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International Economics Division
Economics and Statistics Service
United States Department of Agriculture

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Agricultural Trade Implications of European Community Enlargement: North America Common Market

Friend, R. and A.H. Sarris, eds.

Proceedings of a Meeting of the
International Agricultural Trade Research Consortium
June-July, 1980, St. Paul, MN

CONSORTIUM ON TRADE RESEARCH. International Economics Division, Economics and Statistics Service, U.S. Department of Agriculture. ESS-2.

ABSTRACT

Membership in the European Community (EC) for Greece, Spain, and Portugal may reduce trade between the United States and the EC in selected commodities; prospects for a North American Common Market are not bright; and the diversion of agricultural crops from export to fuel alcohol production would very likely increase, rather than reduce, balance-of-payment deficits for the United States and Brazil. The first meeting of the Consortium on Trade Research, established by the Economics and Statistics Service's International Economics Division and several universities, focused on and continues to analyze these and other global topics.

Keywords: Trade, Research, European Community, North American Common Market, Fuel alcohol.

PREFACE

This report provides summaries of papers presented at the first Consortium on Trade Research held at Roseville, Minn., June 30-July 2, 1980. The co-chairmen of the consortium were G. Edward Schuh, University of Minnesota, and Charles E. Hanrahan, Economics and Statistics Service, USDA.

Papers were presented in three general areas--Agricultural Trade Implications of EC Enlargement; North American Common Market; and Agriculture, Energy, and Trade. In most cases, the papers were preliminary in nature, reporting on research currently in progress. With a few exceptions (indicated by an asterisk in the contents), papers are available from the authors upon request.

Current plans are to issue a summary report of each Consortium on Trade Research. A decision may be made later to publish the full proceedings of each consortium.

The preparation of this summary report was coordinated by Reed E. Friend, ESS, and Alexander Sarris, University of California-Berkeley. Statements in various summaries pertaining to comments on the paper are not necessarily remarks made by the discussant.

NOTES

The views expressed in this report are not necessarily those of the U.S. Department of Agriculture.

The Economics, Statistics, and Cooperatives Service was reorganized on October 1, 1980, and became the Economics and Statistics Service. ESS will be used for subsequent references to the agency.

FOREWORD

The decade of the seventies brought about major changes in the pattern and structure of world agricultural trade and U.S. interest in that trade. These changes pose new challenges for U.S. agriculture and for the U.S. Department of Agriculture. The Economics and Statistics Service (ESS) has a major role to play, notably in research and country analysis, in meeting these challenges. In doing so, it must work closely with other agencies in USDA and with university researchers.

Recognition of the increasing international importance of food and agriculture led to the creation of a new International Economics Division (IED) in ESS in 1979. Significant additional resources have been committed to the programs of that division in order to permit expansion in the scope and depth of trade research. Despite this expansion in ESS resources, total resources devoted to the critical area of agricultural trade research are still quite limited in the United States. Consequently, it is highly important that ESS researchers increase their interaction with other researchers in an effort to work cooperatively on the complex issues in trade research.

The goal of increased interaction between ESS and university researchers was formalized in June 1980 by establishing the Consortium on Trade Research. The objectives of the consortium are to:

> Foster sustained efforts in international trade research with emphasis on the domestic impacts of policy developments in international commodity markets.
>
> Encourage and facilitate interaction between IED and university trade policy researchers.
>
> Provide a forum for the exchange of research results and the identification of problems and policy issues requiring research.

The consortium is a cooperative undertaking between ESS and various universities. Membership in the consortium is mutually agreed upon by ESS and initial university participants but is generally open to those who have an interest and are prepared to make a contribution. Current plans are to convene the consortium on a wide array of research topics twice yearly.

Kenneth R. Farrell, Administrator
Economics and Statistics Service

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HIGHLIGHTS

European Community (EC) membership for Greece, Spain, and Portugal may cut into U.S. export profits for some commodities. A North American Common Market (NACM) could improve trade collectively for the United States, Canada, and Mexico, but formation of the NACM is unlikely. Costs of using corn for fuel alcohol production rather than exporting it would probably more than offset reductions of oil import costs for the United States.

These and other global issues were addressed by the first Consortium on Trade Research, established by the Agriculture Department's International Economics Division and several universities. The consortium's goals are to foster international trade research, encourage dialogue between IED experts and university trade policy researchers, and provide a forum for identification of problems and exchange of research results.

Preliminary analysis from the consortium indicates that EC membership for Greece, Spain, and Portugal would step up fruit and vegetable production through: (1) elimination of export tariffs with other EC countries, (2) EC subsidies, and (3) higher prices for their products stemming from EC alignment.

EC policy prohibits tariffs on imported cotton. Thus, cotton growers in the three prospective member countries would face accelerated competition from cotton imports. However, EC subsidies would probably offset the effect and actually stimulate more cotton production.

Studies are underway to describe the feed-livestock sectors in the three applicant countries, make projections to 1985 and 1990 of consumption and production of livestock products and related shifts in use of feedgrains and oilseeds, and analyze probable impacts of EC enlargement on U.S. exports of feedgrains and oilseeds.

Formation of an NACM would likely lead to expanded but unspectacular trade between the United States and Canada. U.S. trade with Mexico would probably provide greater potential for growth. But political disagreements and internal distributions of costs and benefits within and among countries have impeded NACM proposals.

Currently, Mexico's trade restrictions are severe. In agriculture, Mexico's exports of coffee and horticultural products may exchange in part for imports of U.S. foodgrains, feedgrains, oilseeds, and livestock. And Mexico's goals of food self-sufficiency and rural development have yet to materialize. Increased oil revenues may stir the growing

population's demand for coarse grains, wheat, and soybean meal through 1990.

Heavy use of fossil fuels in the United States and Brazil has stimulated government support for domestic alcohol production. However, the export value of American corn and Brazilian sugarcane exceeds the value of crude oil saved when alcohol from the two products is substituted for gasoline.

GLOSSARY

EC--European Community also referred to as Community or EC-9. An economic and customs union consisting of six original members--Belgium, Luxembourg, France, Italy, West Germany, and the Netherlands. Denmark, Ireland, and the United Kingdom joined in January 1973.

CAP--Common Agricultural Policy of the European Community.

GATT--General Agreement on Tariffs and Trade.

Unit of Account (u.a.)--Prior to April 9, 1979, the standard of value used by the EC for transactions within the Common Agricultural Policy. In mid-March 1979, the agricultural unit of account was roughly equal to $1.60. A different unit of account, called the European unit of account (EUA) was introduced in 1975. Its value in relation to the dollar is announced daily, and is generally worth more than the agricultural unit of account.

European Monetary System (EMS)--A common monetary arrangement for the Community implemented in March 1979 including credit mechanisms and compulsory intervention to ensure greater stability of European exchange rates.

European Currency Unit (ECU)--As the core of the EMS, the ECU serves as the monetary denominator for the exchange rate, credit, and intervention mechanisms of the EMS. On April 9, 1979, the ECU became the standard value for transactions within the Common Agricultural Policy--including the determination of support prices, import levies, and export subsidies. The value of the ECU is determined from a weighted basket of all EC member currencies, identical to the basket used for the EUA, and was equal to about $1.40 during mid-March 1980.

F.O.B.--Free on board.

Green rate of exchange--The exchange rate used to convert ECU's into national currencies (and vice versa) in all financial and commercial transactions covered by the CAP.

Green money, green currency (e.g., green pound, green lira)--Indicates the use of green rates of exchange for CAP purposes.

Monetary Compensatory Amounts (MCA)--Border taxes or subsidies applied to offset the divergence between the green rate of exchange and the actual market rate of exchange. For those countries whose currencies have depreciated, MCA's (negative MCA's) act as subsidies on imports and taxes on exports. For those countries whose currencies have appreciated, MCA's (positive MCA's) act as a tax on imports and a subsidy on exports.

NACM--North American Common Market (presumed membership would be Canada, Mexico, and the United States).

Consortium on Trade Research

AGRICULTURAL TRADE IMPLICATIONS OF ENLARGEMENT
OF THE EUROPEAN COMMUNITY

Overview of USDA Research Needs on European Community Enlargement

by Reed E. Friend, John C. Dunmore, and Charles E. Hanrahan

Discussant: Jimmye Hillman

The Council of the European Community (EC) has stated that the decision to permit membership of Greece, Spain, and Portugal was political, not economic. Extension of membership to these three countries is viewed as a political necessity in the further expansion and establishment of democratic ideals and institutions within Western Europe. The change in Greece from a democracy to a military dictatorship from April 1967 to July 1974, the re-emergence of Spain as a fledgling democracy as late as 1975, and the political turbulence experienced in Portugal during the midseventies lends credence to the political concerns of the EC Council.

Political decisions, however, have economic implications. The second enlargement of the EC involves countries at a lower economic level and more heavily agriculturally oriented than was the case with Denmark, Ireland, and the United Kingdom on joining the EC January 1, 1973. The second round of integration may occur under more stressful world economic and political circumstances than the first round. Agricultural interests in the three new Mediterranean countries may deviate more from the central interests of other member countries and be more open to controversy than occurred with membership of the 1973 applicants. Funding for the EC's "own resources" is likely to become more of a controversial issue as Common Agricultural Policy (CAP) expenditures continue to increase over time.1/ The net result may be a more traumatic and difficult transition for the three new members than was the case for Denmark, Ireland, and the United Kingdom.

The "new three" are of interest to the United States as a direct market outlet; they accounted for $1.4 billion of our agricultural exports in 1978. The United States is concerned about increased agricultural production in the "new three" displacing our agricultural exports to the EC-9 through their free access to that market. We are also concerned that other third country exports--through the expansion in exports from Greece, Spain, and Portugal to the EC-9--will be diverted to other markets in direct competition with U.S. exports.

The paper points out that the Economics and Statistics Service (ESS), in cooperation with university researchers, already has underway a substantial program of research relative to the impact of EC enlargement on U.S. agricultural trade. Although most of this research is actually being done at universities, the staff of the International Economics Division (IED),

1/ "Own resources" are funds going directly into the Community's account including levies on agricultural commodity imports, duties on industrial product imports, and up to 1 percent of the value added tax (VAT).

Western Europe Branch is substantively involved. The objective is to build knowledge in IED as well as to understand better and apply the research results to inhouse research activities.

ESS's research program, discussed in more detail in subsequent papers presented at the meeting, includes studies on a variety of topics, including the EC's common agricultural policy, the feed-livestock sector, and the fruit, vegetable, and nut sector. These studies are being done by researchers at universities in cooperation with the IED staff. In addition, several ESS inhouse research projects are in process. One research project analyzes enlargement of the European Community and possible impacts on U.S. cotton exports. Another project deals with policy and resource constraints in Spanish agriculture. Statistical compendia, such as the one already completed on Spain, are being prepared on Greece and Portugal. A fourth compendium is also being prepared on the agricultural trade of the three potential new members and the EC-9 with a special emphasis on trade with the United States.

ESS's research program on EC enlargement and evolution of the CAP is intended to meet diverse uses. The results of the research projects will be useful to U.S. policymakers concerned about the medium to long run prospects for U.S. agricultural exports under different policy scenarios. The research results will be used by officials in several USDA agencies as well as by the Secretary of Agriculture and other Federal departments. Country-commodity analysts assessing short-term prospects for U.S. agricultural exports should also find the studies beneficial.

ESS depends heavily on university staff for the development of new research methodologies and procedures. Development of a close working relationship with university researchers builds knowledge among government researchers. On the other hand, academicians, through this joint research effort, gain exposure to practical problems facing USDA researchers. A close working relationship between USDA and university researchers permits research results to be more fully understood and integrated into USDA's ongoing activities of policy analysis and commodity forecasts and projections.

The discussant of the paper noted that the comparisons between Greece, Spain, and Portugal and the United Kingdom, Ireland, and Denmark were quite useful. It was suggested that the trade tables include data on quantity as well as value. With few exceptions, the research projects were viewed as sufficiently comprehensive. The suggestion was made that the research program be expanded to cover positive adjustment policies as well as track and evaluate the trade impact of MCA's (monetary compensatory amounts).

Future Developments in the Common Agricultural Policy of the European Community: An Approach to Prediction

by Tim Josling and Scott Pearson

Discussant: Alexander Sarris

The European Community's CAP represents a delicate compromise among divergent national interests. The combination of budgetary pressures, economic divergences within the Community, and the potential assimilation of three new members (Greece, Spain, and Portugal) will put further strain on the complex of market arrangements. Predictions of change in policy have been made frequently in the past; analysis of the CAP must address the question of when significant policy changes might occur as well as assessing future alternatives.

This paper presents a first step towards such a temporal analysis. It is the initial phase in the authors' broader study which will attempt to bring together the likely development of markets, the interests of member states, the pressures on policies, and the scope of change. This paper emphasizes one aspect of CAP policy--the link between macroeconomic developments and farm price decisions. Specifically it traces, from assumptions of inflation rates and exchange rates, the levels of farm prices which would be likely to satisfy member states.

The CAP has attempted to guard producers against: (1) external competition through import levies, (2) surpluses through support buying and export subsidies, and (3) exchange rate fluctuations by means of special (relatively stable) exchange rates for the major agricultural products. Adjustment in agriculture has been in large part pursued by allowing inflation to erode profit margins. But the pace of this development is dictated by the stronger currency countries, who, for political reasons, cannot accept decreases in the nominal price level of important farm products. The balance between the need to reduce real prices while avoiding a drop in money prices leaves relatively little range for the EC in its pricing decisions. The calculations in the paper are intended to explore this "reasonable" set of price developments which in the broader study will be used for more detailed analysis of costs, national advantage, and policy response.

The starting point in the analysis was a set of projections of inflation rates over the decade for the EC member states. These were assumed to decline from the present levels but remain high by historical standards. The relative inflation rates among EC member countries were preserved, and these relativities were assumed to determine exchange rate changes. By projecting the value of the European Currency Unit (ECU), a "basket" currency used in the EC, the exchange rate of each currency with the ECU was established. The agricultural rates of exchange (green rates) were assumed to adjust slowly toward the market rates as in the past, under a combination of national and EC pressures.

Price changes, for commodities in the cereals-livestock complex, will be determined for each country by the combination of "common" price decision (in ECU) and green rate changes. Applying the rules of "no decrease in money prices" and "no increase in real prices" provides boundaries within which common prices could be fixed. For most of the decade, these boundaries will indicate price increases of between 2 and 3 percent in ECU terms. For products such as olive oil, where no border tax adjustments (monetary compensatory amounts) are applied to keep prices different in the various member states, the range of possible price increases is between 4 and 6 percent. Examples of possible price series for the member states, as well as for new members, and for corn and for olive oil are given in the paper. A set of price projections for soybeans, where the European market price is influenced directly by world price trends, is given for comparison.

In the discussion that followed the presentation of the paper, the joint determination of exchange rates and inflation was emphasized: if exchange rates were more predictable than inflation they could be used equally as a starting point for the analysis. It was suggested that the existence of marked divergencies in the economies of the member states, and the prospect of further problems with the accession of the less developed economies of Southern Europe, casts doubt on the longrun viability of the CAP. The study would be useful if it could pinpoint the places where the political desire for a common policy became too great an economic liability.

It was questioned whether the new European Monetary System (EMS), which employs the ECU as a base currency, might add stability to the exchange rate movements in Europe. While these arrangements do appear to have removed some speculative pressure from the German mark, it was generally felt that exchange rates among members was reduced. It was pointed out that the method used in the paper to project price trends does not assume the success or failure of the EMS; some unit of account such as the ECU will be necessary for price fixing regardless of the degree of coordination among central banks for the support of currencies.

Developing the Grains-Oilseeds-Livestock Model for Analyzing Enlargement of the European Community and Other Policy Issues

The paper begins with a brief review of major world agricultural models developed over the past decade and an examination of the grains-oilseeds-livestock (GOL) model and its equation structure. The GOL model is IED's principal analytical tool for global longrun policy and program analysis. It is a 12-commodity, 28-country/region model of the world GOL economy.

by Robert L. Thompson and Stephen L. Magiera

Discussant: Ralph Lattimore

Major criticisms of the GOL model are then set forth. These criticisms center around the use of linear supply/demand schedules and the lack of regional policy variables and constraints. Because of these criticisms and because of the need for updating the model, the following modifications of the GOL system are currently underway: (1) Adoption of a nonlinear solution package which permits the introduction of inequality constraints and allows period dynamics, (2) inclusion of a full range of policy variables in price linkage equations and provisions for including quantitative restrictions and price bounds through inequality constraints, (3) introduction of nonlinear demand/supply schedules, (4) rebasing the model to 1975-77 and modification of certain regional configurations, (5) imposition of maximum total land area constraints in each region, and (6) review of the specifications of all regional models and the plausibility of elasticity estimates, growth rates, and scenarios.

The Western Europe Branch is currently working on the development of interactive programs for solving each of the GOL Western Europe regional models separately. These regional models will then be validated and their simulation properties examined.

The paper provides some updated elasticities for a combined EC-6 and EC-3 regional model and for a new Southern Europe model containing Spain, Greece, and Portugal. With enlargement in mind, the latter model will contain separate submodels for both Spain and Greece. The Spanish submodel will be based on the EC enlargement work being done under a cooperative research agreement between USDA and Michigan State University while the Greek submodel will be based on previous work done at the University of California-Berkeley on a Greek agricultural sector model.

In addition to model development, some changes in the way the GOL handles the EC's Common Agricultural Policy are envisioned. In the current version of the GOL, for example, domestic prices in the EC are linked directly to international prices with the variable levy modeled effectively as an ad valorem tariff. While some research is now underway to examine the relationship between EC policy prices and world prices, the former will for the time being be exogenous to the GOL.

The paper concludes with a discussion, using Greece as an example, of additional changes needed in the model for an analysis of EC enlargement. Since the GOL model does not capture trade flows, this analysis will be limited to the domestic impacts of aligning prices in the three applicant

countries to those under the CAP. The needed changes involve incorporating agricultural policies into the three applicant countries under "with" (enlargement) and "without" (no enlargement) scenarios. The policies considered for Greece include input subsidies to grain producers, feedgrain subsidies to the livestock and poultry feed industries, deficiency payments for some livestock products, and export subsidies for wheat. Commodity by commodity examples are given under two GOL classifications of equations: trade price linkage equations which link some Greek prices to those in major exporting countries, and demand-supply price linkage equations which link Greek retail and farmgate prices.

Perspectives on Constraints to Agricultural Production in Spain

by David R. Kelch

Discussant: Philip F. Warnken

The links connecting the economic, social, and political structure of Spain today were outlined in an historical setting in order to understand more fully the present agrarian problems. The influence of the 700-year (200BC-500AD) domination of the Iberian Peninsula by the Romans on crop irrigation and land tenure was discussed followed by a brief description of the Visigothic period and then a more detailed look at the agrarian culture by the 800-year (711-1492) presence of the Moors.

The Reconquest of Spain by the Christian forces initiated the centripetal and centrifugal forces that dominate Spain politically and culturally today. The influence of the Mesta, a nomadic pastoral organization, was discussed along with the dominance of the Castilian of the interior plateau.

Spain's land, which is made up of mountain ranges, plateaus, and river basins, is difficult to farm. All of these geographical factors affect the climate of Spain which is quite wet in the upper North and very dry over much of the rest of Spain. Because of the importance of the geographic and climatic factors in determining the constraints to agriculture, five climatic regions were established and discussed in the context of weather and crops.

The major soils of Spain were discussed in terms of suitability for crops. In general, the soil of Spain is poor except for a relatively extensive region in southwestern Spain and small areas in other regions which account for only 10 percent of the land area of the country.

A brief description of some of the major crops (wheat, barley, corn, sorghum, rye, oats, forage and pasture, vegetables, and sugar beets), their recent history, and where they are grown was included along with a table ranking agricultural products by total value in 1976.

A lengthy section on irrigation included historical aspects, the recent increase in irrigated area, tables on regional irrigation and distribution of irrigation by farm size and the possibility of future irrigation. The paper highlighted Spain's future reliance on underground water, the salinity problems that have plagued the recently irrigated regions, and the erosion problems that plague all of Spain.

Other considerations, such as political factors, labor problems, inefficient farm structure, and the lack of agricultural research were noted as factors that could severely handicap the growth of agriculture in Spain. An especially difficult problem focuses on the autonomy for Basques, Catalans, Gallegos, and Andalusians.

Spain has grown phenomenally in the past 25 years, and the trend is likely to continue. The discussant added that production of some commodities, such as fruits and vegetables, holds great potential. The swine and poultry industries are as modern as any in Western Europe, and he expects Spanish technical expertise to catch up in the lagging sectors. The discussant agreed with the emphasis on irrigation, and felt that expansion of irrigation would continue at a rapid pace and result in increased production of forage crops as well as vegetables.

A Preliminary Examination of the Adoption of the Common Agricultural Policy for the Spanish Feed-Livestock Sector

by Gene Hasha

Discussant: Gary Storey

Spain must adjust to the provisions of the CAP upon accession to the EC. Price levels within Spain would change significantly, and farmers would react by making substantial changes in Spanish agricultural production.

Under the CAP, as in current Spanish agriculture, the general level of most prices is determined by policy and maintained considerably above world price levels. The goals and methods of the CAP are similar to those of Spanish policy, except that Spanish policy provides a far more direct role for government in agricultural markets. The Spanish government operates monopolies in the internal and external trade of various commodities and commonly prescribes processing and marketing margins.

The identification of truly comparable price series for agricultural products is more difficult than commonly acknowledged. Available data series of actual prices generally are not described thoroughly enough to determine the appropriate adjustment for reference to differing grades, states of processing, and marketing levels. Although less severe, similar problems complicated the comparison of policy prices under the two systems. The paper compared Spanish and

CAP policy prices to assess the likely change in producer and feed prices. The selection of support prices, minimum import prices, government selling prices, or targeted prices as most indicative of actual producer prices depended on the relative sufficiency of domestic production to meet domestic demand and other special circumstances.

The prices received by Spanish producers are likely to increase for all important crops except sugar beets. The value of crop production in 1979/80 would have been at least 12 percent higher under the CAP. Reallocation of land to more profitable crops would have resulted in a larger increase. Increased crop production in the medium term will depend upon expansion of irrigated area and reduction of fallow area. Spanish yields are not high, and it is likely that an enlarged research program will enable an acceleration of the rate of yield increases.

Among crops, the greatest increase in producer prices are likely for the oilseed crops--soybeans, sunflowers, and rapeseed; prices would increase about one-third. Producer prices for corn and common wheat would increase only slightly, and barley and durum wheat prices would rise by one-fourth. Clearly, the significant increases in area would be for barley, durum wheat, and sunflowers at the expense of common wheat, sugar beets, and some corn.

The prospects are less encouraging for Spanish livestock production. Milk prices are likely to decline slightly, but beef prices would decrease substantially, perhaps by one-fifth. Pork prices would rise, but very much less than the likely price increase for grain feeds. Comparable prices could not be established for poultry, but the price rise would very likely fail to offset the probable increase in the cost of feed. It is generally assumed, however, that the Spanish poultry industry is modern and efficient and would fare well under the CAP even if improved conditions cannot be expected.

The cost of animal feed will increase significantly, and changes in the composition of feeds also are likely. The very large increase in the cost of grain feeds will create considerable incentive to utilize cheaper energy sources. Soymeal prices would decline slightly because Spanish import duties would no longer be applicable. Certainly, feeding of soymeal would increase at the expense of grain, and quite possibly the feeding of tapioca could become significant if prices are not too high.

Impact of Enlargement of the European Community on U.S. Trade in Grains and Oilseeds

by Harold Riley

Discussant: Andrew Schmitz

The presentation opened with a progress report on the Michigan State University (MSU)-ESS project which further assesses the impact of enlargement of the European Community on U.S. trade in grains and oilseeds. The project is in the initial planning and field data collection phase. It is scheduled for completion in June 1981. The methodology for the study is similar to the 1970-71 MSU study of the enlargement of the EC from six to nine members. The objectives of the current study are: (1) to describe the feed-livestock subsectors in the three applicant countries; (2) to make projections to 1985 and 1990 of consumption and production of livestock products and related shifts in production, importation, and utilization of feedgrains and oilseeds; and (3) to analyze and discuss probable impacts of EC enlargement and modification in the CAP on U.S. exports of feedgrains and oilseeds. The project will focus greater attention on Spain than Greece and Portugal. The more aggregative econometric analyses are being supplemented by microlevel assessments of adjustments to changing prices and institutional arrangements. The general assessments of the changing CAP and related scenarios being developed by Josling and Pearson will be utilized in the projection portion of the MSU study. The project should provide useful inputs towards the development of a comprehensive, quantitative framework of analysis (that is, the GOL and other more general models). However, the available resources for the study will not produce an EC-3 model or an overall EC-12 model of the feed-livestock subsector.

A brief report on field observations in Spain during June 1980 stressed the following:

1)France's President Giscard's warnings about EC enlargement problems are being assessed by Spanish officials as an effort to delay Spanish accession and to lengthen the transition period.

2)The Spanish agricultural sector has been very dynamic over the past 15 years. Production in the poultry and swine sectors has shown a large increase.

3)The future rate of growth in the Spanish economy is being threatened by current high rates of unemployment (10 percent) and inflation (16 percent). The rising cost of petroleum is a serious problem because Spain is almost entirely dependent on imports. These conditions need to be carefully considered in making demand projections for livestock products.

4) The expected adjustments in livestock-feed production associated with EC entry are very complex. Feed concentrate rations will be shifting toward greater utilization of barley and other locally produced feedstuffs. There is still a strong preference to utilize corn and soybean meal in poultry and hog rations, but this will give way as price relationships change under the CAP. Major efforts will be made to expand the use of forage as the basis for expanding milk, beef, and sheep production.

5) The edible oil policies under the CAP are under considerable stress and will have an important influence on U.S. soybean exports to the enlarged EC. Extensive oilseed processing capacity has been, and is being, installed in Spain and Portugal. However, the sale of soybean oil is sharply limited by policies that favor olive oil consumption.

The study of the Greek feed-livestock subsector is being carried forward by the joint efforts of three Greek professors who received their doctorate training at MSU. A preliminary report is to be completed by mid-December.

Structural Change in the International Fruit- and Vegetable-Processing Industries and Implications for Greece, Spain, and Portugal after European Community Accession

by Barbara L. Hiller and Alexander H. Sarris

Discussant: Kenneth Harling

Increasing attention has been paid recently to the rapid growth and changing structure of the fruit- and vegetable-processing industries. The paper examines structural change in the demand and production of processed fruit and vegetable products. The causes and effects of such change are evaluated in terms of implications for Greek, Spanish, and Portuguese accession to the EC.

Rapid increases in international trade in processed fruits and vegetables have been associated with rising consumption per capita throughout the industrialized countries. The paper examines various hypotheses on the rapid growth of processed fruit and vegetable consumption compared to fresh. The available data for the United States and Western Europe support the relationship between industrialization and/or increasing income per capita and the substitution of processed produce for fresh fruits and vegetables.

The fruit- and vegetable-processing industry changed as consumption increased. The processing industries have evolved from small-scale establishments to large-scale industrial enterprises. The available data indicate an increase in concentration in the processing sector. As output has increased so have the capital investments necessary for modern plants. In addition, there seem to be economies of scale in this industry on the production, distribution, and marketing levels.

One of the most outstanding results of the increase in processed fruit and vegetable production has been the increased use of contracts between processors and producers in both developed and less developed countries. However, differences exist in the process due in part to the differing market power of the participants in different areas of the world. Western European and Latin American contracting practices are contrasted so as to explain some of the structural phenomena's different outcomes from the contracting process. Evidence is presented that suggests that the more modernized and more efficient the structure of farm production the larger are the possible benefits to the producers involved in the contracting process.

Changes in the demand and supply of Greek, Spanish, and Portuguese fruits and vegetables due to accession were considered. The evidence on the changing structure of demand for fruits and vegetables associated with industrialization and increased incomes per capita suggests a possible increase in domestic demand for processed fruits and vegetables upon accession. In addition, incentives may increase production of fruits and vegetables, particularly processed produce, if the three join the EC due to the dismantling of tariffs on exports, the possible extension of a subsidy scheme to the three, and higher prices due to alignment with current EC prices.

The relative competitiveness of the three proposed members' industries were evaluated in the context of comparable industries in Italy and France. An evaluation of the available data and other studies of cost and technological conditions in the three indicate major changes in the structures of the fruit- and vegetable-processing industries. The input costs for some raw products currently are less in the applicant countries than in other EC Mediterranean members. The agricultural producing sectors are relatively backward compared with those for similar products in Italy and France, implying a greater need for modernization, and therefore a greater possibility for the expansion of agribusiness on the input, processing, and distribution levels. The paper concludes by suggesting the need for further study of the changes that are likely to ensue at the grower level due to the growth and change that may be expected at the processing industry level.

Enlargement of the European Community and Possible Impacts on U.S. Cotton Exports

In the case of raw cotton, EC accession of Greece, Portugal, and Spain may alter numerous factors which would, in turn, affect directly or indirectly U.S. trade in that expanded preferential trading area. The factors may be classified, for the sake of simplicity, into three categories: (1) The alignment of Greek, Portuguese, and Spanish support prices and

by Tham V. Truong

Discussant:
Nathan Powers

customs duties to levels which are consistent with EC policy guidelines; (2) the new members' adherence to the Multifiber Arrangement (MFA) as well as future MFA changes (the current MFA will expire at the end of 1981); and, (3) abrogations of tariff barriers and certain institutional arrangements which regulate Greece, Portugal, Spain, and EC-9 cotton trade flows with third countries.

In the short run, the abolition of duties on imported cotton in Greece, Portugal, and Spain would help nonmember countries' cotton become more competitive compared with Greek and Spanish cotton, and, other things being equal, would expand an enlarged EC's cotton imports from nonmember countries. The expansionary effect would be reinforced by the abrogation of the Greek-Egyptian clearing account arrangement. In Greece, where the market share of U.S. cotton was highest during the 1975-78 period and where U.S. exporters have an important marketing network, the abrogation of the Greek-Egyptian arrangement may significantly increase imports of U.S. cotton.

The impact of this expansionary effect may be mitigated by the subsidy on cotton production that the EC is likely to adopt. The subsidy has already induced the governments of Greece and Spain to launch programs whose objectives are to increase cotton production. Furthermore, abrogation of different clearing account arrangements between Greece and various Eastern European countries may redirect Greek cotton into the EC and lead to a decrease of EC cotton imports from third countries. Within Portugal and Spain, discontinuation of U.S. cotton sales either under the PL 480 Title I program or the CCC credit program would likely dampen U.S. exports into these countries.

In the long run, assuming that the level of protection awarded to the EC textile industry in the second MFA remains unchanged, EC textile production and, therefore, EC cotton lint consumption will increase. Given these higher levels of consumption, the magnitude of the enlarged EC cotton imports from third countries will depend on increases in cotton production in Greece and Spain. Production increases in these two countries are expected to be limited, however, because of numerous difficulties related to attempts to raise yields, to expand use of irrigated land, to mechanize, and to compete effectively with alternative crops. Greece and Spain are more likely to become self-sufficient in cotton rather than become net exporters of cotton. The objectives of the governments of Greece and Spain seem to be to export cotton textile products into an enlarged EC rather than exporting cotton lint as a raw material. The export of cotton textile products generates

more employment and foreign exchange than the export of raw cotton.

Even though Greece and Spain are likely to become more self-sufficient in cotton and exporters of cotton textiles to the enlarged EC, total EC cotton imports from third countries will increase in response to a rising demand for textile products. Based on 1975-78 data, the U.S. share of the enlarged EC cotton market is significant. The United States must offer a quality commodity at a competitive price to maintain or increase that share. Two factors which may work against U.S. cotton exports to this area are higher freight rates and a longer delivery time than most competitors.

Finally, a model is suggested to assess quantitatively the impacts of the EC enlargement on U.S. trade in cotton under the assumption that an import duty, in the form of a common external EC tariff, would raise the price of imported cotton in the expanded EC market. The two principal characteristics of the model are: (1) an evaluation of magnitude of changes in U.S. exports in each member country of the enlarged EC, and (2) the treatment of cotton as a differentiated product based on country of origin.

The discussant indicated that he agreed with the policy analysis of the impact assessments of EC enlargement on U.S. cotton exports. No comment was offered concerning the second part of the paper which deals with a methodology for a quantitative assessment of the problem under investigation.

Geographical Substitution Possibilities in the European Community's Imports of Fruit and Vegetable Products in View of the Next Enlargement

by Alexander H. Sarris

Discussant: Tim Josling

The EC's next enlargement with Greece, Spain, and Portugal will mean abolition of tariff and nontariff barriers to trade between the EC-9 and the three new member countries.

The removal of the barriers will affect trade patterns in fruit and vegetable products depending on the substitution possibilities in the current EC-9 for imports from different origins.

An analysis of import-value shares into the EC-9 over a 10-year period shows a substantial shift of trade shares as intra-EC trade captures an increasing share of the EC market.

The responsiveness of market shares to price and trend factors is tested empirically through use of a detailed theoretical model that differentiates imports according to place of production and derives econometrically estimable relations.

The econometric equations that include static, as well as dynamic, adjustment specifications are then estimated with

cross-section, time-series import data for each of the current EC-9 countries.

The empirical results indicate that the import-value shares of fruit and vegetable products shipped into the EC are rather insensitive to relative price changes. Adjustments in market shares, occurring because of relative price shifts, happen quite rapidly, usually within a year. Furthermore, it seems that the price elasticities of substitution are higher for processed products than for fresh products.

The preliminary conclusion is that the next EC enlargement might not influence substantially the EC share of current exporting countries.

The Accession of Greece, Spain, and Portugal to the European Community and Its Impact on Their Import Demand for Grains and Oilseeds

by Garry L. Smith and Robert L. Thompson

Discussant: James Houck

The study evaluated the likely adjustments in land use, production, consumption (both food and feed), and prices of the principal crops, including the import demand for grains and oilseeds (and meals) following the adoption of the CAP by Greece, Spain, and Portugal on their accession to the EC. The alignment of the domestic price and trade policies of the three applicant countries with the existing policies of the CAP involved: (1) the elimination of all production and consumption subsidies, (2) the removal of direct government price determination, (3) the adjustment of producer price supports to levels commensurate with basic intervention prices in the EC during 1974-75, (4) the removal of existing barriers to intra-EC trade, and (5) the extension of the Common External Tariff (CXT) of the Community (threshold prices) to the applicant countries' trade with the rest of the world.

Separable mathematical programing (partial) equilibrium optimization models were formulated for each of the applicant countries to carry out the analysis. These models incorporated activity-analysis production possibilities for the leading annual (and two perennial--olives and forage) crop subsectors, including government, wholesaling, processing, livestock feeding, trade, and domestic demand activities. Fifteen primary agricultural commodities are explicitly considered in the activity analysis, while trade activities are limited to the six main grains and seven oilseeds (and their meals). The factor supply side of each national model includes land, labor, machinery services, (and animal services in the cast of Portugal) and production inputs such as seed, fertilizer, and chemicals. Processing activities are included for the transformation of domestically produced and imported primary commodities into a secondary form. These activities cover the conversion of olives into olive oil, sugar beets into raw sugar and pulp, cotton into cotton lint and cottonseed, and oleaginous seeds (domestic and imported) into meals and vegetable oils. Feed demand for the three livestock subsectors

of cattle and other ruminants, pigs, and poultry (broilers and layers) is determined by a least cost ration formulation from a consumption set comprising grains, oilseed meals, a nongrain substitute (tapioca) and forage crops. Stepped demand schedules with endogenous prices are included in each model to measure the food demand for the main agricultural commodities. Trade was permitted between the individual applicant countries and existing EC member states and with the rest of the world (foreign trade sector). The time frame for each model was 1 year with 1974-75 chosen as the base year. This time frame was of sufficient duration to permit the full adjustment of the annual crops but short enough to exclude the possibility of supply response in the perennial and livestock subsectors.

Simulations were performed with each adjusted national model under two grain import regimes: (1) all grain imports are supplied from third country sources at the EC threshold prices (model I), and (2) all grain exports, except corn, can be supplied by existing EC member states (model II). Two scenarios were proposed: (1) full alignment for each applicant country of all domestic price and trade policies to those applying under the CAP in 1974-75, and (2) a 10-percent expansion of the three livestock subsectors. Under the two simulation models, production and land use expansion were basically limited to the grains subsectors to the detriment of all other annual crop sectors. The aggregate results for the three countries under the two specified scenarios resulted in a number of changes in total import demand for grains and oilseeds (and meals). Under the former scenario, aggregate corn imports declined under both import price regimes. Overall grain imports fell by 13.4 percent and 6.7 percent under models I and II, respectively. Total oilseed imports also declined under model I but increased by 1.5 percent under model II. The reverse situation occurred in the case of protein meal imports (up 80.2 percent under model I but down by 24.6 percent under the model II import regime). However, aggregate imports of oilseed meal equivalents requirements increased under the higher grain threshold price levels--a result which is, together with the increased imports of nongrain substitutes (tapioca), consistent with the feed composition exhibited by existing EC member states.

Under the expanded livestock sector scenario, total grain imports increased under both models I and II by 9.8 percent and by 12.4 percent, respectively. Total oilseed imports, however, declined by some 2.7 percent and 23.7 percent under models I and II. Protein meal imports expanded considerably under both import price regimes.

NORTH AMERICAN COMMON MARKET

An Ex Post Look at Previous Analyses of a North American Common Market

by Alex F. McCalla and Gordon A. King

Discussant: Jimmye Hillman

The U.S. Congress and others have reopened the question of a North American Common Market (NACM). This interest is likely kindled by the energy situation. The paper's objective is to review previous analysis of an NACM (Canada, United States, and Mexico) in agricultural products. The analysis begins with the report of a 1967 Iowa State Conference on an NACM.2/

The paper begins with a brief discussion of definitions, determining that a simple common market is a somewhat restricted notion for agriculture because trade restrictions in agriculture are generally internal means of domestic policy. Therefore, some degree of policy harmonization would be necessary. The paper then contrasts the similarities and differences prevailing in the eighties compared with the sixties in four areas: (1) the macropolitical economic setting, (2) the nature of agriculture in the three countries, (3) the nature of trade interrelationships in terms of trade flows and trade restrictions, and (4) domestic agriculture policies. More changes have occurred in the macrosetting than in those elements relating strictly to agriculture. Mexico is at a much lower level of economic development than the United States and Canada. However, the discovery of substantial quantities of oil in Mexico has greatly enhanced the potential for development. Greatly increased labor migration also represents a major change. The paper provides summary information on the nature of agricultural production, trade flows, trade restrictions, and domestic policies, showing few significant changes in these areas. Therefore, previous commodity specific analyses may still have relevance. The paper then reviews previous analyses, reaching the following conclusions. First, U.S. and Canadian markets for fruits and vegetables, livestock products, and oilseeds and grains are largely integrated. Recent studies by Agriculture Canada and USDA give both qualitative and quantitative insights. Far less is known about Mexican marketing relationships with the United States. Second, little is known about sugar, tobacco, and dairy products and how a common market might influence them. Third, trying to understand agricultural interrelationships on a commodity by commodity basis may be of limited value. Clearly the macrosetting and the trade-offs between agricultural and nonagricultural issues are of central importance. Important among these are oil and labor. Fourth, much of the analysis discussed is qualitative. Little quantitative analysis exists. Fifth, a host of crucial

2/ A North American Common Market. Iowa State University Center for Agricultural and Economic Development. The Iowa State University Press, Ames, Iowa, 1969, 442 pp.

issues in prior research was not discussed, including labor movements, capital flows, exchange rates, water and other natural resources, and inputs such as fertilizer and machinery. Sixth, the largest issue focuses on modeling the potential integration of a developing country which displays strong nationalistic and closed economy tendencies with two "rich" developed countries which pursue much more open economy-oriented policies. The macrotype issues transcend anything in the agricultural area. The paper concludes that much more research information, particularly about Mexico, would be required if the issue of an NACM were to be seriously explored.

The discussion focused on four statements: (1) nonagricultural issues would be of overriding importance to the success of a common market, (2) common markets are inherently protectionist, therefore, "how would a common market jibe with U.S. and Canadian policies regarding multilateral trade liberalization?", (3) "what are the objectives of an NACM?", and (4) integration would cause resource movements which would alter basic production patterns.

United States/ Mexican Interdependencies

by Clark W. Reynolds

Discussant: G. Edward Schuh

Agricultural relations between the United States and Mexico represent only one dimension of a wide range of interdependencies. Today, the United States imports more than 60 percent of Mexican petroleum exports at an annual cost of more than $7 billion. Mexican immigrant labor accounts for a significant share of the employment growth in the United States. North American loans to Mexico are the second largest in the third world. Production sharing between the United States and Mexico promises to expand to include major industries such as automobiles, light manufacturing, textiles, and electronics. Hence the appropriate framework of analysis for relations between the United States and Mexico should be broad enough to accomodate trade, investment, migration of labor, and technology transfer.

The agricultural sector languishes even as the petroleum bonanza unleashes unprecedented growth. The situation holds important implications for trade between the two countries because the United States continues to be an agricultural exporting country while Mexico is suddenly a major agricultural commodity importer. The Mexican Government realizes the problem of production in the rural sector and is looking for new solutions. In the past, Mexico was one of the few developing countries that promoted balanced development of agriculture and industry. The surplus generated by agriculture supplied resources for industrial growth and urban development. The effect of this strategy was increased

dualism in agriculture, since the easiest strategy was to concentrate on large-scale irrigated farming in the newly opened regions of the north, northeast, and coast. Highland rainfed agriculture, where most rural population is concentrated, experienced a major agrarian reform (especially in the thirties) but received little investment from either the government or the private sector, since landholdings were atomistic, impoverished, and outside of commercial credit channels.

As a result, Mexico's rural workers have moved to the cities and north to the United States to take advantage of the farmwork and to benefit from higher farm prices and productivity. In Mexico, development by the sixties was inhibited by lack of government attention to rainfed agriculture (the last frontier of Mexican rural development) and by price controls on farm products to subsidize urban consumption, a situation that only increased the rate of urban and foreign emigration. Any scheme proposed to solve the problem runs against the inherent incompatability between prices at the farmgate sufficiently high to encourage investment and ceiling prices (for consumption subsidies) in the cities. Last year's subsidy on sugar alone is said to have approached $1 billion. During the Echeverria administration (1960-76), the government attempted to support rainfed agriculture, and together with the World Bank and Interamerican Development Bank, spent close to $1 billion on Project PIDER which targeted selected poor regions throughout Mexico's rural sector for development of roads, facilities, communications, cattle raising, and crop production. The results have been slow to appear, have been mixed, and have not produced the hoped-for dramatic improvement.

In the spring of 1980, the Lopez-Portillo administration introduced a new program, Sistema Alimentario Mexicano (SAM), to bring about both food self-sufficiency and rural development. The focus is on the crops (maize, beans, and other basic commodities which tend to grow in rainfed, smallholder agriculture) which will both increase domestic food production and help the poor farmer. While the details of the program have yet to be developed, one important dimension encourages, with government subsidies, the formation of cooperatives in which ejidos (individual and collective holdings under the agrarian reform laws and unalienable in tenure) and small farmers will band together for production and related processing activities. The oil boom is creating a surplus capable of subsidizing immense new programs of this kind. (The daily output of only one of the oil-pumping Campeche platforms generates $1.5 million in gross income, which is the equivalent of the value added of 250,000 small farms in the poorest regions of Mexico.) The program will

help, but in view of continued rapid population growth and resource limits will not resolve the problem of agricultural deficits and rural poverty. Consequently, the economy and labor market of the United States will continue to offer opportunities to Mexico.

While Mexico and the United States have many informal contacts with each other, there is hesitation by Mexico on establishing formal contacts. Mexico is concerned about being relegated to exporting basic commodities (oil) while at the same time becoming more dependent on imports of basic food commodities. They are willing to adjust internal prices to favor the production of domestic crops. At the same time, export controls are used to insure that the domestic market has an adequate supply of livestock products. Industrial development is being subsidized (by low energy prices, high import protection, and other measures) to increase "autonomy" and shift linkages from the United States to Europe, Japan, and the developing countries. Oil is being used for this purpose in bilateral negotiations. Nevertheless, the advantages of proximity to the United States, its large markets, its financial surplus (a center for international financial flows), and its agricultural advantages will make it a formidable competitor. Already the Southwest of the United States is the fast-growing region, as are the north and northwest of Mexico. The area could be a new frontier of continental development; however, increased understanding and communication between both countries is required. Agricultural research, including that sponsored by USDA, could help achieve the objectives. One might begin with the establishment of a working group on the future of United States and Mexican agricultural and rural development aimed at combining the efforts of both countries in a broader framework of trade, investment, migration, and technology transfer. The agricultural trade research consortium might be an appropriate sponsor for such an undertaking, because many of the papers and much of the discussion in these sessions has pointed in that direction.

The Impact of Mexican Oil Revenues on Import Requirements of Agricultural Commodities: A Preliminary Report

Large reserves of petroleum were discovered in Mexico in the midseventies. The revenue generated by petroleum exports is projected to increase significantly economic activity and real income in Mexico. The increasing level of real income will, depending on the income distribution, stimulate significant increases in demand for wheat, corn, pork, beef, and other foodstuffs.

The potential Mexican import demand for agricultural commodities holds special interest for the United States and Canada. Location and established trading patterns should

by Maury E. Bredahl and David Gonzalez

Discussant: Andrew Schmitz

favor expansion of U.S. and Canadian agricultural trade with Mexico. Of particular importance to the United States is the possibility of importing significant amounts of petroleum products while exporting significant amounts of agricultural commodities.

This paper reported the preliminary results of a supply and demand study underway at the University of Missouri. The reported results are based on a detailed modeling of the human consumption demand for wheat, corn, beef, and pork. The demand of coarse grains and oilseeds by the livestock sector is also included in the study. The supply of agricultural commodities is represented by simple nonlinear trends.

A simplistic, highly-aggregated approach was used. The format of the model for an individual commodity included the following equations:

(1) $q_h = q_h\ (P_1, \ldots, P_n, \ldots, P_m, \text{CPI, income})$ (per capita demand)

(2) $Q_h = (\text{population}_{1978} \cdot e^{1.029}) \cdot q_h$ (total human consumption)

(3) $Q_f = Q_f\ (\text{meat production})$ (total feed demand)

(4) $TD = Q_h + Q_f$ (aggregate demand)

(5) $S = e^{a+r \cdot \text{time}}$ (supply)

(6) $M = TD - S + \text{exports} + \Delta\ \text{stocks}$ (import demand)

Endogenous variables include human consumption, feed demand, supply (as a trend), and imports (as a residual).

The model reflects the supply and consumption policies of the Mexican Government. Both production and consumption are subsidized. Prices are established by government policy. Therefore, imports may be derived as a residual. Import demand is perfectly inelastic with respect to the world market (U.S. prices).

Projections for 1985 and 1990 are based on the following assumptions: (1) population will increase at a rate of 2.9 percent annually, and (2) inflation and the nominal prices of individual commodities will increase at a rate equal to the average of the most recent 7 years. Given these assumptions,

levels of consumption, supply, and imports were projected conditioned on alternative rates of income growth.

These projected levels of import demand are preliminary. A closer look at the production side is necessary to improve the accuracy of the models. However, these results indicate that if the historical tendency in production remains the same and the assumptions regarding prices, population, and income are appropriate, the import demand for coarse grains, wheat, and soybean meal will increase substantially during the studied period.

Under a 6 percent real per capita income alternative, the projected level of coarse grains imports increases at an average annual rate of 8.4 percent during the 1980-90 period, reaching a level of nearly 4.5 million tons by 1990. Wheat imports are forecast to increase at an average annual rate of 9.1 percent during the 1980-90 period, reaching a level of 2.1 million metric tons by 1990, more than a doubling in the level of imports from the 1977-79 average imports. Soybean meal imports are estimated to increase even more dramatically. The projection results indicate soybean meal imports to increase at an average annual rate of 16 percent.

The research is in a developing stage. The direction of the research benefited from the input of the participants at the meeting. As a result of comments, the estimated income elasticities of the model have been re-estimated. Also, the impacts of the Mexican agricultural policy will be included in the analysis of the supply side.

A North American Common Market: Lessons from Previous Experiences with Common Markets

by Vernon Sorenson

Discussant: Charles E. Hanrahan

Economic integration among nations has become a major thrust of international commercial policy since World War II. Attempts at economic integration have taken various forms ranging from a complete customs union, as in the case of the European Community, to free trade associations, to more loosely defined economic cooperation, sometimes limited to provision of basic services such as transportation and communications. The incentive for integration is the anticipated economic benefits that will flow from the arrangement. The benefits arise from the effect economic integration has on promoting specialization and efficiency of production which, in turn, adds up to longer term adjustments in the participants' economies. Viewed within the framework of static and dynamic customs union theory, the following general picture emerges concerning the potential for gains from North American integration.

Economic integration between Canada and the United States

would lead to meaningful but not spectacular changes in production patterns and trade. While some conditions provide the basis for gains from integration, general similarity in cost structures in the nonagricultural sectors of the two economies would indicate that only limited trade creation would take place. Secondary changes related to economies of scale and reorganization could occur in some industries, particularly if U.S. capital began moving to Canada at an increasing rate.

Some restructuring of agricultural trade would occur based on current maintenance of uneconomical production and marketing patterns and the existence of price support and market control mechanisms. In general, direct trade barriers between Canada and the United States are limited and have been brought to relatively low levels through recent rounds of trade negotiations, and neither tariffs nor nontariff barriers are a major deterrent to industrial trade between the two countries.

The potential gains in trade between the United States and Mexico would appear to be greater. Current levels of trade restriction maintained by Mexico are severe. Not only are tariffs important, but also quantitative restrictions through licensing and close control of many imports through state trading result in Mexico's having a highly managed trading system. In agriculture the basic trade-off is imports of coffee and horticultural products in return for food and feedgrains and oilseeds plus some livestock and products from the United States. U.S. capital and lower cost labor might trigger rapid stimulation of further agricultural development in Mexico for export and development of a range of industrial products.

Economic gains appear to exist for both Canada and Mexico through North American integration. An inherent problem, however, is the difference in economic size of the United States relative to both economies. A small change in specialization for the U.S. economy could represent massive changes in specialization for either of the other two economies, meaning that potential gains can be greater for Canada and Mexico. However, the potential disruptions and costs of integration can also be greater.

Political considerations are also important. Both Mexico and Canada are concerned about generating closer economic ties to the United States. The general structure of the economy and the political system existing in Canada probably is compatible with that in the United States, but its institutions for dealing with agricultural policy are different and probably would require change. The Mexican economy and its

institutions differ substantially from those in the United States. There is a modern urban sector, but much of rural Mexico is poor and based on small-scale agriculture. The political economy of the country is centralized. A broadly based program of economic development has been instituted, and the Mexican government feels that it must have control of international commerce to assure the success of this program.

The conclusion arrived at, therefore, is that economic conditions are such that gains could be achieved on the North American continent from formulation of a customs union. The impediments to achieving this integration are related to the political dimensions of the problem and dealing with the distribution of costs and benefits that would occur both within and among countries.

Trilateral Trade Arrangements between the United States, Mexico, and Canada

by Edward Rossmiller and Gretchen Heimpel

Discussant: Ralph Lattimore

The paper reports on the progress in the agricultural section of a congressionally mandated study on special trading arrangements between the United States, Mexico, and Canada. First, however, we want to explore some of the forces at work that provide a base of interest in developing special trading arrangements. We would hypothesize that the United States is now at a threshhold that is calling to question whether the long-held principle of liberalizing world trade on a multilateral basis is viable for the decade of the eighties and beyond.

The concept of trading arrangements is not new; since 1960, a substantial effort has been made by a large number of trading nations to work out preferential arrangements on a regional basis. These include, among others, the European Economic Community, the Andean Pact, the Association of Southeast Asian Nations, and the Lome Arrangements. The scope and coverage of these arrangements vary widely, but common to all is a trading preference or advantage to those countries that are part of the arrangement compared with those that are not. In addition, various export commodity groups or cartels exist, such as the Organization of Petroleum Exporting Countries and the Bogota Group of coffee exporters. Another phenomenon is the emergence of state trading or quasi-state trading whereby governments exert some control or handle directly the import and export of agricultural commodities, for example, the Canadian Wheat Board, Finland`s State Granary, Japan`s Food Agency, and the Mexican National Basic Commodities Company.

A variety of proposed legislation has recently occurred in the United States with such aims as the establishment of export-trading companies or of a national board of agricultural governors. In addition, the Secretary of Agriculture has indicated interest in entering into bilateral commodity trading agreements.

Section 1104 of the Trade Agreements Act of 1979 modified the Trade Act of 1974 and added instructions that the President should study the desirability of entering into mutually beneficial trade agreements with the countries of North America. The agricultural and energy sectors were specifically mentioned. The agricultural study is being coordinated by USDA's Foreign Agricultural Service with portions contributed by USDA's Economics and Statistics Service. The study includes a review of current production and trading patterns and policies, forecasts future supply/demand situations in Mexico, Canada, and the United States and the implications for future trading patterns, and examines various special trading arrangements.

The issue of a North American Common Market currently under discussion in the United States will be addressed, but its unacceptability, both politically and economically, has already been clearly stated by the governments of Mexico and Canada. Regional arrangements, such as between the northwestern States and the western Canadian provinces, or commodity sector arrangements, have stimulated the most interest and show the most potential.

AGRICULTURE, ENERGY, AND TRADE

Trade and Balance of Payments Implications of Agriculturally Produced Motor Fuels and Other Aspects of Higher Petroleum Prices

by David Orden and G. Edward Schuh

Discussant: Maury Bredahl

Most of the discussion of energy prices and agriculture has focused on the microeconomic dimensions of higher energy prices. The paper addresses three additional dimensions of possible impact: (1) the balance of payments implications of using grain or sugarcane to produce alcohol fuels, (2) changes in transportation costs which could cause significant shifts in the global location of production, and (3) the effects of petroleum-related balance of payments problems on agricultural trade.

Instability in world petroleum markets since 1973 has accelerated consideration of alternative energy sources which include conversion of crops into alcohol. Brazil and the United States are two leaders in the allocation of public support to stimulate domestic alcohol production. Both are large energy importers with persistent balance of trade deficits. In the United States, Federal support alone amounts to 40 cents per gallon of alcohol, a substantial proportion of production costs.

Underlying such support is an implicit assumption that alcohol production will improve the balance of payments. Our calculations to date do not agree with this assumption. To illustrate, alcohol can be produced at least cost in the United States by using corn grain. At the end of 1979, the export value of a metric ton of corn was higher ($121.56 F.O.B. gulf ports) than the value of crude oil saved if alcohol produced from the corn displaced gasoline ($67.14). Taking into account the value of distillers dry grain and solubles byproducts and for the cost of energy utilized in processing the grain, the effect of alcohol production on the balance of payments ranged from a gain of $16,000 per 1 million gallons produced if domestic fuels such as coal were used exclusively in processing, to a loss of $163,000 per 1 million gallons if petroleum products were used to provide processing energy.

Brazil's sugarcane is the principal input to alcohol production. At October 1979 prices, 10 tons of sugarcane could be converted to alcohol displacing $100 million of petroleum imports. The sugarcane had an export value of $251.6 million if processed into raw sugar.

Comparison of these results with similar calculations at prices prevailing in 1971 indicates that a decline in the terms of trade between corn or sugarcane and crude oil has reduced the unfavorable effect on the balance of payments of diverting these crops from export to alcohol production. But

our results suggest that claims to reduction of the balance of payments deficit of Brazil or the United States remain unfounded.

Our calculations do not take into account price impacts which might result from large-scale alcohol programs. Brazilian sugar exports account for less than 10 percent of world sugar trade. Hence, diversion of sugar to production of alcohol is not likely to have much of an effect on world sugar prices, and estimates of the balance of payments effects are likely to be reasonably realistic. U.S. corn exports, on the other hand, dominate world markets. To attain the nationally defined goal of production of 2 billion gallons of alcohol annually would utilize 19.6 million metric tons of corn, over a third of the quantity currently exported. An alcohol program of this magnitude would clearly have an impact on world corn and protein markets. We could anticipate, for example, that increases in the price of corn would ameliorate some of the decline in export earnings that result from diverting corn to the production of fuel.

In part, the advisability of an alcohol program depends on the strength of grain export markets. In this light, we have made a preliminary evaluation of two possible aspects of the impact of higher energy prices on agricultural trade. First, we anticipated that an increase in transportation costs (equivalent to a tariff) might reduce trade. Selected (but relevant) ocean freight rates do not support this contention. Freight rates are quite unstable, but there was a discernible downward trend in real terms during the 1965-80 period. The trend apparently stemmed from expanded capacity and increased efficiency, resulting from use of larger hulls. Freight rates might be even lower if energy prices had not risen, but it is important to know that higher energy costs have not yet imposed a barrier to trade.

Increases in import bills due to increased petroleum prices might induce individual countries to increase their self-sufficiency in agricultural products. While it is rather difficult to bring empirical evidence to bear on this issue, the data suggests that an alternative hypothesis may be more likely--farmers in the United States and other grain-exporting countries may have a vested interest in continuation of high oil prices. Developing countries that also exported oil accounted for some 33 percent of world cereal imports in 1978. When adding the $3.1 billion in net grain imports by Poland and the USSR--both energy exporters--the share increases to 47 percent. Growth potential of these markets

would appear to offset the potential for import substitution by importers of oil and cereals. Such substitution would come at a fairly high price. The fairly large number of countries importing both energy and cereals accounts for only 11 percent of world cereal imports among the developing countries.

The analysis here is by no means complete. The interaction between high petroleum prices and agriculture is indeed complex. The analysis is only partial, preliminary, and focused on selected dimensions of the problem. General equilibrium price effects need to be taken into account, and a more sophisticated analysis of the problem needs to be made.

The discussant pointed out that the gasohol issue is highly political at this time and that policymakers may make commitments regardless of underlying economic implications. The discussant indicated that the price impacts on the production and demand of both corn and soybeans, which would result from an alcohol program, would be significant and should not be left out of the analysis. Several alternatives (input-output tables, simulation models) for incorporating these effects were suggested. The discussant noted that transportation costs to and from deep sea ports have risen substantially during the seventies. Total transportation costs from point of production to point of consumption would need to be evaluated to determine how higher costs act as a barrier to trade. Supply and demand projections indicate tight world cereal markets by the late eighties, tending to suggest that diverting grain to production of alcohol will bear a high opportunity cost. Finally, the discussant suggested that alternatives such as oilseed crops may have economic potential as fuel crops, and that evaluation of such alternatives would be a fruitful area for further research.

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