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ANALYSIS OF THE U.S.-EUROPEAN COMMUNITY OILSEEDS AGREEMENT

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ABSTRACT

In 1986, the American Soybean Association filed a Section 301 petition under the Trade Act of 1974, alleging that European Community oilseed subsidies nullified and impaired benefits of previous trade concessions, specifically the tariff binding of 1962. Two bilateral trade agreements were negotiated to remedy the dispute, the Blair House Agreement and the Memorandum of Understanding on Oilseeds. The impacts of these trade agreements were simulated using a three region trade model. Results indicated that neither supply constraints nor penalties for overproduction will contribute to a recovery of U.S. soybean exports to the EC.

Keywords:

oilseeds, trade agreements

1. ***Introduction***

In 1962, the U.S. negotiated a zero level tariff binding on oilseeds, oilseed products and nongrain feed ingredients imported into the European Community (McCalla and Josling, 1985, p. 81). In the 1970s and early 1980s the U.S. enjoyed dominant market share for oilseeds in the EC as the demand for protein feeds grew along with growth in the livestock sector. Total EC soybean imports increased from around six million tons in the early 1970s to over 14 million in 1986. U.S. exports of soybeans to the EC peaked at 11.3 million tons in 1982 and then declined to a low of 5.8 million tons in 1985. Other exporters such as Brazil, Argentina and Paraguay supplied much of the growth in EC import demand (Uri and Hyberg 1994, p. 145). Overall, the U.S. market share of total EC utilization fell from an average of 84.3 percent in 1978-82, to 49 percent in 1988-94 (Table 1).

During this same period, real price supports for EC oilseeds increased steadily and producers responded by increasing production dramatically (Table 2). The loss in the volume, value and market share of U.S. oilseeds exports to the EC prompted the American Soybean Association (ASA) to file a Section 301 complaint against the EC in December 1987. Section 301 of the U.S. Trade Act of 1974 is the chief policy mechanism for confronting alleged unfair trading practices of U.S. trading partners. Section 301 of the Trade Act of 1974 authorizes the President to take appropriate actio, including retaliation, to end unfair trading practices of U.S. partners (Tweeten 1992, p. 255). In January 1988, the U.S. Government agreed to investigate the charges against the EC and to bring the dispute to the GATT.

In February 1988, the EC Summit in Brussels approved two new agricultural reforms. A system of agricultural budget stabilizers was the first set of policy reforms aimed at reducing the cost of agricultural support and the burden of disposing of surplus production. The second was a program of payments for the set-aside of arable land, also targeted to reduce growth in crop production (USDA, ERS, RS-89-2, p. 13). The new

oilseed stabilizer took effect with the 1988/89 marketing year. Production thresholds, or Maximum Guaranteed Quantities (MGQ), were established for oilseeds output. Penalties were defined for exceeding the trigger quantities. However, the oilseed stabilizers had mixed success in restraining the growth of output and budget expenditures; production continued beyond the established threshold levels.

In December 1989, the GATT Oilseeds Panel ruled that the EC oilseeds policy had nullified and impaired benefits of trade concessions granted in the 1960s. The EC agreed to modify its oilseeds policy during implementation of the Uruguay Round of Multilateral Trade Negotiations (MTN). However, the Uruguay Round of negotiations broke down in December 1991.

In January 1992, the U.S. requested another GATT panel to determine whether the EC's new policy, approved in December 1991, implemented the first GATT panel's findings. The second GATT panel ruled that the EC's new policy continued to impair the duty-free tariff binding (1962) and directed the EC to eliminate the impairment, either by modifying its policy or the trade concessions granted earlier. The EC refused and the U.S. announced its intention to impose retaliatory tariffs of $1 billion on imports from the Community, equal to the alleged damages incurred by U.S. soybean producers. A trade conflict ensued between the U.S. and the EC.

Subsequently, during the Uruguay Round of Multilateral Trade Negotiations (MTN), two bilateral trade agreements were negotiated to remedy the oilseeds dispute. These agreements, the Blair House Agreement (BHA) and the 1992 Memorandum of Understanding on Oilseeds (MOU), addressed the oilseeds trade dispute. Thus, a combination of EC policy reforms and trade agreements became the basis for resolution of the U.S.-EC oilseeds trade dispute.

2. Objectives

The objective of this paper is to analyze the effects of the oilseed agreements, negotiated between the U.S. and the EC under the Uruguay Round of Multilateral Trade Negotiations, on oilseeds production, prices and trade. Specific objectives are: (1) to analyze the EC's price support system for oilseeds and the resulting producers' supply response; (2) to estimate the change in EC oilseed supplies under the new Common Agricultural Policy reform programs, and; (3) to simulate the impact of EC policy changes on oilseeds trade under different policy scenarios.

3. The U.S. - EC Oilseeds Dispute in a Historical Perspective

The U.S. - EC oilseeds dispute should be viewed in the broad historical context of world trade relationships since the formation of the Common Agricultural Policy, the evolution of U.S. trade policy, and the Uruguay Round of Multilateral Trade Negotiations (MTN). When the oilseeds dispute is viewed in this longer-term perspective, it illustrates why the resolution of the dispute played a key role in the conclusion of the Uruguay Round of MTN under the auspices of the GATT.

While the U.S. was in favor of European integration in 1950s and early 1960s, it has never really accepted the creation of the customs union and the subsequent principles of the Common Agricultural Policy (Guyomard et al., 1994, p. 167). The Community's price supports for grains and livestock products stimulated domestic production. The variable levy-export restitution system provided the EC border protection against cheaper imports and a surplus disposal mechanism. Ultimately, the Community's high price supports and protection for agriculture led to reduced outlets for U.S. grain exports and direct competition for third country markets by the early 1980s.

The oilseeds sector represents a small but important crack in the protective framework surrounding Community agriculture. "The EC conceded a bound zero tariff on oilseed products in the XXIV-6 Negotiation, on corn germ meal in 1962, and on corn gluten feed in the Kennedy Round in 1967" (Guyomard et al., 1994, p. 167). The lack of border protection on oilseeds and products, primarily soybean meal at 44 percent protein and corn gluten feed at 22 percent protein, provided European feed compounders access to lower cost protein sources for feed rations than from more expensive Community wheat, barley and maize. A concentrate derived from soybean meal and a starchy product such as manioc, imported into the EC mainly from Thailand, can serve as a perfect substitute for cereals (Koester and Terwitte 1988, p. 3/16; See also Dale Leuck 1985; Surry and Moschini 1984).

The European Community's oilseeds price supports received stimulus from several sources in the early 1970s. High world oilseed prices in 1972-74 and the temporary U.S. oilseeds embargo in 1973 sparked EC interest in oilseeds production, primarily rapeseed, sunflowers, and soybeans. Oilseed price supports and a crushing subsidy stimulated domestic production and utilization. The EC's budgetary expenditures for oilseed

crops and beans, peas and lupins for animal feed increased dramatically. By 1985 the budgetary expenditure on oilseeds and protein crops exceeded 10 percent of the EC's total annual spending on agriculture (Koester and Terwitte 1988, p. 3/21). The disharmony in the protein sector was obvious. EC self-sufficiency in protein sources increased from 4 percent in 1973, at the beginning of the "protein crisis," to about 10 percent in the mid-1980s. Imports still constituted the primary source of high protein feed ingredients but the source of EC imports shifted due to competitive market forces.

In the 1980s, the U.S. faced strong competition from Brazil, Argentina and Paraguay for the European oilseeds market. Between 1980 and 1990, U.S. oilseeds exports to the Community dropped by nearly 50 percent while EC imports from Argentina, Brazil, and Paraguay increased by 80 percent (Anania et al., 1994, p. 24). By 1990, Brazil became the dominate supplier of soybean meal in the EC while the U.S. market share for meal fell to nearly zero. Uri and Hyberg (1994) concluded that gains in world oilseeds markets by South American producers have been almost completely at the expense of U.S. soybean exports (p. 145).

The American Soybean Association (ASA), in reaction to the loss of market share, filed a Section 301 petition in 1987, under the Trade Act of 1974 alleging that the EC's oilseeds support policies discriminated against imports of U.S. soybeans. Changes in U.S. trade law have made it easier for American firms to file Section 301 petitions and the number of petitions has increased dramatically (Salvatore 1993, p. 317).

Since retaliation is embedded in U.S. trade law, the Administration threatened to use countervailing duties when the findings of the GATT panel were not immediately implemented. Guth and Pankopf (1994) accuse the U.S. of flagrant unilateralism in the oilseeds case (p. 254). Salvatore (1993) has cited extensive econometric research on U.S. trade laws which indicates that more trade-remedy petitions are filed during recessions, periods of an overvalued dollar, and during negotiations over market access for U.S. goods and services (p. 319). The oilseeds case is consistent with the general trend in increased trade remedy petitions: the U.S. was in a recession during the early 1980s, the dollar appreciated against major European currencies through 1986, and market access was a primary component of the U.S. position in the Uruguay Round of MTN.

The oilseeds dispute became tightly intertwined with the proposals for tariffication and rebalancing in U.S.-EC trade negotiations during the GATT negotiations. "Rebalancing implies trading tariffs on feed imports

for a decrease in the support provided to grain and oilseeds in the EC" (Mahé and Roe 1991, p. 80). The U.S. has never been willing to consider rebalancing as a possible concession or basis for negotiation (Guyomard et al. 1994, p. 170). Nevertheless, the EC has regularly included rebalancing in its trade proposals.

Gleckler and Tweeten (1990) simulated rebalancing oilseed and grain price supports and protection in the EC using a nine region, nine commodity SWOPSIM model. They simulated different levels of uniform support for EC cereals and oilseeds until the gains to U.S. grain producers offset losses to U.S. oilseed producers, leaving aggregate producer surplus nearly unchanged. Using a base year of 1989, U.S. producer welfare changes are about equal between grains and oilseeds at uniform EC support levels of 120 percent of world prices for grains and oilseeds. However, rebalancing left EC grain and oilseeds producers worse off because of the reduction in cereal price supports and the oilseeds crushing subsidy (p. 15).

Two significant political economy problems arise with the rebalancing scenario. Since EC producer incomes would fall, they would demand compensation -- decoupled direct payments and other related adjustment assistance. In the U.S., the redistribution of income between grain and oilseeds producers would entail potentially divisive political and economic problems. Thus, rebalancing was not an acceptable trade proposal for the U.S. during the Uruguay Round of MTN, given the well organized agricultural lobbies on both sides of the dispute. Finally, a compromise was worked out during Blair House and subsequent negotiations leading to the final GATT agreement reached on December 15, 1993, in Geneva (For a comprehensive analysis of the final agreement see Anania, Carter and McCalla 1994).

4. Analysis of Pre-1992 EC Oilseed Prices and Policies

The pre-1992 oilseeds policy is the focus of this analysis because it is the basis of the American Soybean Association's Section 301 petition to the International Trade Commission, the U.S.'s subsequent petition to the GATT, and the EC's oilseed supply situation prior to the conclusion of the Uruguay Round of MTN.

Until 1992, EC oilseed producers received price supports through a system of payments made to processors, or crushing subsidies, intended to compensate crushers for the high price of domestically produced oilseeds. The producer support price for rapeseed and sunflower seed was the intervention price (analogous

to the CCC loan rate in the U.S. price support system). Soybean buyers were required to demonstrate that they had paid EC farmers at least the minimum support price in order to receive the crushing subsidy.

Since the EC is a net oilseeds importer, the pre-1992 oilseeds policy utilized the crushing subsidies to encourage processors to buy and process higher priced domestic oilseeds rather than lower cost imports. The U.S. protested the EC's price support policy in its GATT petition. The GATT panel found that the EC's oilseeds policy (1) "discriminated against imported oilseeds and (2) impaired the zero-tariff concessions on oilseeds granted by the EC in the Dillion Round of multilateral trade negotiations in the early 1960s" (USDA, ERS, RS-92-4, Dec. 1992, p. 61). In 1992, the EC subsequently replaced the crushing subsidy support system with a new policy that links the support for oilseeds to a formula designed to make the returns from cereals and oilseeds approximately equal.

The empirical analysis of EC-10 oilseed policies is composed of two major parts. The first analysis examines oilseed prices and policies for the period leading up to the CAP reforms, the Blair House Agreement, and the Memorandum of Understanding. Simple regressions using data for the period 1968 to 1992 were estimated to analyze the relationship between EC-10 oilseed cost of production and policy price supports, and to estimate the responsiveness of oilseed plantings to support prices. The second empirical section uses a simulation model to estimate production and trade impacts of the CAP reforms, BHA, and MOU in the post 1992 period.

Since the mid-1960s, European oilseed producers have responded predictably to higher support prices. Steady increases in EC subsidies and oilseed yields combined to increase nominal producer revenue and oilseeds production. This increase in domestic EC production became the alleged source of the loss of market share for U.S. oilseeds in the European market according to the American Soybean Association's Section 301 Trade Petition. An analysis of the EC price support system from 1967-1992 may explain the European producer's supply response, and the resulting trade dispute.

The large increases in EC-10 oilseed prices and harvested area during the 1970's and 80s can be observed in Figures 1 and 2 which show, respectively, indices of EC-10 intervention prices and harvested area for rapeseed, sunflower, and soybeans over the period 1969 - 1992. For all three commodities, the index of

support prices is the product of the intervention price in ECUs and an area weighted average of the green exchange rates for EC-10 countries producing oilseeds. The indices are plotted relative to the lagged oilseed cost-of-production index (LCPI) for the EC-10 in Figure 1.

In order to evaluate the formation of oilseed intervention prices before and after the 1988 budget reforms, regression analyses were performed for three commodities: rapeseed, sunflower seed, and soybeans. One general hypothesis was that, prior to the budget reforms, the agricultural lobby was successful in securing increases in intervention prices in response to increases in production costs. It was also hypothesized that the linkages between intervention prices and production costs were weakened after the budget reforms, and that changes in intervention prices then became dependent on production levels relative to Maximum Guaranteed Quantities (MGQs).

The equation estimated for each crop was:

$$PI_{it} = \alpha_i + \beta_{1i} * LCPI_{i,t-1} + \beta_{2i} * D_1 * LCPI_{i,t-1} + \beta_{3i} * EXCESS_{it} + \epsilon_{it} \quad (1)$$

where PI_{it} is the index of the weighted intervention price for crop i in year *t* or the guide price in the case of soybeans, $LCPI_{i,t-1}$ is the oilseed cost-of-production index lagged one year, D_1 is a dummy variable with values of one for the years 1968 through 1974 and zero for later years, $EXCESS_{it}$ is the percentage by which production exceeded the maximum guaranteed quantities for commodity i in years 1988 through 1992, α_i, β_{1i}, β_{2i} and β_{3i} , are estimated parameters, and ϵ_{it} is the error term. An interaction term between the cost of production index and a dummy variable for 1968-74 was included because the stability of prices observed in this period was uncharacteristic of the rest of the data period (Figure 1). The soybean equation includes data only for years 1975-92 because of insignificant EC-10 soybean production before 1975.

Since MGQs were the result of CAP reforms beginning in 1988, the value of the EXCESS variable is zero for all years prior to 1988. Plots of residuals of OLS regressions for all commodities revealed increasing heteroskedasticity over time, and maximum likelihood models assuming time dependent heteroskedasticity were subsequently used and are reported here.

Results for the estimation of equation 1 for rapeseed, sunflowers, and soybeans are presented in Table 3. The results for rapeseed indicate that a unit increase in the oilseed cost-of-production index was associated

with a 0.84 increase in the intervention price index. Elasticities calculated at mean values of the indices differed between the early (1968-74) and late (1975-92) time periods. Intervention prices increased an estimated 0.47 percent and 0.76 percent, in the early and late periods, respectively, in response to a one percent increase in LCPI. The coefficient of the EXCESS variable indicates that the rapeseed intervention price did vary inversely with production above target levels. The rapeseed weighted intervention price index fell 0.545 units for each percentage point that rapeseed production exceeded the MGQ.

The sunflower seed intervention price responded more strongly to LCPI changes than rapeseed, and responsiveness was greater during the pre-1975 period when both indices were more stable. Estimated elasticities indicating the responsiveness of the intervention price to the change in cost-of-production were 1.34 and 1.17, respectively, in the early and late periods for sunflower seed. The sunflower intervention price index fell an estimated 0.326 percent for each percentage point that production exceeded the sunflower MGQ . Soybean price results for the shorter 1975-92 data period were similar to those for sunflowers. The estimated elasticity of the soybean support price with respect to LCPI was 1.11. The price index fell an estimated 0.421 units for each percentage point that soybean production exceeded its MGQ.

5. Oilseeds Supply Response

Responsiveness of oilseed area to intervention prices was analyzed through a second set of equations. In these regressions, an index of EC-10 oilseed area in hectares (ACI_{it}) was modeled as dependent on returns (RT_{it}) per hectare for each crop. Returns were measured as the product of the intervention price, lagged one year, and a three year moving average of yield per hectare. Given the three distinct patterns of price movement evident in the rapeseed and sunflower data, three dummy variables were specified: D1 for years 1968-74, D2 for 1975-87, and D3 for 1988-92. Since the soybean data begin in 1975, only D2 and D3 were defined for soybeans. Area harvested was modeled as dependent on interaction terms between the dummy variables and returns per hectare as:

$$ACI_{it} = \alpha_i + \beta_{1i}*D1*RT_{it} + \beta_{2i}*D2*RT_{it} + \beta_{3i}*D3*RT_{it} + \beta_{4i}*D1 + \beta_{5i}*D3 + \epsilon_{it} \quad (2)$$

Results and elasticities for the estimated area supply response for rapeseed, sunflowers and soybeans are presented in Table 4. Rapeseed and sunflower area appear to have been quite responsive to changes in

oilseed returns. Over 90 percent of the variation in rapeseed and sunflower seed area is explained by the changes in the returns per hectare indices and the intercept terms. For rapeseed, the elasticity of area with respect to lagged returns per hectare is 1.15 for the early period, 1.23 for 1975-87, and 0.97 after the 1988 budget agreement. Sunflower area appears to have been more responsive to changes in returns than rapeseed, with elasticities of 2.74, 1.65, and 0.94 for the early, middle, and late data periods, respectively.

Approximately 68 percent of the variation in soybean area is explained by changes in returns and intercepts, but the most significant variable in the soybean regression is the intercept shifter for the post 1988 budget agreement period. The elasticity of the area index with respect to the return index is only 0.19 for the periods both preceding and following the budget agreement. The lower fit of the regression, and weaker relationship between returns and area are likely due in part to the extreme changes in soybean area that occurred, especially between 1982 and 1987 when the area index rose from 170 to over 4000 (Figure 2). Observed changes in prices or yields cannot explain such a dramatic increase in area devoted to soybeans.

Although the complexity of the analysis reported above was limited by the shortness of the data series, the results provide evidence that price and area data are generally consistent with the propositions stated at the beginning of this section. Prior to the 1988 budget agreement, sunflower seed and soybean support prices increased at rates equal to or greater than production costs. The budget agreement had an impact, however, since adjusted intervention prices have gone down when target quantities for oilseed production were exceeded. Rapeseed and sunflower seed areas appear to have been quite sensitive to the increased returns per hectare for these crops, which resulted largely from policy induced price increases. Estimated elasticities of area with respect to returns per hectare were greater than one for both rapeseed and sunflowers in the pre-1988 period, and only slightly less than one from 1988 on. Subsequent CAP reforms and trade agreements have impacted the EC oilseeds sector, creating a new policy environment for community producers.

6. *Analysis of Oilseed Agreements*

The balance of this study is devoted to simulating the impact of the trade agreements and the 1992 Common Agricultural Policy reforms on the world trade in oilseeds and products using the Static World Policy Simulation Model (SWOPSIM) developed by the U.S. Department of Agriculture (Roningen 1986). Industry

analysts have predicted that the impact of the oilseeds agreements, the Blair House Agreement and the Memorandum of Understanding on Oilseeds, negotiated between the United States and the EC, represents only a relatively small gain in market share or a freeze in U.S. market share erosion.

7. ***Methodology***

The Static World Policy Modeling Framework was used to analyze the effects of reductions in EC agricultural support on oilseeds trade between the United States (U.S.), the European Community (EC) and the Rest of the World (RW). The framework follows the logic of a non-spatial equilibrium model which assumes that domestic and traded commodities are indistinguishable substitutes. The model is parameterized to produce a 1989 data base of production, consumption, trade quantities, and prices for each country/region. After the level of support is changed in a country/region, the model's spreadsheet framework uses a variant of the Gauss-Siedel algorithm to recalculate new world reference prices and each country/region's new supply, demand, trade, and pricing data. The model contains own and cross price elasticities for each commodity in each country/region which provide analysis of an intermediate range solution.

8. ***Assumptions of the Model***

The SWOPSIM model built for this analysis is designed to analyze the economic implications of changes in oilseeds policies that can have a global impact on trade. These changes in policies would generally be represented by shifts in supply or demand or changes in prices due to increased or decreased government intervention in a particular part of the agricultural sector. In this study, the global model consists of three trading regions, the U.S., the EC, and RW. The model assumes that each product subsector can be represented by a simple set of supply, demand and trade equations. The supply and demand equations have a constant elasticity form, where elasticities and technical coefficients are based on those reported in the economic literature or published in USDA and OECD studies. The supply and demand relationships are modeled as:

$$D_{ij} = D_{ij} (CP_{ij}, CP_{ik}, QS_{ih}, TD_{ij})$$

$$S_{ij} = S_{ij} (PP_{ij}, PP_{ik} \text{ or } CP_{ik}, TS_{ij})$$

Where CP_{ij} and PP_{ij} are domestic consumer and producer incentive prices for country i and product j. CP_{ik} and PP_{ik} are consumer and producer prices (for country i) where product k is related to product j. QS_{ih} in the

demand function accounts for the use of product j as an input in the production of product h (i.e. poultry/beef supply as a function of the demand for grains). PP_{ik} and CP_{ik} represent substitution possibilities for the producer. TD_{ij} and TS_{ij} account for policy or economic shocks that might shift the demand and supply functions over time.

Trade is defined as the difference between total domestic demand and domestic supply. The global market for each product clears when the net trade for each product sums to zero across all countries and regions.

$$\Sigma T_{ij} = \Sigma S_{ij} - \Sigma D_{ij}$$

Equations in the model, representing policy structure, link the world reference price for each commodity with the corresponding domestic incentive price. The domestic incentive prices for commodities are a function of producer and consumer support and the world price denominated in local currency. Producer and consumer support, CSW_{ij} and PSW_{ij} represent the difference between the domestic price and the world reference price. This difference in domestic and world prices is modeled as a "wedge" and is manipulated to incorporate the effects of price changes due to the implementation of trade agreements and domestic agricultural policies.

$$CP_{ij} = CSW_{ij} + F (E_i * WP_j)$$

$$PP_{ij} = PSW_{ij} + G (E_i * WP_j)$$

E_i is the exchange rate of country/region i with respect to the U.S. dollar. WP_j represents the world reference price for product j in U.S. dollars. F and G represent the price transmission elasticities.

Support for producers and consumers is represented by two types of wedges: (1) a market support wedge where a tariff (negative) or a subsidy (positive) creates a price wedge between the domestic price and the world reference price, and (2) a direct payment wedge which does not effect the observed market price but is part of the domestic incentive price. Price wedge data were obtained from ERS calculations of producer and consumer subsidy equivalents (Webb, Lopez and Penn, 1990).

All supply, demand and trade equations for each country/region in the model are initialized to a specific base year, 1989. The global model is then assembled, where world trade for all products is in a state of equilibrium. Policy shocks are implemented via changes in supply, demand or price wedges and new equilibrium amounts produced, demanded, exported, imported, and new equilibrium domestic prices are

determined simultaneously for each country as are the new world reference prices for each commodity. (Roningen and Dixit, 1989; Roningen 1991; Roningen, Sullivan and Dixit, Sept. 1991; and Roningen, Sullivan, Dixit, and Hart, March 1991).

9. ***Data***

The data used in this analysis are derived from the U.S. Department of Agriculture's SWOPSIM Database (World), consisting of 33 countries and regions. The data are for the 1989/90 marketing year. They include base quantity and pricing data for supply, demand, production and trade for each country/regions.

Specific data for the United States (U.S.), the EC-12 (EC), and the Rest of the World (RW) for 22 commodities were included in the model. The 22 commodities represent the agricultural sector for each country/region. These include beef and veal, mutton, lamb and goat, pork, poultry meat, poultry eggs, dairy milk, butter, cheese, milk powder, wheat, corn, other course grains, rice, soybeans, soybean meal, soybean oil, other oilseeds (rapeseed, sunflower, peanut, cotton, and flax, combined), other oilseed meal, other oilseed oils, cotton, sugar and tobacco (Roningen, et. al., 1991).

10. ***Modeling 1992 CAP Reforms***

The 1992 CAP reforms instituted by the EC contained provisions to reduce the supply and support prices of certain commodities while creating a corresponding system of direct compensation payments to producers. The supply reductions were achieved through land set-aside requirements of 15 percent for cereals and grains. These set-asides were implemented as supply reductions for wheat, corn, barley, and other coarse grains, mainly rye, oats, sorghum, and millet, in the equilibrium model. The reductions in the price supports for beef, pork, sheepmeat, butter, skim milk powder, wheat, corn and other coarse grains were also included in this analysis.

Cuts in export restitution were applied directly to the export subsidy wedges where appropriate. EC producer subsidies for both soybeans and other oilseeds were reduced in order to reflect the realignment of the returns to producers of oilseeds with those of producers of cereals **as specified in the CAP reform**. The effects of the EC new oilseed policy and the trade agreements were analyzed using the SWOPSIM model described earlier.

Two policy scenarios were modeled after adjusting the baseline data for the 1992 CAP reforms.

The first scenario is a simple 10 percent oilseeds supply reduction with no subsidy reduction penalty. This is the "ideal" situation which satisfies the BHA. While the BHA agreement states that the set-aside requirement is 15 percent, adjustments were made to compensate for the number of small producers not participating in the set-aside scheme. Adjustments also were made to account for overshoots of the base area, which diminish the full effect of the set-aside requirement. The second scenario models the actual situation for the 1994-95 crop year when production overshot the baseline supply by 9 percent for a net reduction in oilseeds output of 1 percent (9 percent supply overshoot minus 10 percent BHA reduction). This triggered a 9 percent cut in oilseeds subsidies as specified in the MOU. Simulations of the two scenarios are discussed in the following section.

11. ***Modeling the BHA Supply Reduction and Penalties Imposed in the MOU***

The results of the modeling exercise are divided into the two parts, those relating to the **soybean complex** and those relating to the **other oilseeds** category. This is consistent with the structure of the SWOPSIM model and the U.S.-EC trade agreements.

Simulation results indicate only small gains for the U.S. and RW regions from the reduction in EC soybean production. In the simulation, EC imports of soybeans increase 1.3 percent in quantity and 1.7 percent in value (Table 5). U.S. exports rise 0.8 percent in quantity and 1.2 percent in value, or 139,000 metric tons and $57 million, respectively. Soybean exports from the RW increase 0.1 percent in quantity (11,000 metric tons) and 0.5 percent ($15 million) in value. The simulated price effects were less than $0.73/mt and $0.37/mt in the U.S. and RW, respectively. These changes do not represent very significant gains to either region in the soybean complex as a result of the Blair House Agreement.

In the other oilseeds category (Table 6), the 10 percent set-aside reduction had a larger relative impact on the EC, U.S. and RW regions because approximately 90 percent of EC's oilseeds supply (56 percent rapeseed, 34 percent sunflower seed, and 10 percent soybeans) is accounted for in the other oilseeds category. EC imports of other oilseeds increase by 20 percent or 711,000 metric tons worth $515 million, ceteris paribus. The U.S. exports an additional 94,000 metric tons while the RW exports 382,000 metric tons of additional

oilseeds. Thus, the RW gains relative to the U.S. due to the EC's set-aside program for other oilseeds. This was expected because the U.S. exports mainly sunflower seeds while the RW exports rapeseed, sunflower seed and other minor oilseeds.

12. ***Simulation of the 1994 Crop Year Accounting for Overshoot Penalties***

Simulations of the 1994-95 crop-year scenario (reported in the last column of Tables 5 and 6) indicate that the set-aside policies and concurrent penalties would have very little effect on international oilseeds trade for the three country/regions. The quantity of U.S. soybean exports increases by 0.2 percent, as does export value. The volume of RW exports of soybeans remains unchanged, while the value of exports increases by 0.1 percent due to export price increases. The quantity of soybeans imported by the EC increases by 0.2 percent (the same amount by which U.S. exports increases), while the value of EC imports of soybeans rise by 0.3 percent.

There was a more dramatic impact on trade in the other oilseeds category (Table 6). U.S. exports of other oilseeds increase almost 5.0 percent by quantity, while the value of exports rise by 5.7 percent. Exports from the RW increase by 2.4 percent in quantity and 3.1 percent in value. Imports of other oilseeds by the EC rise by 8.1 percent in quantity and 8.8 percent in value. **Since the U.S. is a very small producer of other oilseeds (rapeseed and sunflower seed), gains in trade were captured primarily by major producers in the RW region.** The simulation of the 1994-95 crop-year scenario indicates that the set-aside policies and concurrent penalties will have little impact on soybean trade but will have a more significant effect on trade in other oilseeds.

Guyomard and Mahé simulated the implications of CAP reforms on U.S. and EC trade using the Modèle International Simplifié de Simulation (MISS). The results of their analysis of 1992 CAP reforms, Blair House, and Decoupled Reform are compared to the pre-reform baseline CAP environment. They concluded that the main effect of the CAP reform is to stimulate the domestic demand for grain as animal feed through relative price changes. Prices of grain substitutes such as corn gluten feed decline, approximately 14 to 16 percent, depending upon the respective reform packages (Guyomard et al., 1994, p. 179). Their analysis also indicates a modest loss of oilseeds and product exports to the EC due to declining feed demand. The results of simulation

analysis, including the one in this study, are sensitive to the assumptions about changes in relative prices and exogenous factors such as income and population growth.

While this study has focused on changes in oilseeds production, prices and trade due to CAP reform and trade negotiations, the oilseed meal market should not be ignored although it was not the focus of the ASA's Section 301 petition. The OECD (1994) has summarized the results of numerous studies on the demand for oilseed meals. Forecasts of EC oilseed meal utilization under the new CAP regime range from a small increase in oilmeal use compared to the 1992 base period to a decline of 6 million tons in the medium-term (OECD 1994, p. 37). These forecasts are quite sensitive to the changes in demand for livestock products, poultry and pork versus dairy and beef, and the derived demand for feed ingredients. Helmar, Smith and Meyers (1995) reached similar conclusions when they simulated the impacts of the CAP reforms, the Blair House Agreement, and domestic farm policies of major trading countries. After adjusting for the oilseeds agreement, their analysis indicated relatively little change in soybean trade and "... no shifting of trade within the soybean complex among exporters" (p. 40). These studies have predicted net reductions in oilmeal use due to the substitution of cereals for oilseeds in feed rations, one of the objectives of changing relative prices under the new CAP regime. Ultimately, the OECD concluded that "Most studies indicate firmer EC import demand for oilseeds than oilmeals (OECD 1994, p. 37).

13. *Conclusions: The Oilseeds Agreements - A Success or Failure?*

The decrease in U.S. oilseed exports and EC market share in the 1980s led to the 1987 American Soybean Association's Section 301 petition to end alleged unfair trading practices of U.S. partners. The petition alleged that EC oilseed support and trade policies discriminated against imports of U.S. oilseeds in violation of the 1962 tariff binding.

Our analysis provides evidence that increases in EC oilseed intervention prices roughly tracked increases in costs-of-production, at least until 1988. In the cases of sunflower seed and soybeans, intervention prices grew faster than production costs during much of the late 1970s and early 1980s. Additional evidence suggested that, after 1988, reductions of oilseed intervention prices occurred in response to EC production above the target levels specified in the 1988 budget agreements. Regression results also suggested that the EC

area planted to rapeseed and sunflower seed was responsive to these increases in intervention prices, resulting in increased EC production. EC soybean plantings were also shown to be positively related to EC support prices, but the impressive growth in soybean area was beyond what could be explained by the observed increases in commodity prices alone.

While these findings give some credence to U.S. complaints that EC policy stimulated production and displaced U.S. imports, other indicators suggest that increased EC production was not the only cause of the decline in U.S. exports and market share. Total EC oilseed imports trended up throughout the period from the mid-1960s to the 1990s, and both EC producer and RW importer market shares increased as the U.S. share declined. Furthermore, our simulations of the Memorandum of Understanding on Oilseeds and the Blair House Agreement, after the CAP reforms, suggest that RW exporters will likely benefit more from these agreements than US producers.

In the short run, the final version of the oilseeds agreement pleased neither European farmers nor American soybean producers. The agreement did not provide an immediate remedy to offset the alleged losses in exports incurred by U.S. soybean producers nor did it enhance EC internal policy reforms. Even if the EC supply reduction is the full 10 percent as contained in the agreements, U.S. soybean exports to the region increase less than 1 percent, ceteris paribus. Thus, the gains in trade for the U.S. are marginal. Did the U.S. achieve its objectives in bringing the oilseeds trade dispute before the GATT? The simulation indicates a very small impact in the soybean sector from the implementation of the oilseeds agreements. Moreover, the 1994/95 overshoot in EC oilseeds production is evidence that supply control measures, including penalties, will not limit production sufficiently to boost U.S. exports. Since the U.S. is not a rapeseed producer nor a major sunflower seed exporter, the gains in trade in other oilseeds accrue to the RW. In the long run, the U.S. will have to depend upon its comparative advantage, not trade negotiations, to preserve or enhance its share of world oilseeds trade.

References

Agra Europe. London, various issues.

American Soybean Association, Press Release. (1994). "Soybean Farmers Express Concern and Disappointment Over Outcome of U.S.-EC Oilseeds Dispute." St. Louis, Mo.

Anania, Giovanni, Colin A. Carter, and Alex F. McCalla. (1994). "Agricultural Policy Changes, GATT Negotiations, and U.S.-E.C. Agricultural Trade Conflict." in Agricultural Trade Conflicts and GATT. New Dimensions in U.S.-European Agricultural Trade Relations.Edited by G. Anania, C. A. Carter, and A. F. McCalla. Boulder: Westview Press.

Glecker, J. and L. Tweeten (1990). "The Impact of the Common Agricultural Rebalancing Policy on the U.S., the European Community and the World: The Basis for Agreement." Occasional Paper 17. NC-194, Organization and Performance of World Food Systems. Department of Agricultural Economics, Ohio State Univ., Columbus, Ohio, October.

Guth, Eckart and Tonia Pankopf. (1994). "The U.S.-E.C. Confrontation in the GATT from an E.C. Perspective." in Agricultural Trade Conflicts and GATT. New Dimensions in U.S.-European Agricultural Trade Relations. Edited by G. Anania, C. A. Carter, and A. F. McCalla. Boulder: Westview Press.

.

Guyomard, Herve, Louis P. Mahé, Terry L. Roe, and Secondo Tarditi. (1994). "The CAP Reform and E.C.-U.S. Relations: The GATT as a Cap on the CAP." in Agricultural Trade Conflicts and GATT. New Dimensions in U.S.-European Agricultural Trade Relations.Edited by G. Anania, C. A. Carter, and A. F. McCalla. Boulder: Westview Press.

Helmar, M.D., D.B. Smith, and W.H. Meyers. (1995). "An Analysis of the Uruguay Round: Implications for Agriculture." In World Agriculture in a Post-GATT Environment. Edited by R. Gray, T. Becker and A. Schmitz. Saskatoon, Canada: Univ. Of Saskatchewan.

Koester, U. and H. Terwitte. (1988). "An Inventory of Disharmonies within EC Agricultural Policy Measures." in Commission of the European Communities. Disharmonies in EC and US Agricultural Policy Measures. Luxembourg: EC Publications Office.

Leuck, Dale J. (1985). "An Analysis of the Feed-Livestock Sector of the European Community." ERS Staff Report No. AGES840529. Washington, D.C.: U.S. Dept. of Agric. Econ., Res. Serv.

Mahé L. And T.L. Roe. (1991). EC-U.S. Agricultural Trade Relations: Do Political Compromises Exist? in Agricultural Economics and Policy: International Challenges for the Nineties. Eds: K. Burger, M. De Groot, J. Post and V. Zachariasse. Elsevier North Holland. Amsterdam. pp. 70-84.

McCalla, Alex F. and Timothy E. Josling. (1985). Agricultural Policies and World Markets. New York: MacMillian Pub. Co.

Moyer, Wayne H. and Timothy E. Josling. (1990). Agricultural Policy Reform, Politics and Process in the EC and USA. Ames: Iowa State Press.

OECD (1994). Group on Cereals, Animal Feeds and Sugar of the Working Party on Agricultural Policies and Markets. Paris: Organization for Economic Cooperation and Development.

OECD (1994). The World Oilseed Market. Policy Impacts and Market Outlook. Paris: Organization for Economic Cooperation and Development.

Roningen, Vernon O. (1986). A Static World Policy Simulation (SWOPSIM) Modeling Framework. U.S. Department of Agriculture, Economic Research Service. Staff Report No. AGES860625. Washington, D.C.

Roningen, Vernon O. (1991). Static World Policy Simulation (SWOPSIM) Modeling Framework. U.S. Department of Agriculture, Economic Research Service, Software. Washington, D.C.

Roningen, Vernon O. and Praveen Dixit. (1989). Economic Implications of Agricultural Policy Reforms in Industrial Market Economies. U.S. Department of Agriculture, Economic Research Service. Staff Report No. AGES8936. Washington, D.C.

Roningen, Vernon, John Sullivan, and Praveen Dixit. (1991). Documentation of the Static World Policy Simulation Modeling Framework. U.S. Department of Agriculture, Economic Research Service. Staff Report No. AGES9151. Washington, D.C.

Roningen, Vernon, John Sullivan, Praveen Dixit, and Tracy Hart. (1991). Overview of the Static World Policy Simulation (SWOPSIM) Modeling Framework. U.S. Department of Agriculture, Economic Research Service. Staff Report No. AGES9114. Washington, D.C.

Surry, Ives, and Giancarlo Moschini. (1985). "Input Substitutability in the EC Compound Feed Industry." European Review of Agricultural Economics 11(4):455-64.

Uri, Noel D. And Bengt Hybert. (1994). “A Reexamination of the U.S. Export Demand for Soybeans and Soybean Products. J. of Agribusiness. 12(2):139-156.

U.S. Department of Agriculture, Economic Research Service. (1989). Agricultural Statistics of the European Community, 1960 - 1985. Statistical Bulletin 770. Washington, D.C.

U.S. Department of Agriculture, Economic Research Service. (1992). Agricultural and Trade Report Situation and Outlook Series: Western Europe. Staff Report RS-92-4. Washington, D.C.

U.S. Department of Agriculture, Economic Research Service. (1990). Agricultural and Trade Report Situation and Outlook Series: Western Europe. Staff Report RS-90-4. Washington, D.C.

U.S. Department of Agriculture, Economic Research Service. (1989). Agricultural and Trade Report Situation and Outlook Series: Western Europe. Staff Report RS-89-2. Washington, D.C.

U.S. Department of Agriculture, Economic Research Service. (1993). Effects of the Uruguay Round Agreement on U.S. Agriculture and Commodities. Staff Report GATT-1. Washington, D.C.

U.S. Department of Agriculture, Economic Research Service. (1994). International Agriculture and Trade Reports Situation and Outlook Series: Europe. Staff Report No. WRS-94-5. Washington, D.C.

U.S. Department of Agriculture, Economic Research Service. (1993). International Agriculture and Trade Reports Situation and Outlook Series: Europe. Staff Report No. RS-93-5. Washington, D.C.

Webb, Alan J., Michael Lopez, and Renata Renn. (1990). Estimates of Producer and Consumer Subsidy Equivalents. Government Intervention in Agriculture 1982-87. U.S. Department of Agriculture, Economic Reserch Service, Agriculture and Trade Analysis Division. Statistical Bulletin No. 803, Washington, D.C.