maintaining wheat exports. It is likely that some substitution in cropping and feeding will

occur, but it will be necessary to observe EC agriculture under CAP reform before a clear picture can be seen.

Comparison of Trade Impacts of CAP Reform and Dunkel's GATT Proposal

The potential impact of CAP reform on the GATT negotiations can be seen by comparing the CAP reform results to a recent analysis of Dunkel's compromise text (Table 6). The Dunkel numbers come from FAPRI (Food and Agricultural Policy Research Institute 1992). Both analyses use the same baseline and modeling system and are thus directly comparable. In every category except sugar and cheese, the trade impacts of the CAP reform are more favorable (from a U.S. perspective) than the Dunkel results. Moreover, the CAP reform results occur much sooner than the Dunkel results. An additional advantage (to the United States) of the CAP reform is that EC agricultural policy would have structural similarities (direct payments, set-asides, and quotas) to U.S. agriculture. This should make future negotiations more fruitful and reduce tensions between farm organizations in the United States and the European Community.

Reasons for the larger CAP reform results include the following:

- a lower support price for cereals, i.e., 145 ECUs per metric ton under CAP reform compared with 155 ECUs per metric ton under GATT
- larger set-aside provisions under CAP reform (11 percent) than were assumed under the Dunkel text (8 percent)
- increased use of EC feed grains under CAP reform because of lower absolute and relative prices.

Although there is always uncertainty about the accuracy of projections of this type, the results do indicate that the European Community will have little trouble meeting the export requirements of Dunkel's text, should it form the basis of the GATT agreement. The latest U.S. proposal for reductions of subsidized exports would reduce EC subsidized exports of wheat and barley by 21

Table 6. Comparison of Dunkel and MacSharry policies

| | <u>Dunkel</u> Change from 1998 Level | <u>MacSharry</u> Change from 1993-97 Average |
|----------------------|--|--|
| | (1,000 metric tons) | |
| Wheat Exports | -7,282 | -11,464 |
| Barley Exports | -4,404 | -6,142 |
| Corn Imports | 1,545 | 5,128 |
| Soybean Imports | 533 | 1,517 |
| Soybean Meal Exports | -304 | -518* |
| Sugar Exports | -700 | 0 |
| Beef Exports | -172 | -416 |
| Pork Exports | -146 | -153 |
| Poultry Exports | -228 | -272 |
| Cheese Exports | -187 | 25 |

*Includes rapeseed meal.

percent of the 1986-90 averages by 1998. Under CAP reform, we estimate that EC exports would be substantially below GATT levels. The major caveat is that the binding effect of a GATT agreement would help to ensure that CAP reform is implemented constantly over the long term. In this light, the apparent willingness of both the United States and the European Community to allow their bilateral dispute over agriculture to cause the failure of the entire GATT round is difficult to understand.

Summary and Conclusions

This paper presents one view of how the May 1992 CAP reform agreement could affect production, consumption, trade, and prices of principal temperate region commodities. The assumptions used to analyze these effects take the CAP reform agreement at face value; that is, assuming no loopholes or further policy adjustment. CAP reform is implemented in a manner that equally exposes each commodity to relevant policy changes.

With the exception of sugar and dairy, the magnitude of the changes in producer support, exports, and export subsidies will likely be adequate to meet cuts proposed by Arthur Dunkel under the Uruguay Round of the GATT negotiations. EC Agricultural Commissioner Ray MacSharry emphasized that the CAP reform amounted to the European Community's answer to the Dunkel paper and suggested that the responsibility for a GATT agreement in agriculture was now that of the United States. In contrast, U.S. Trade Representative Carla Hills has insisted that any outcome of the CAP reform process would be considered strictly unilateral and would not affect the U.S. position in GATT negotiations.

Rhetoric notwithstanding, CAP reform addresses much of the reduction proposed by Dunkel in trade-distorting policies. Although the reform package does not specifically address subsidized exports or export subsidy expenditures, levels of trade distortion in these areas are reduced as a result of introducing supply management.

As far as internal supports are concerned, cuts in producer support levels by themselves do not guarantee compliance with the Dunkel proposal. Although the European Community is likely to argue that compensatory payments should be in the "green box" and exempted from reduction, the fact that they are not completely decoupled from production decisions may make this argument difficult to accept outside the European Community. Payments are not entirely decoupled because they require production to take place in order for producers to be eligible to receive them. The U.S. program is more nearly decoupled because of the 0-92 and flexibility provisions. However, the United States and the European Community may find it convenient to exempt both U.S. deficit payments and EC compensation payments from binding GATT disciplines.

In the case of cereals, set-aside requirements are likely to maintain internal support at levels acceptable under the Dunkel proposal. However, acceptability is conditional on even application of set-asides because the Dunkel proposal is more specifically aimed at individual commodities than is the CAP reform agreement. In the case of oilseeds, the new regime with set-asides is not likely to be viewed by U.S. soybean producers as an acceptable answer to the GATT ruling against the EC oilseed regime. This problem could continue to be a stumbling block in further GATT negotiations.

Another possible area of concern is that the CAP reform does not make EC markets accessible to exporters. Even though community preference thresholds are reduced, they will likely remain high enough to prohibit market access during most periods.

The process of CAP reform was often difficult. From the original proposal by MacSharry in February 1991 to the agreement in May 1992, there were many obstacles and objections to overcome. The CAP reform agreement was perhaps the primary objective of MacSharry during his tenure as head of the Agriculture Commission. A few short months after passage of CAP reform, MacSharry announced that he will leave the commission. It appears that the reform package will accomplish the objective of radically overhauling the CAP while maintaining some control on expenditures. It will reduce overproduction, at least in the short to medium term. It might not be completely acceptable to

other countries and groups in terms of meeting the goals of the Uruguay Round, but it narrows some of the gaps between negotiating parties. The possibility of a GATT agreement could be enhanced if an agreement seen as a way of binding the European Community to its own reform well into the next century.

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