Rosanne Mentzer Morrison

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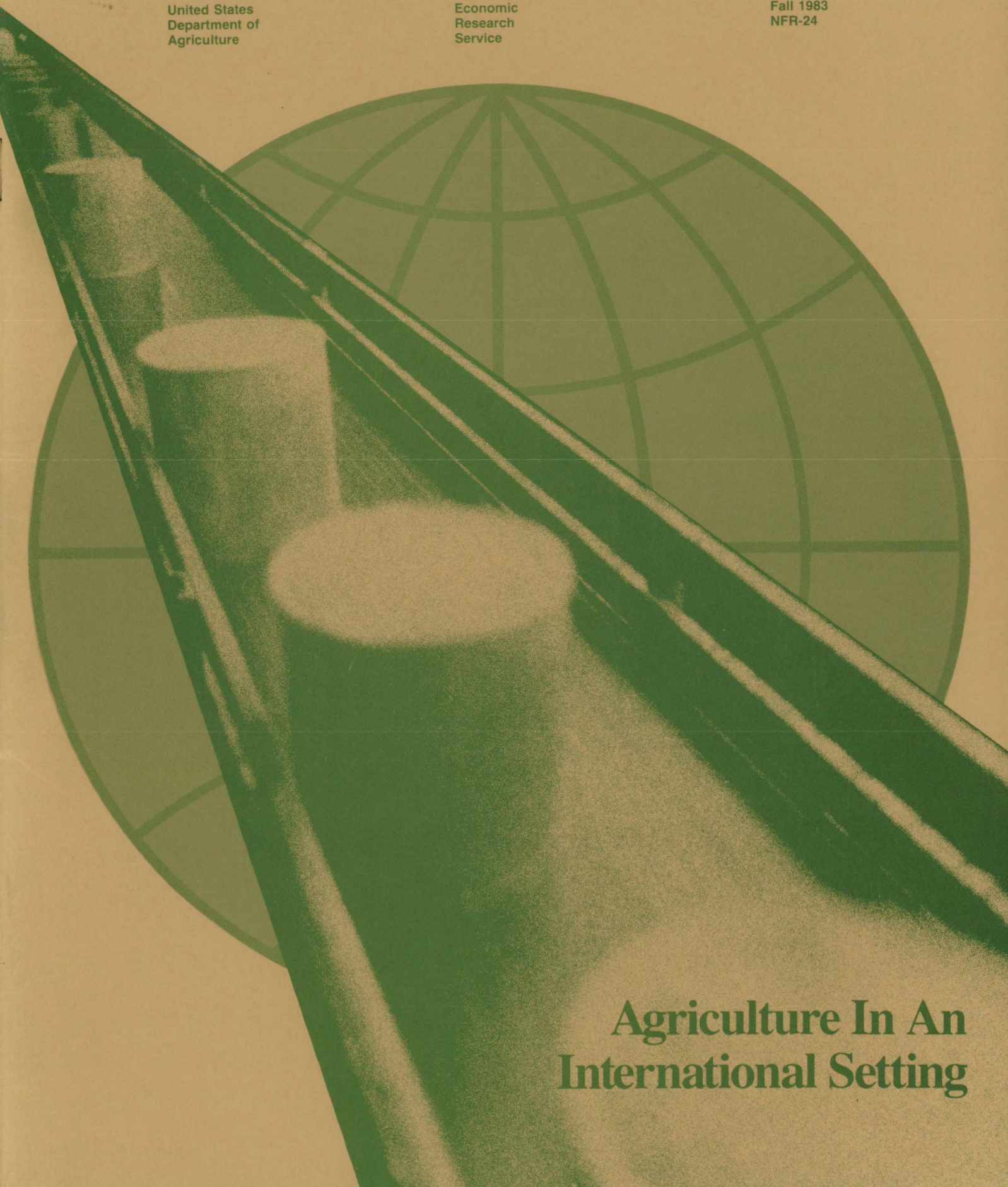

Agriculture In An International Setting

AGRICULTURE IN AN INTERNATIONAL SETTING

World trade, aid, and farm policies are the focus of this issue of the National Food Review. We have departed from our normal concentration on domestic food and fiber topics to examine U.S. exports—both sales and concessional—and how they impact on the total economy, look at new legislation to enhance trade, review how world food needs are determined and met, and give attention to how one European nation altered its national diet, and the popularity of organic farming.

Economics Editor:
Kathryn Longen Lipton
(202) 447-6363

Editorial Assistant:
Martha R. Evans
(202) 447-8915

Design/Layout:
Joan Bazemore

Editorial Staff:
Wendy J. Pool
Joyce Bailey
Betty Acton

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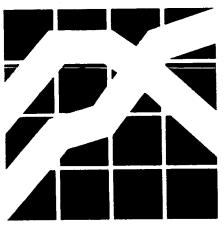
Contents

International Agriculture

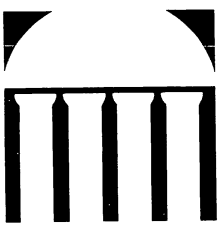
2 Impact of U.S. Agricultural Trade
4 Trade and U.S. Agriculture
7 The Export Trading Company Act of 1982
10 U.S. Exports of High-Valued Commodities
12 Nutrition, World Hunger, and the Demand for Food
15 Food Aid: Help for Hungry Nations
19 Norwegian Nutrition and Food Policy
22 Organic Farming Grows in Western Europe

Food Situation and Review



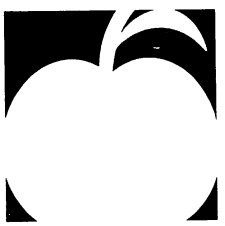
24 Domestic Food Programs
27 Food Spending and Income
28 Productivity and Food Costs

Legislation



30 Food and Nutrition Actions by USDA
31 Food and Nutrition Legislation

General



32 Subject Index (Summer 1981 - Summer 1983)

Correction: In the table titled "Research and Promotion Expenditures Under Domestic Federal Programs" on page 16 of the Summer 1983 issue of the *National Food Review (NFR–23),* generic promotion dollars under Federal marketing orders for fruits, vegetables, and specialty crops were overstated because credited brand advertising for almonds was included. The correct rounded figures are $3,839,000 for 1978; $7,255,000 for 1982, and $7,494,000 budgeted for 1983. Also, the total amount spent for generic promotion under Federal marketing orders for milk, fruits, and vegetables was $20.1 million in 1982, rather than $28.2 million as stated in the text on page 15.

Impact of U.S. Agricultural Trade

Gerald Schluter
(202) 475-5122

Farm exports are vital to the economic health not only of U.S. farmers but of many industries and the Nation as a whole. Today, production from more than a third of total U.S. cropland moves into export channels. Between one-half and two-thirds of U.S. wheat, rice, soybeans, and cotton, and about one-third of the corn crop are exported each year, generating employment, income, and purchasing power across the economy. For example, farmers' purchases of fuel, fertilizer, and other inputs to produce commodities for export create additional economic activity in the manufacturing, trade, and transportation sectors.

Impact of Exports

U.S. agricultural exports totaled $36.6 billion in calendar 1982, approximately $21 billion in raw commodities, $11 billion in processed products, and about $5 billion for transportation and trade services. However, looking beyond the direct value, a model developed by USDA's Economic Research Service reveals that these exports actually generated an estimated $81.8 billion in total business, with the additional $45.2 billion representing the cost of supporting activities required to produce and transport products for export (figure 1). Of this, $9 billion went to the farm sector for raw farm commodities processed for exports (figure 2). Approximately $3 billion was attributed to the food sector, while other manufacturing sectors, including petroleum refiners and tobacco and fertilizer manufacturers, accounted for $15.9 billion. Additional trade and transportation totaled $4 billion and other services, such as utilities, amounted to $13.3 billion.

Each dollar earned from agricultural exports, then, stimulated another $1.23 of output in the U.S. economy, a multiplier effect of 2.23. Approximately 80 percent of this additional economic activity accrued to the nonfarm sector.

In 1982, an estimated 1.1 million full-time civilian jobs were related to U.S. agricultural exports. Of these, around a half million U.S. farmworkers—15 percent of the farm labor force—could have been considered producing for export.

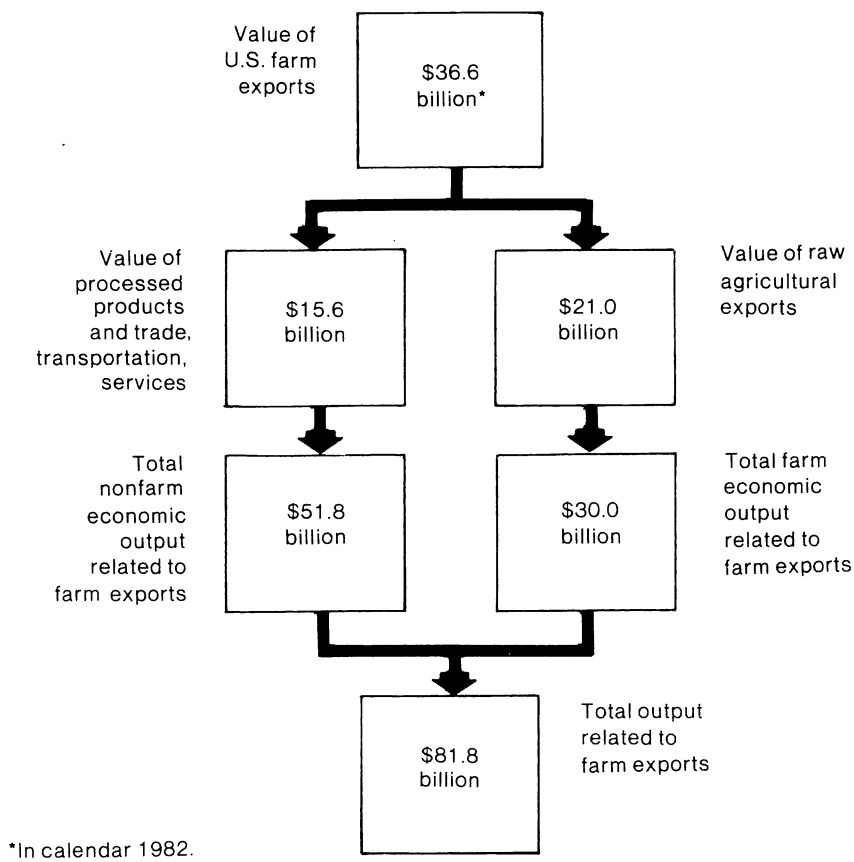
In addition, more than 580,000 jobs in the nonfarm sector were related to assembling, processing, and distributing agricultural products for export. About 60,000 of these were in food processing, 270,000 in trade and transportation, 110,000 in other manufacturing sectors, and 140,000 in other services.

Impact of Imports

To provide a total picture of the economic effects of agricultural trade, it is also necessary to estimate the impact of agricultural imports on U.S. business activity. In 1982, the United States imported 15.2 billion dollars' worth of agricultural commodities, $5.3 billion of which was for complementary items, such as bananas, coffee, and tea not produced in the United States. The remaining $9.9 billion, 65 percent of the total, was for meat, dairy products, fruits, nuts, vegetables, sugar, and wine that compete directly with U.S. products.

In some trade categories, the United States offsets the value of competitive imports with export sales of other types of products in the same category. For example, purchases of imported edible and nonedible meat and poultry products totaled $2.1 billion (value at processing plant), about the same as exports. However, the United States bought 1.1 billion dollars' worth of frozen, canned, and dried goods last year, while export sales totaled $900 million. In the case of

Figure 1. Farm Export Impacts Flow Through U.S. Economy



*In calendar 1982.

sugar, U.S. imports amounted to $800 million, with no offsetting sales.

Using imported commodities instead of available domestic ones implies a reduction in the level of national income and employment. The effect on the U.S. economy of the $9.9 billion worth of competitive imports is estimated at around $26 billion. That is, for each dollar spent on these imports, approximately another $1.60 in supporting goods and services would have been needed if those items had been produced domestically, a multiplier effect of 2.6. The multiplier for competitive U.S. agricultural imports is larger than for exports because of the relatively greater amount of processed products.

An offsetting influence not reflected in the multiplier is the interdependence of U.S. trade with some of our trading partners. Because U.S. imports may provide foreign exchange for other nations to buy our exports, the effect upon the economy of importing $9.9 billion of competitive imports may actually be less than the estimated $26 billion.

Net Trade Benefits

The direct net value of U.S. farm trade in 1982 was around $21.4 billion—$36.6 billion in exports minus $9.9 billion in competitive imports and $5.3 billion in complementary imports. However, considering the additional business activity needed to produce the supporting goods and services for exports, together with the output lost by importing competitive farm products, a 1982 net trade benefits balance for agriculture is estimated at $50.5 billion. This reflected $81.8 billion of total output generated by farm exports, less $31.3 billion (including complementary imports) associated with agricultural imports.

U.S. agricultural trade has a positive effect on most sectors of the economy. The farm sector's approximately $30 billion worth of output associated with exports more than offset the $6.3 billion of farm output implicitly lost because of competitive agricultural imports.

Similarly, the U.S. economy, outside of farming and food processing, accrued a direct net (exports minus imports) benefit of $4.9 billion from agricultural trade. However, the total increase in economic output generated by these activities was $29 billion after considering the domestic output foregone through competitive agricultural imports.

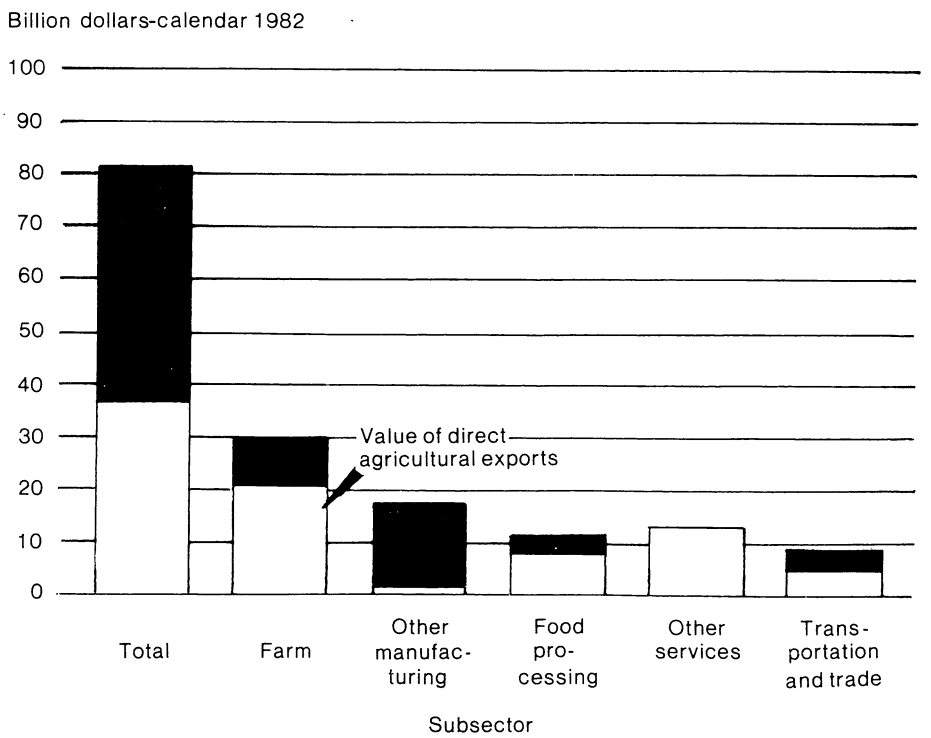
The food processing sector is the sole exception to this pattern of very large net benefits from agricultural trade. In 1982, the food processing industry had a $2.3 billion surplus in direct trade, but a total net gain in output of only $3.3 billion.

Within this sector, processing of meat, grain, fats and oils, and miscellaneous foods gained from agricultural trade. This trade was not, on balance, beneficial to operators of dairy plants, sugar mills, canneries, or freezing and dehydrating, beverage and flavoring plants, and confectionary and baking companies because the business activity generated from exports was less than that implicitly lost from imports.

Balance of Trade

Agriculture's contribution to the U.S. balance of trade increased substantially during the 1970's. Net exports of U.S. farm products (exports minus imports) rose from about $1 billion in 1969 to nearly $27 billion in 1981. During 1982, agricultural exports of $36.6 billion partly offset a $57 billion deficit in nonfarm trade, reducing the total U.S. balance of trade deficit to approximately $21 billion. This represents a reversal from the early 1950's, when agricultural trade was in a deficit position and nonagricultural trade was in surplus. In those years, nonagricultural items posted a $4 billion positive trade balance, while agriculture was running a deficit of about $1 billion. □

Figure 2. Farm Exports Stimulate Added Economic Activity



Trade and U.S. Agriculture

Eileen Manfredi
(202) 447-8912

The world exported about $230 billion in agricultural commodities last year. The U.S. exported $39.1 billion while importing $15.4 billion, leaving an estimated $23.7 billion agricultural trade surplus during fiscal year 1982 (October 1981-September 1982) (table 1). This trade surplus has meant that U.S. farm product exports have helped limit the trade deficit incurred by purchases of other foreign products, such as oil and cars.

Foreign demand for U.S. agricultural commodities benefits income and employment throughout the country. The annual value of business activity for processing, internal transportation, and other services associated with exporting farm products has averaged $35 to $40 billion in recent years. An estimated 1 million jobs are generated directly by farm production for export, with over half off farms.

Increased demand through exports encourages farmers to use technological advances in seeds, machinery, and other inputs. The resulting gains in efficiency may hold down farm production costs, and subsequently food, feed, and fiber prices.

U.S. agricultural exports also serve humanitarian and political interests. Since 1954, 300 million metric tons (mmt) of food aid have been shipped through Public Law 480 to developing countries to provide emergency disaster relief, long-term assistance, and to improve nutrition. The shipments help improve health conditions, economic and political situations abroad, U.S. foreign relations, and expand commercial export markets. This aid program accounts for under 5 percent of the value of U.S. farm exports annually, with the rest handled as commercial sales by private traders. (*The impact of exports on the economy and aid shipments are detailed in related articles in this issue of the National Food Review.*)

Agricultural trade is sensitive to a variety of economic, political, and social variables, including growing populations; changing inflation, interest and exchange rates; fluctuating oil and farm commodity prices; and Government actions geared toward protecting domestic agricultural markets.

Factors Affecting Exports

In recent years, American agriculture has faced huge surpluses of major commodities, low prices, depressed world demand, restrictions in some import markets, the lingering effects of the 1980 Soviet grain embargo, and a strong dollar against the currencies of many of our import markets. A number of international issues, including foreign trade barriers, long-term sales agreements, and financial policies have also affected U.S. exports.

Countries restrict imports for a variety of reasons. In the low-income countries, for example, limits on imports save foreign exchange and may encourage domestic agricultural production. The European Community (EC) and Japan are major markets which restrict imports to protect their agricultural sectors. The EC, for example, supports domestic grain prices at a level sharply higher than world prices. To keep its wheat and barley competitive, the EC uses a variable levy system to impose charges on imported grain until the price is at least as high as EC-produced grain. During the past year, the levy has been around $100 per ton on U.S. wheat and $75 per ton on corn. This system reduces demand for U.S. grains and promotes EC production above what market forces would dictate. USDA estimates that if 10 years ago the EC had abolished its variable levy system and the price support levels set in its Common Agricultural Policy, it would have imported 11-12 mmt of grain in 1980, compared with actual net exports of 3.8 mmt. Much of those imports would have been from the United States. Lower grain prices would have increased meat production and reduced prices. Additional imports may have been needed, however, to handle the resulting higher demand for meat.

On the other hand, current EC policies do benefit U.S. soybean and corn gluten exports which have no levy and make cheaper animal feed than grains. However, on balance, U.S. agricultural exports are estimated to have been $4 to $7 billion per year lower in 1980-83 because of EC policies.

Japan also restricts access of various U.S. products, especially meats and citrus, to support its domestic production and enhance farm income.

Long-term trade agreements (LTA) involving significant volumes of agricultural exports are relatively new. The USSR became a major U.S. grain market during the last decade, but annual import needs varied considerably. In 1976, a 5-year grain agreement with the USSR provided for minimum annual purchases of 6 to 8 mmt of U.S. wheat and corn from private companies at market prices. The value of an LTA to both the importing and exporting countries is a guaranteed volume of trade. Even during the 1980 embargo, for example, the Soviets were allowed to import the specified minimum level of grain.

A new 5-year LTA, effective October 1, 1983, provides for annual

Table 1.—U.S. Agricultural Trade, Fiscal 1978-83

Item	1978	1979	1980	1981	1982	1983 forecast
				Billion dollars		
Exports	27.29	31.98	40.48	43.78	39.09	34.5
Imports	13.89	16.19	17.27	17.22	15.35	16.2
Trade balance	13.40	15.79	23.21	26.56	23.74	18.3
				Million metric tons		
Export volume	131.3	137.4	163.9	162.3	158.1	143.5

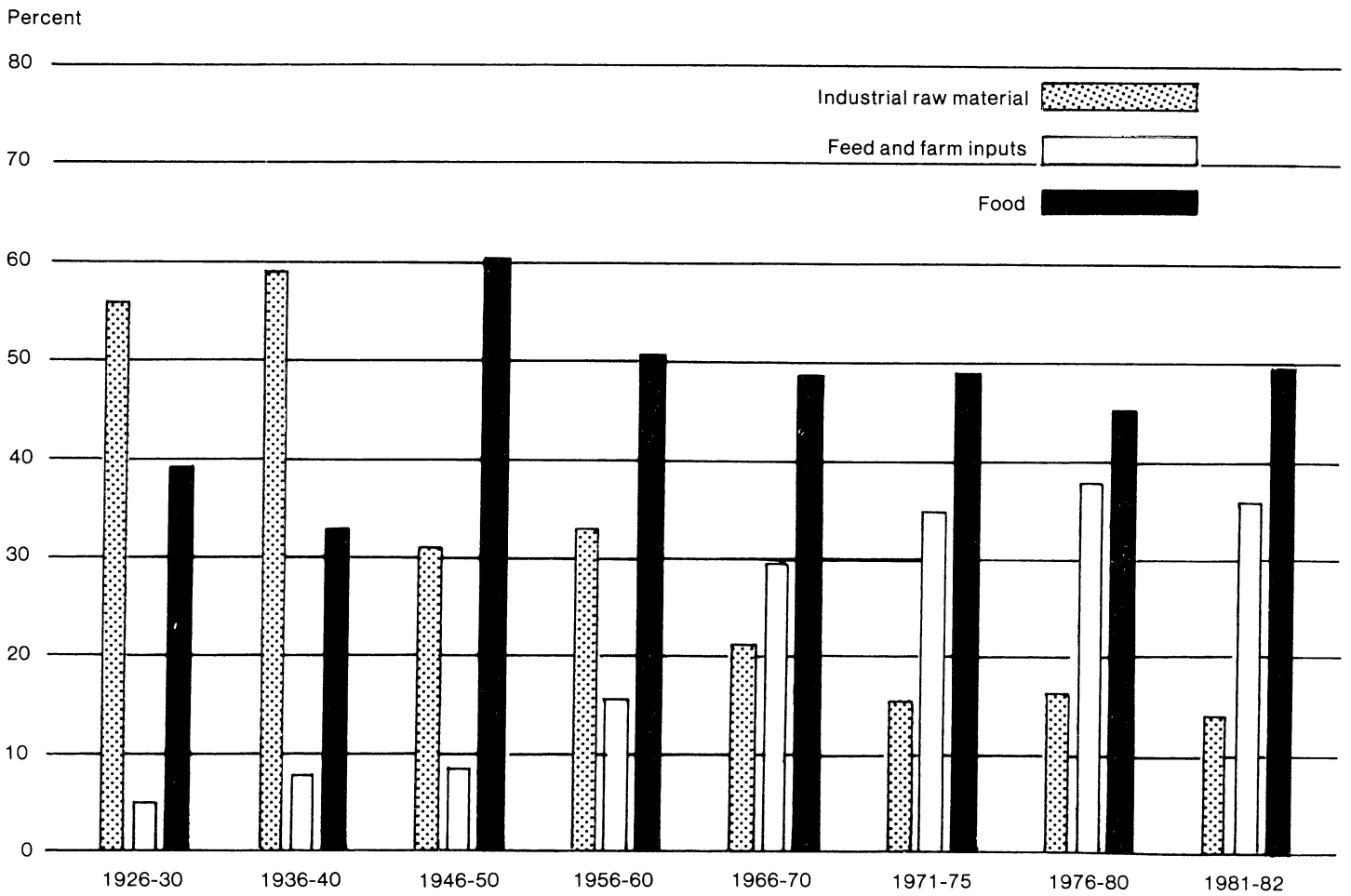
minimum purchases of wheat and corn totaling 9 mmt, with an option to buy up to 12 million without further consultations with the U.S. Government. In this LTA, if the Soviets buy 500,000 tons of soybeans or soybean meal, they can lower the grain minimum to 8 mmt. This provision is designed to encourage USSR purchases of U.S. soybeans. The United States also has an important LTA with China which specifies annual sales of 6-9 mmt, mostly of wheat but including some corn.

Financial policies of both importing and exporting countries, including credit programs and currency exchange rates, substantially influence agricultural trade. The United States, for example, has instituted a new blended credit program to stimulate exports and counter the loss of market shares resulting from increased use of export subsidies by foreign governments. The program, offered through USDA's Commodity Credit Corporation, provides both Government credit at commercial rates to importing countries and loan guarantees to banks financing agricultural exports against nonpayment by importers. The bonus aspect of the new program, for which $1.75 billion was allocated in fiscal year 1983, is that up to 20 percent of each credit package will be interest free.

Many importers are currently facing financial constraints and have reduced imports. Mexico, Brazil, and Poland are examples of large buyers who lack sufficient funds or credit to maintain previous import levels.

The strong dollar keeps prices of our farm products high abroad in the currencies of our major import markets. The dollar has been strong for the last 2 years and is currently at record highs against several currencies. Thus, while U.S. farm

Figure 1. Composition of U.S. Agricultural Exports 1926-30 - 1981-82



prices fell in 1982, the prices of farm exports rose in the local currencies of many foreign markets, discouraging import demand. The strength of the dollar and the high interest rates abroad kept most countries from building inventories through foreign purchases.

Income and population changes abroad influence both the level and composition of U.S. exports. Changing income levels, for example, affect tastes and alter consumption patterns. As developing countries move up the income ladder, the share of income spent on wheat and rice for domestic consumption rises, replacing traditional roots and tubers (yams, cassava, and potatoes). Consumption of livestock products also expands. These actions increase the demand for U.S. food grains, and corn, barley, and soybeans for animal feed. U.S. exports of specialty products—tobacco, meats, fruits, and vegetables—have also been growing.

U.S. Exports

U.S. agricultural exports rose sharply during the 1970's, from under $8 billion in fiscal year 1970 for a volume of 64 mmt to a high of $43.8 billion in 1981 for 162 mmt, 19 percent of total U.S. exports. Exports declined in 1982 and in 1983 will fall to an estimated $34.5 billion for 143.5 mmt. The United States, by far the world's largest exporter, accounts for approximately one-fifth of the total value of world agricultural exports and nearly two-fifths of the volume.

Since the mid-1920's there has been a gradual shift in the composition of U.S. agricultural exports (figure 1). The importance of cotton, for instance, has fallen from a 16-percent share of sales in the 1940's to less than 6 percent in 1982. Following World War II, U.S. food shipments were used in relief programs. In the early 1960's, most developed and some developing countries began expanding their livestock feeding practices and bought more U.S. grains, protein meals, and other feeds. Today, nearly 50 percent of U.S. farm exports are for direct food use—wheat, rice, fruits and vegetables, and meat; while 35 percent go for feed and farm inputs, and 15 percent are raw materials, such as cotton, tobacco, cattle hides, and edible tallow.

Grains and products dominate U.S. agricultural exports, accounting for over 40 percent of the total value and 68 percent of the volume shipped (table 2). Though corn accounts for the largest export tonnage, wheat and products are the highest dollar earner among the grains. Grains go to a diverse group of countries, including developed, developing, and centrally planned ones. The largest U.S. wheat markets are China, the USSR, Japan, Brazil, Egypt, the EC (largely hard wheat for blending and durum wheat for pasta), and sometimes India (if their monsoon fails).

Corn goes to many of the same countries, with Japan the major market followed by the EC and the USSR. The United States, however, has served more as a residual supplier to the USSR since the 1980 embargo. The EC has reduced corn imports the last few years because of depressed demand for meat and increased feeding of their own surplus wheat. South Korea, Eastern European countries, and Mexico, depending on their own crops and their financial conditions, also buy U.S. corn.

U.S. long-grain rice goes to Nigeria and several Middle Eastern countries, and medium length goes to South Korea when it has a production shortfall. Major U.S. trade competitors are Canada, Australia, Argentina, and the EC for wheat; Canada, Argentina, Thailand, Australia, and South Africa for coarse grains; and Thailand and Pakistan for rice.

Oilseeds and products are the next largest category after total grains. The bulk of this is soybeans shipped to crushers in the EC and Japan. Soybean meal is also important and goes largely to the EC for use directly as animal feed. Brazil and Argentina are the major U.S. competitors for soybeans and meal.

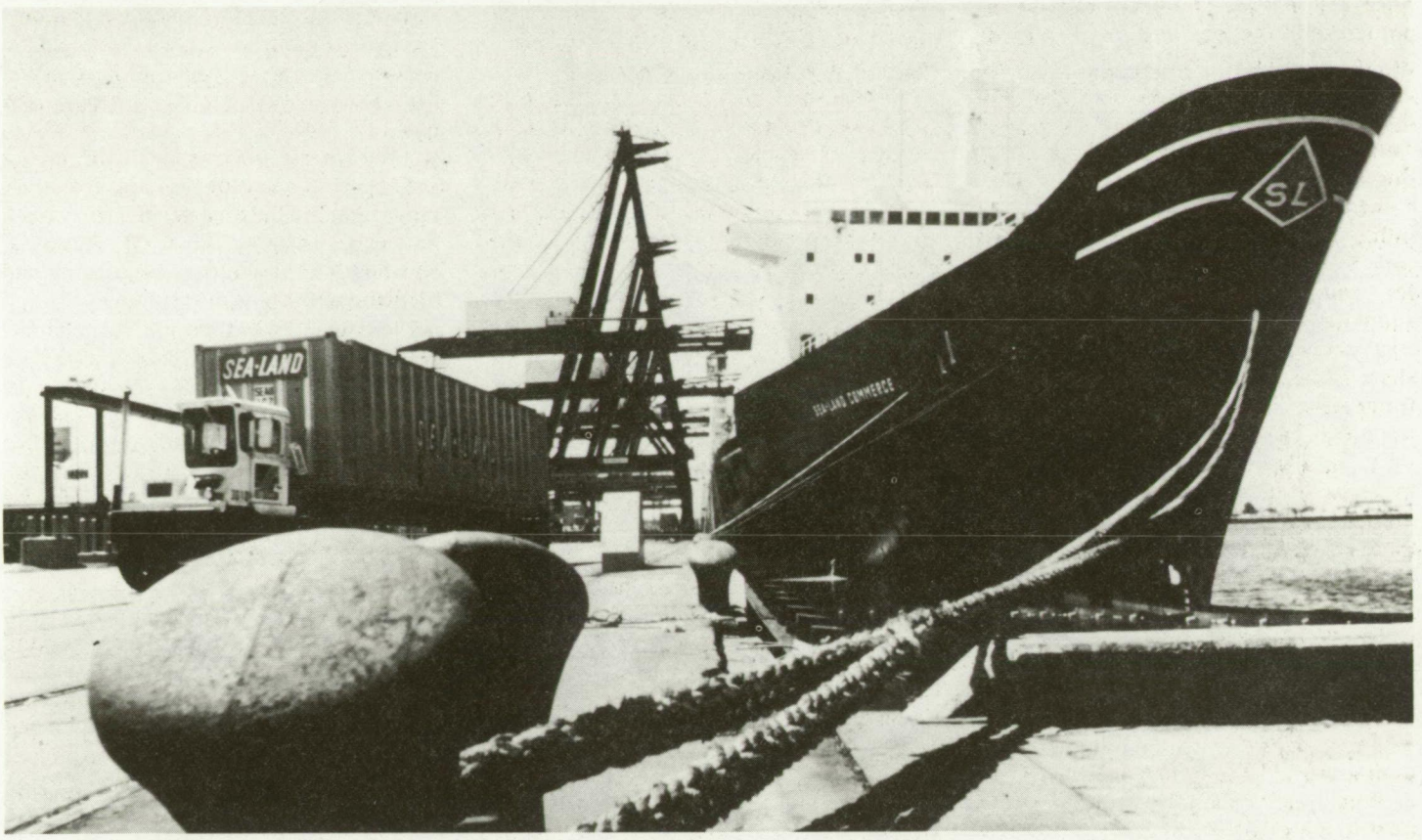
The volume of U.S. agricultural exports is expected to grow by over 3 percent annually through 1990. This is just below the 4-percent rate registered in the 1960's, but far short of the 10-percent growth experienced in the 1970's. A recovery from the world recession should induce some foreign demand growth for food and feed products, of which the U.S. is a major supplier.□

Table 2.—U.S. Agricultural Exports

	Value		Total agricultural exports		Volume	
	1971	1982	1971	1982	1971	1982
	Billion dollars		Percent of value		Million tons	
Wheat and products	1.2	7.68	15.1	19.6	20.0	46.2
Rice	0.28	1.15	3.5	2.9	1.6	2.9
Feed grains and products	1.09	7.04	13.7	18.0	18.3	58.4
(corn)	(0.77)	(5.96)	(9.7)	(15.2)	(12.7)	(49.6)
Animals and products	0.93	4.07	11.7	10.4	—	—
Fruits and preparations	0.32	1.39	4.0	3.6	—	—
Vegetables and preparations	0.20	1.44	2.5	3.7	—	—
Oilseeds and products	2.19	9.55	27.5	24.4		
(soybeans)	(0.76)	(6.48)	(9.5)	(16.6)	(11.8)	(25.5)
(soybean meal)	(0.40)	(1.45)	(5.0)	(3.7)	(4.1)	(6.3)
Cotton	0.55	2.14	6.9	5.5	0.9	1.5
Tobacco	0.48	1.03	6.0	2.6	0.3	0.3
Total agricultural exports	7.96	39.09	100.0	100.0	61.0	158.1

The Export Trading Company Act of 1982

Kay McLennan
(202) 447-6235



The Export Trading Company Act (ETCA) of 1982 provides a means for U.S. exporters to compete more effectively in international markets.

The legislation allows separate complementary U.S. businesses and associations, including producers, processors, transporters, and marketers capable of handling all aspects of international trade to operate collectively as a single export trading company. Previously a company wanting to export needed to contract separately for a number of services, including financing, shipping, and marketing. The complexities associated with this process tended to discourage smaller firms from exporting. The ETCA allows firms to join together to export products and services. Firms retain their individual identity and management, while serving as partners under the larger heading of an export trading company.

Many different types of industries are expected to take advantage of the ETCA. Agriculture, in particular, may benefit in several ways. The ETCA provisions that encourage exporting can be expected to enhance existing markets for agricultural exports. In addition, the provisions which allow service industries to combine with agricultural industries may encourage individual small firms to become involved in exporting, thereby increasing the income they receive from foreign sale of their products.

Development of the ETCA

Joint exporting ventures, as well as legislation promoting exports are not new. The Webb-Pomerene Act (WPA) of 1918, for example, allows U.S. companies to compete better in foreign markets by forming cartels under which competing firms collectively establish export prices and contract terms.

The ETCA is similar to this earlier legislation in that it permits companies to join together to facilitate trade. The ETCA, however, is designed to foster competition in international trade by encouraging a greater number and variety of firms to become involved in exporting. Participation in joint exporting ventures, for example, is broadened under the ETCA to directly include sources of financing and trade services. Banks are now permitted to own an interest in exporting companies, which extends their role beyond financing and allows them to be actively involved in the management of exporting enterprises.

Similarly, direct involvement in joint exporting is extended to trade service companies. Previously, these firms participated primarily through contracts with exporting businesses. Active participation and ownership by trade service businesses enables companies with varied

Figure 1. Possible Participants and Functions of an Agricultural ETC

resources to provide a total service package usually not available before, including documentation, transportation, marketing knowledge, insurance, and legal advice.

The organization of an ETC is not specified in the legislation. Rather, management and operation are decided by the participating firms. The ETC can be organized in a variety of ways to provide as narrow or as wide a range of products or services as desired. Accordingly, an ETC may be a one-stop, full-service exporting venture which offers a unique investment opportunity for many firms, including those previously excluded from such ventures.

The ETCA also contains provisions which allow companies to apply for antitrust certification pre-clearance. This provides joint exporting ventures limited immunity from criminal and civil suits under both Federal and State antitrust laws.

The ETC concept has been successfully applied in Japan, Korea, West Germany, and other countries. These countries have effectively expanded the markets for their products by encouraging firms with complementary business talents to form export trading companies. The ETCA provides U.S. firms with access to the same resources so they can compete successfully with their foreign counterparts.

Basic Provisions of the ETCA

Under title I, an export trading company is defined as one which is organized and operated principally for the purpose of exporting goods and services produced in the United States. This title also directs the Secretary of Commerce to establish an office to promote and encourage the formation of export trading companies and associations and to facilitate contact between producers of exportable goods and services and trade service firms.

Title II allows banks to invest in or own up to 100 percent of an ETC. However, there are safeguards to protect the Nation's banking system. These include limiting a bank's financial investment in an ETC to 5 percent of its assets and re-

stricting loans to an ETC to 10 percent of a bank's assets. Banks must also obtain approval from the Federal Reserve Board for their proposed investment in an ETC. The petition may be disapproved only in response to unsafe or unsound banking practices.

To provide further financial assistance to exporters, title II directs the Export-Import Bank of the United States to develop a new loan guarantee program for ETCs. This is intended primarily to promote exports by small and minority businesses and agricultural concerns by guaranteeing loans made to these groups.

Title II additionally addresses countertrade, widely practiced by exporters. Specifically, the ETCA will extend antitrust immunity for certified activities to a countertrade export sale.

Countertrade can take the form of bartering or offsetting purchases. Bartering is simply the exchange of one good for another, while offsetting purchases involve the actual exchange of currency. A U.S. firm, for example, might buy a particular commodity from another country which would then use the currency generated by the sale to buy an equally valued amount of a particular commodity from the U.S. firm. By countertrading, countries which may otherwise lack currency are able to purchase foreign products. Given the limited foreign currency holdings of many U.S. trading partners, particularly developing countries, countertrade is an important tool for increasing foreign agricultural sales.

Title III provides limited antitrust immunity in the form of a certificate issued by the U.S. Department of Commerce with the agreement of the Department of Justice. To qualify for the certificate, the applicant's export-related conduct must satisfy four specific standards. It must not (1) substantially lessen competition or restrain trade in the United States or restrain the export trade of a U.S. competitor; (2) unreasonably enhance, stabilize, or depress prices in the United States; (3) be an unfair method of competition; or (4) reasonably be expected to result in resale in the United States of the exported goods or services. Certification is not necessary to export, but it is particularly warranted when exporters have a substantial share of a domestic market.

Finally, title IV amends the Sherman Antitrust Act to specify that it does not apply to export trade unless there is an adverse anticompetitive effect on commerce in the United States or on the export commerce of a U.S. resident.

Applying the ETCA to Agriculture

Participants in agricultural exporting ventures have a great deal of latitude in developing the structure of their export trading companies. The scope and operation are determined by the products to be exported, the foreign markets to be targeted, the services to be provided, the trading activities, and the probable participants and investors.

Product possibilities range from marketing a single commodity to an entire market basket of farm products. A specialized or single-product ETC in Oregon, for example, might market cherries or apples. Alternatively, a regional Georgia-based company might export different foods produced in the South, including poultry, meat products, soybean oil, peaches, and pecans.

The foreign markets to be targeted may range from a particular country or region to the entire world. The extent of the market would depend upon demand for the product, the cost and availability of transportation, and the available resources of a particular ETC. Where a commodity requires sophisticated planning for marketing and promotional activities, smaller specialized trading firms may be more effective than general trading companies.

Conceptually, an ETC would be capable of performing a wide range of services. A full service ETC, for example, would take title to the exportable products and provide a total service package, including foreign marketing intelligence, sales, packaging, documentation, insurance, warehousing, transportation, and financing. In contrast, other ETCs may concentrate on particular services such as shipping and documentation.

Many possibilities also exist concerning the scope of activities an ETC may perform. Specifically, in addition to exporting, an ETC may be involved in importing, countertrade, or arranging trades between various countries other than the United States. While the available business opportunities and resources of an ETC will largely determine the extent of activities, the export market will also be a factor. Targeting markets in developing countries, for example, will almost certainly require utilizing some form of countertrade. Accordingly, since these countries have been identified as potential sources of expanding food imports, agricultural ETCs will be likely candidates for countertrade.

Finally, an ETC may be structured to suit the needs or interests of probable participants or investors. In the examples of a regional Georgia-based ETC that exports many products and the specialized Oregon-based company exporting only a single product, the participants and investors may include individual producers, cooperatives, regional or local banks, shipping companies, port authorities, existing export management companies, and State economic development authorities. □

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U.S. Exports of High-Valued Commodities

Stephen R. Milmoe
(202) 447-8054

The United States became the world's major exporter of agricultural products through its ability to offer large supplies of grain and oilseeds at reasonable prices. Wheat, rice, feed grains, soybeans, and sunflowerseeds made up 80 to 85 percent of the volume, and 55 to 60 percent of the value of U.S. agricultural exports over the past decade.

However, in recent years high-value commodities have become increasingly important in U.S. trade. In 1982, they comprised only 17 percent of the total volume of exports, but 43 percent of the value. High-value products are defined as those exceeding $400 per ton (table 1). Examples are fully processed commodities, such as meats, canned fruits and vegetables; semi-processed products, including soybean meal as feed for broilers and hides for shoes; and bulk items, such as fresh fruits and vegetables, eggs, and dried beans (table 2).

Table 1.—Unit Values of Specified Export Commodities, Calendar Year 1980

Export unit value (Dollars per metric ton)	Commodities
$100-$200	Corn, wheat, corn gluten feed and meal.
$201-$500	Oilcake and meal, wheat flour, fresh vegetables, milled rice, inedible tallow, nonfat dry milk.
$501-$900	Fresh fruits, bakery products, vegetable oils, refined sugar, frozen vegetables, peanuts, canned fruit, pulses, canned vegetables.
$901-$1,300	Poultry meat, seeds.
$1,301-$2,000	Variety meats, raw cotton, dried fruit.
$2,001-$4,000	Pork, butter, cheese.
Greater than $4,000	Beef and veal, almonds, unmanufactured tobacco.

Red Meats and Poultry

U.S. annual per capita consumption of red meat is 140 pounds (retail weight), among the highest in the world and leaving only 1 to 2 percent of total production for export. Nonetheless, over the past 20 years the volume of U.S. red meat exports has grown at an annual rate of 6 to 8 percent. American grain-fed beef is more tender than grass-fed beef that is traditional in most of the world. Exporters have found markets in Western Europe, Japan, the Caribbean, Canada, and Mexico for a wide variety of products—beef livers, hams, boneless beef, and horsemeat. Tourist resorts in these countries have provided much of the stimulus for growth in the higher quality meats. In 1982, nearly 1 billion dollars' worth of beef, pork, and variety meats were exported from the United States at an average unit value of $2,300 per ton. Prices ranged from $475 a ton for pork livers to $4,500 a ton for high quality beef.

The success in exporting red meats has been achieved despite formidable competition from Australia, Canada, Poland, and Denmark, and such trade barriers as high shipping costs, tariffs, and quotas. Japan, for example, sets a quota or maximum limit on beef imports each year. In addition, a 25 percent *ad valorem* tariff (based on product value) raises the price of imported meats, ensuring a competitive advantage for domestic products. As a result, the Japanese pay 3 to 4 times more than U.S. consumers for the same cut of beef. In Western Europe, tariffs of 20 percent or more on certain cuts of high quality beef virtually prohibit U.S. export of these products. Instead, exports to Western Europe consist mainly of less expensive variety meats, such as livers and tongues. Similar limitations exist in some of the high-income developing countries to insulate their livestock industries from import competition.

From 1974 to 1981, the volume of poultry meat exports grew at an annual rate of 26 percent. Nearly 400,000 tons worth $487 million were exported in 1981, mostly whole broilers and chicken parts—with one-third going to Egypt and Japan. Exports declined to 279,000 tons in 1982 when two of the major markets—Egypt and Iraq—either cut off purchases or bought from other suppliers, such as France and Brazil.

Significant per-unit cost reductions in the U.S. poultry industry resulting from greater production efficiencies improved export competitiveness (*see NFR-23*). However, the poultry export boom in the

Table 2.—Exports of Specified Agricultural Products, Calendar Year 1982

	Million dollars
Fully processed:	
Red meats	977.4
Poultry meat	308.9
Canned fruits and vegetables	245.6
Shelled almonds	236.3
Fruit juices	230.4
Coffee	114.7
Semiprocessed:	
Soybean meal	1,411.4
Whole cattle hides	694.3
Soybean oil	486.4
Corn gluten feed and meal	442.5
Cottonseed oil	205.9
Wheat flour	193.5
High-value bulk:	
Fresh fruits and vegetables	1,081.8
Seeds	309.2
Dried beans	250.9
Eggs	111.7

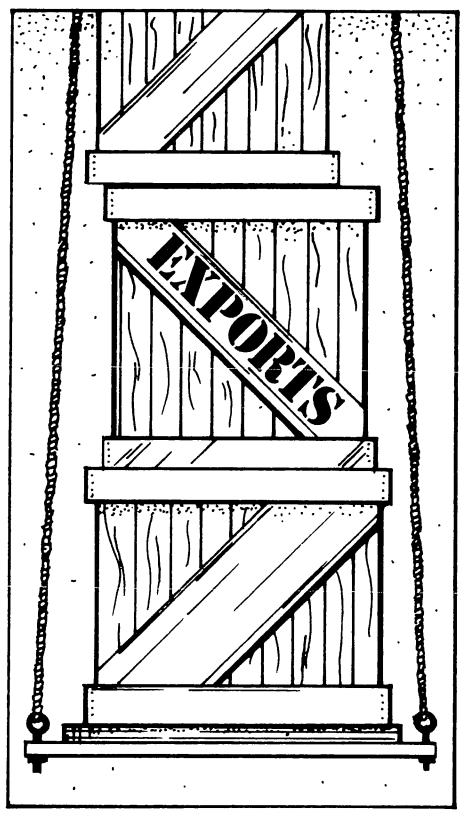
mid-1970's can be largely attributed to the rapid growth in the demand for whole broilers by oil-rich Middle Eastern countries, and the virtual lack of competition in the poultry export market. In addition, many countries see poultry as a relatively less expensive source of meat protein than beef and pork. The present decline in our exports has resulted from the emergence of the French and Brazilian poultry export industries.

Fruit and Vegetable Exports

The vegetable industry in the United States channels approximately 5 to 10 percent of its farm production into the export market. Dried beans, canned corn, fresh lettuce and tomatoes, hops, and frozen potatoes are a few of the products sold on the world market. In 1982, exports of fresh and processed vegetable products totaled $1.2 billion.

The 1979 drought in Mexico spurred a dramatic increase in U.S. exports of dried beans—particularly pinto beans and black beans. Dried beans are an important source of protein in the Mexican diet, with average per capita consumption of 35 pounds annually (one of the highest in the world). Mexico's smaller bean crop, combined with the growing importance of oil revenue for consumer demand, contributed to increased purchases. During 1980-82, Mexico bought 881,000 tons of U.S. dried beans valued at $637 million, compared with total purchases of 190,000 tons worth $88 million during the decade of the 1970's. In 1983, however, there were no U.S. exports of beans to Mexico because its policy encouraged greater use of domestic stocks.

Exports of processed potatoes grew significantly over the last 20 years in response to the expanding demand for convenience foods. In 1982, this translated into sales of $81 million, including french fries, chips, and sticks. Last year, the United States shipped nearly 72 million pounds of frozen french fries to Japan, the largest market for processed potatoes; this accounted for two-thirds of the total.



The United States has long been considered "Canada's hothouse." During 1980-82, this country exported $10 billion worth of fruits, nuts, and vegetables, 24 percent of which went to Canada. The nearness of the Canadian market, and its inability to efficiently produce most horticultural products, gives U.S. producers—particularly in California—a steady customer.

Nearly one-tenth of the fruit industry's farm production in the United States is exported. The bulk of these exports are fresh oranges, apples, grapefruit, and lemons, plus processed products such as orange juice and raisins. In 1982, total exports of fresh and processed fruit products reached $1.4 billion.

Corn gluten feed, a byproduct of the wet milling process which converts corn into corn sweeteners, starches, and ethanol, is one of the fastest growing farm exports. It is used as an animal feed almost exclusively in the European Community for two reasons: it contains 3.5 times as much protein per ton as corn and, with the 60 to 80 percent tariff on grains shipped to the EC, costs half as much as corn. Without the present tariff structure in the EC, U.S. corn gluten feed exports would probably be closer to $10 million instead of the $440 million exported in 1981 and 1982, since 95 to 99 percent of the product goes there.

The Outlook for Expansion

Efforts are currently underway to expand U.S. exports to include a wider range of products. Through its Market Development Cooperator Program, USDA's Foreign Agricultural Service and U.S. agricultural trade associations and producer groups sponsor market research, trade shows, and other activities to encourage greater use of U.S. products overseas and to introduce new products to many foreign diets. These efforts help sustain the U.S. market share of 10 percent of all high-value exports. Congress passed the Export Trading Company Act in October 1982 to reduce exporters' financial risk and improve marketing channels (*see related article in this issue*). Special measures are also being taken in labeling and packaging to make U.S. products competitive in non-English speaking countries, and where the metric system is used.

Some other issues that will affect the U.S. market share include:

- The ability of the U.S. processed food industry to remain competitive in the world market. Certain components of the marketing bill—such as labor costs—are relatively more expensive here than in competing markets such as Hong Kong and China.
- Measures taken by multinational food corporations in establishing processing facilities overseas rather than in the United States.
- Economic growth in the developing regions of North Africa, the Middle East, and high income East Asia where a great deal of potential exists for increases in U.S. agricultural exports. □

Nutrition, World Hunger, and the Demand for Food

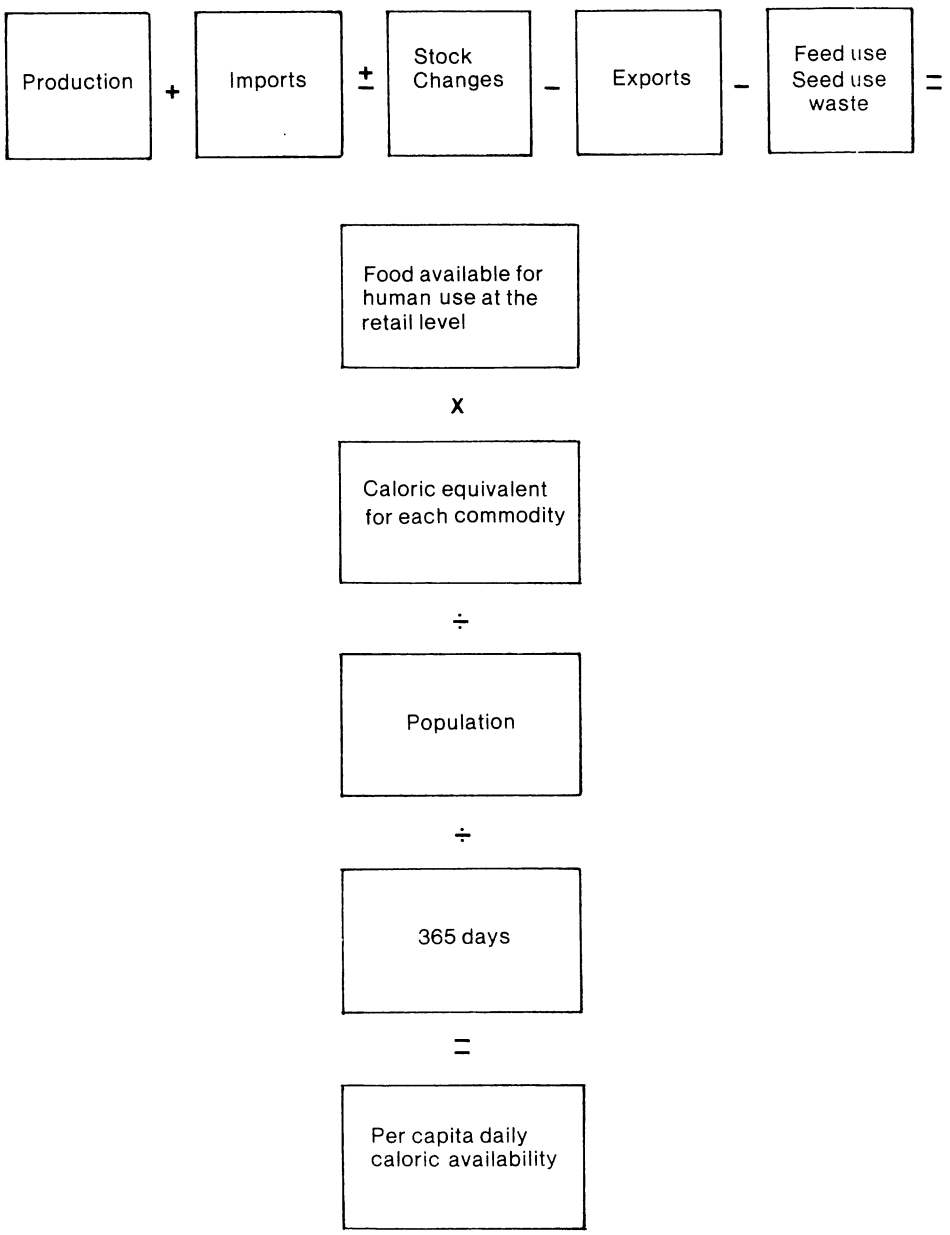
Carol Goodloe
(202) 447-8470

Nutritionists are concerned with how food quantities and qualities affect diets and health. Agricultural policymakers and economists, however, view nutrition from a different perspective. They are interested in it in relation to world hunger, as an investment in human capital formation, and how it affects the demand for food. Both perspectives are important as demand for more food or varied diets influences agricultural production and international trade patterns.

In developed countries, where diets are generally adequate and hunger is not a serious problem, nutrition usually relates to the quality of the diet and often reflects health concerns. Economists view nutrition as one of many factors—population, income, prices—that affect the demand for food. However, in developing and some middle-income countries where inadequate diets and hunger are serious problems, nutrition refers more to the quantity of food. Economists and policymakers, then, are concerned with how to increase consumption and thus alleviate hunger.

Basic to understanding the magnitude of world hunger are accurate measures of undernourishment and food needs in individual countries and regions. These measures are particularly important to officials and policymakers in food donor countries who require accurate information to budget and allocate aid, especially during times of volatile grain prices and domestic financial constraints. However, estimates of undernourished individuals and food needs have varied considerably, reflecting the inability to accurately determine actual consumption or nutritional needs.

Figure 1. Balance Sheet Approach to Estimating Daily Per Capita Caloric Availability



Measuring World Hunger

Most studies define hunger as undernutrition—the body has less food than is needed for health and growth. The indicator used to determine undernutrition is daily per capita caloric intake compared to a caloric standard or "requirement." One way to measure intake is through the balance sheet approach,

since direct measures of individual consumption are not possible for large populations. The balance sheet shows the food supply available as a residual figure derived from data on production, net trade, and stock changes (figure 1). A fixed proportion is deducted for seed and feed use, processing, and waste. The remaining quantity is expressed in terms of daily per capita caloric availability. This final figure is an economic definition of consumption, and not a measure of what an individual actually eats.

Household sample surveys provide an alternate measure of food consumption. They vary considerably in scope and method, and the consumption data generally are not standard across countries. Consumption can be actual individual intake determined by weighing food on plates or, more likely, food availability at the household level determined from quantities purchased, grown, and received as wages and gifts.

Both sources of data are subject to errors. Balance sheet estimates depend on the quality of data used in determining total food availability. Not all production, for example, is recorded in official statistics, especially in developing countries where home production may be particularly important. For this reason, the balance sheet often tends to understate food availability. Because surveys are comprised of only a sample of households, they often provide inaccurate estimates of actual individual consumption on a national level. Furthermore, estimates from a food balance sheet and household surveys for the same country often show wide discrepancies. Thus, the source of data on food consumption introduces one error into measurements of world hunger.

Per Capita Caloric Requirements

The second type of information needed to assess undernutrition is a nutritional standard against which to measure per capita caloric consumption. A country is classified as undernourished if per capita caloric consumption (as determined from a food balance sheet) is less than some standard. The standard, then, is crucial in determining the magnitude of undernutrition.

The most commonly used standards have been developed by the World Health Organization (WHO) and the United Nations Food and Agriculture Organization (FAO). Factors affecting an individual's nutritional requirements include height, weight, age, sex, and level of activity. Many experts, however, became concerned that the FAO/WHO standards overstated the average caloric requirement, since the resulting estimates of undernourished people were very large relative to world population. In 1974, FAO introduced a new lower standard "derived from basic physiological considerations" to help avoid the problem of classifying adequately nourished individuals as undernourished. Table 1 compares the two standards for selected countries.

The impact of the different caloric standards can be seen by comparing the results of two studies conducted by the World Bank and FAO. The 1976 World Bank study estimated about 1 billion people were undernourished in the mid-1960's, while the 1977 FAO study estimated about 450 million people in the mid-1970's. Although the methods used in the two studies were similar, the World Bank used the higher caloric standard and FAO the lower. Therefore, the apparent decline in undernutrition may have been due partly to lowering the standard. In a 1982 USDA study using household survey data from Indonesia, Bangladesh, and Sri Lanka, the incidence of undernutrition was reduced 63, 81, and 100 percent, respectively, when the lower standard was used.

Table 1.—High and Low Caloric Standards for Selected Developing Countries

Country	High standard	Low standard
	Calories	
Bangladesh	2,310	1,512
Egypt	2,510	1,557
Honduras	2,260	1,517
Kenya	2,320	1,517
Peru	2,350	1,526
Thailand	2,220	1,511

Source: Fourth World Food Survey, FAO, 1977.

Other studies question the validity of the concept of "average caloric requirement." Recent research indicates that individual energy requirements are not fixed; that is, they are not necessarily the same on a day-to-day basis. Rather, they are subject to internal physiological controls that accommodate variations in caloric intake. Thus, while comparing per capita consumption with "requirements" may be useful to gauge where risk of undernutrition is greater, many now contend it is not valid to make statements about world hunger using this method, given the poor quality data on consumption and the lack of evidence about energy requirements and the distribution of food.

Other Measures

Despite the limitations of current statistical methods to accurately measure the problem, evidence does indicate that malnutrition is a serious problem in many parts of the world. Malnutrition can result from a variety of factors—insufficient food, improper diet, disease, or contaminated water, for example. In some cases, food intake may be adequate, but disease or infection prevents proper utilization of the nutrients.

To determine the extent of malnutrition in an individual requires anthropometric or biochemical evidence. These measures are especially important in assessing the nutritional status of young children and pregnant and nursing women, who are the most vulnerable to malnutrition. Anthropometric measurements compare body size and weight to reference standards. Using such indicators from nutritional surveys for 11 low-income countries, FAO estimated that about 30 percent of the children suffered from moderate malnutrition and another 30 percent from severe malnutrition.

Another indicator of malnutrition is low birth weight. Poorly nourished mothers tend to have small babies, which affects the babies' future nutritional status. WHO estimates about one-sixth of all babies, or 22 million births annually, are below its minimum standard of 2,500 grams (about 5.5 pounds).

Other surveys have used biochemical measures—analysis of blood and urine—to document the more prevalent types of nutritional diseases in developing countries, such as anemia (iron deficiency), goitre (iodine deficiency), and xerophthalmia (vitamin A deficiency). Anemia is most prevalent in women of child-bearing age and young children. WHO estimates about 260 million women of child-bearing age and 200 million preschool children are anemic. Xerophthalmia leads to blindness, and goitre, when severe, leads to mental impairment. FAO and WHO estimate 250 million children in developing countries go blind every year from xerophthalmia and over 200 million people are affected by goitre.

In addition to problems of measurement and the development of appropriate standards, some studies on malnutrition have been criticized for ignoring the distribution of food within a country. Per capita food availability may appear adequate, but not everyone has equal access because of many complex and interrelated factors—income, food prices, household size, education, seasonal variations in food production, and rural or urban location. As a result, economists are increasingly considering malnutrition within the broader issues of agricultural and rural development. This approach involves examining the impact on nutrition of such factors as employment, access to land, education, and availability of health and sanitation facilities.

Increasing Consumption Levels In Developing Countries

Since nutrition in developing countries is generally placed in a context of an adequate quantity of food, many studies have analyzed the food or nutrition "gap" within a country. This gap may be defined either as the amount of food needed to maintain the current nutritional status or to raise per capita consumption to some specified level. A USDA study shows a food gap in developing countries of 12.4 million metric tons (mmt) for 1983/84 just to maintain per capita consumption at its current level. Approximately 32.8 mmt would be needed to raise per capita consumption to a level associated with FAO's high caloric standards. A 1982 study by the International Food Policy Research Institute used trends in past production and per capita incomes and showed a projected deficit of 75 mmt of food staples in developing countries in the year 2000.

The options available to a country attempting to close the gap are increasing domestic production, redistributing available food supplies, or importing food. The choices made will have an impact on future production and trade of the major exporting countries, including the United States.

Following the food shortages, large imports, and high prices of the early 1970's, many countries reevaluated their agricultural policies and placed greater emphasis on increasing production to achieve self-sufficiency. However, producing sufficient quantities of all foods for domestic needs may be far more costly than importing products from countries where fertile farmland, inexpensive labor, or favorable climates provide a comparative cost advantage. However, to the extent that food-deficit countries are successful in increasing production, growth in food imports will slow and current levels of imports could decline.

Many developing countries have attempted to increase consumption and improve nutrition through food price subsidies, food stamps, and other nutrition programs. Through the subsidy programs, governments buy food and sell it below cost to low-income consumers who benefit from increased consumption and a greater share of income available for additional food and nonfood purchases. These programs can be very costly, and for some countries, such as Egypt, Bangladesh, and Sri Lanka, have represented a large share of the government budget. While some subsidy programs have successfully reached large segments of the population, not all the beneficiaries are those most in need of food, but rather those who have adequate income or access to the food, such as persons in urban areas where the programs are more prevalent. The subsidy programs also tend to lower producer prices, which can depress local production and necessitate food imports.

Many developing countries have turned to imports to meet their food needs. Imports have been mostly commercial sales, but also include food aid purchased at concessional rates or received as a donation (*see related story in this issue*). Although commercial food imports help fill the gap between production and consumption needs, they generally flow into retail channels and are more a response to effective demand than nutritional needs. Food imports are sometimes used to bolster supplies for government subsidy and rationing programs when domestic production is low.

A 1982 report by the United Nations International Children's Emergency Fund (UNICEF) outlined four steps to attack malnutrition in children, assuming that it can be reduced in the short-term without accompanying improvements in food production, employment, income distribution, or other long-term structural conditions: oral rehydration therapy (ORT) to treat the dehydration that accompanies diarrheal infection, the

greatest single cause of death among children; universal child immunization; the promotion of breast feeding; and the use of growth charts to monitor development. The report states that these immediate measures have greater potential than in the past because of new scientific knowledge, such as the discovery of ORT and improvements in community health organizations. □

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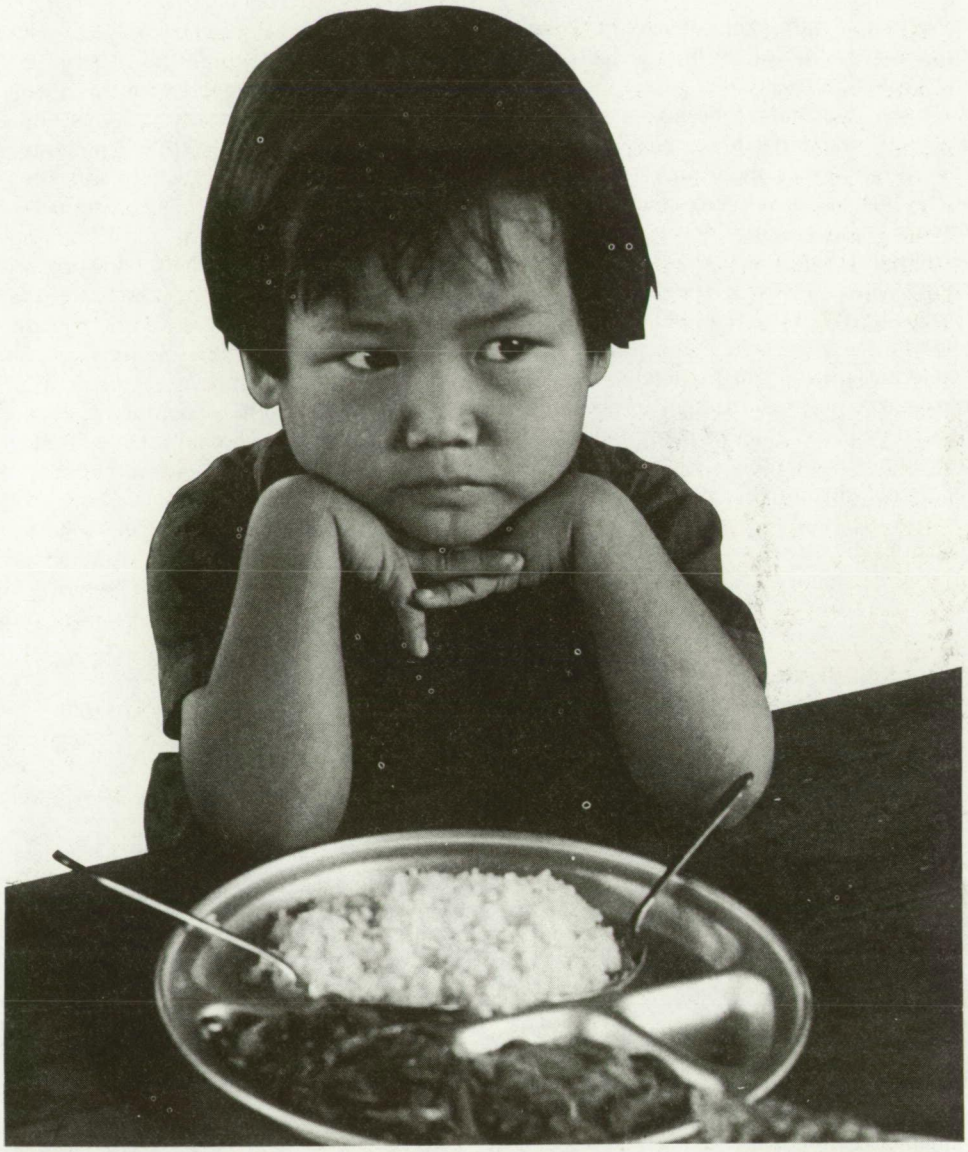
Food Aid: Help for Hungry Nations

Kevin Lanagan, Carol Goodloe and
Fred Blott
(202) 447-8470



Many countries able to provide their populations with adequate food and nutrition assist needy countries by distributing either surplus commodities or currency and credit to purchase these foods. About 20 percent of the food imported by the neediest countries is provided on noncommercial terms from over 20 countries.

The United States traditionally has been the leading contributor. In 1982/83, the United States supplied 5.5 million metric tons (mmt) of food worth $1.1 billion to over 80 countries, accounting for over 59 percent of the shipments of cereal grains for food aid (table 1).

Public Law 480

Public Law 480, the Food for Peace program, is the primary means by which the United States provides food aid to other countries. Enacted in 1954, P.L. 480 has four objectives: it provides humanitarian assistance, expands international trade and develops markets for U.S. agricultural commodities, supports

economic growth within developing countries, and promotes the foreign policy of the United States.

Three separate programs within P.L. 480 support these goals. Under title I, the Government provides concessional loans to developing countries—low interest rates and long repayment terms—to purchase U.S. agricultural commodities. Title I, the largest component of P.L. 480, has helped develop export markets and contributed to economic growth and higher incomes in recipient countries through projects financed by the sale of U.S. commodities in the domestic markets. Higher incomes, in turn, encourage larger commercial sales in the future. Among the countries which have moved from title I to commercial purchases are Japan, Spain, Taiwan, Brazil, and most recently, Korea and Portugal. Moreover, because developing countries are expected to be among the largest growth markets for U.S. agricultural exports, title I will retain its importance for future market development activities for U.S. agriculture.

Title II provides food donations through agencies, such as Catholic Relief Services, CARE, and the World Food Program of the United Nations, and government-to-government agreements. Food is provided to meet famine or other urgent relief needs, combat malnutrition, and promote economic and community development.

A major priority of title II is to help meet nutritional needs of vulnerable groups. Generally, programs emphasize mother-child health activities and school feeding, but also include food-for-work projects. In recent years, annual food donations through title II have gone to about 80 countries in Africa, Asia, and Latin America. Among the largest recipients have been India, Bangladesh, Egypt, and the Philippines.

Title III, authorized by Congress in 1977, is similar to title I, but forgives the original loan if the country uses the local currencies generated by the sale of commodities for programs in agricultural and rural development, nutrition, health services, and population planning. The title III programs are developed to cover a period of 3 to 5 years and are targeted toward the poorest of the developing countries. Agreements have been signed with Bangladesh, Bolivia, Egypt, Honduras, Senegal, and Sudan.

Table 1.—Commitments and Shipments of Food Aid in Cereals, July-June

Donors	Shipments								
	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83[2]	1983/84[3]
	1,000 metric tons								
Argentina	—	22	32	30	38	67	20	47	35
Australia	268	230	252	312	304	370	485	450	400
Austria	—	—	—	—	—	32	20	20	20
Canada	1,034	1,176	884	735	730	600	600	805	600
China	—	12	68	3	25	2	6	2	—
EC[1]	928	1,131	1,374	1,159	1,205	1,263	1,449	1,550	1,650
Finland	25	33	47	9	14	29	20	20	20
India	—	—	100	295	80	51	—	—	—
Japan	33	46	135	352	688	893	507	400	450
Norway	10	10	10	10	11	40	39	40	30
Saudi Arabia	—	—	—	26	10	31	32	—	—
Spain	—	—	—	—	—	14	22	24	20
Sweden	47	122	104	104	98	94	119	120	40
Switzerland	35	33	32	32	32	16	22	43	27
Turkey	—	20	13	5	5	15	4	—	—
U.S.	4,284	6,147	5,992	6,237	5,338	5,212	5,341	5,500	5,200
WFP purchases	NA	63	57	72	22	13	24	30	30
Others	199	62	116	104	270	166	323	238	200
Total	6,863	9,107	9,216	9,485	8,976	8,908	9,033	9,289	8,722
U.S. share	62.4%	67.5%	65.0%	65.8%	59.5%	58.5%	59.1%	59.2%	59.6%

NA = Not available.
WFP = World Food Program.
— = No donation.
[1]European Community. Includes member states.
[2]Estimate.
[3]Represent mainly minimum commitments under the Food Aid Convention, 1980 or budgetary allocations.
Source: Food Outlook, Food and Agriculture Organization (FAO), July 26, 1983.

Table 2.—Summary of Import Requirements and Aid Needs for 1983/84

	1982/83 cereal imports	1983/84 import requirements		1983/84 aid needs	
		Status quo[1]	Nutrition based[2]	Status quo[1]	Nutrition based[2]
		1,000 metric tons			
Africa and Middle East	17,428	18,184	22,014	7,843	12,234
Angola	385	311	302	71	62
Egypt	7,199	7,714	4,019	3,317	0
Ghana	185	247	538	166	458
Kenya	140	318	1,080	215	977
Madagascar	398	400	203	372	175
Morocco	2,219	2,418	1,658	200	377
Mozambique	433	669	1,272	484	1,087
Somalia	295	355	293	284	222
Sudan	292	224	501	224	501
Tanzania	372	450	816	394	759
Others[3]	5,510	6,078	11,332	2,116	7,616
Asia	10,248	7,145	21,725	3,215	18,337
Afghanistan	0	125	144	101	121
Bangladesh	2,206	1,256	6,132	1,085	6,045
India	3,560	0	9,805	0	8,239
Indonesia	2,047	2,329	0	297	0
Kampuchea (Cambodia)	85	123	253	94	224
Laos	50	55	63	0	0
Nepal	0	0	854	0	854
Pakistan	−900	0	0	0	0
Philippines	1,240	1,122	1,366	382	626
Sri Lanka	750	783	1,090	83	390
Vietnam	1,210	1,352	2,018	1,173	1,838
Latin America	4,163	4,365	4,618	1,335	2,254
Bolivia	270	590	703	333	445
Colombia	537	517	0	0	0
Costa Rica	145	107	74	0	0
Dominican Republic	345	327	398	0	80
Ecuador	320	342	417	72	172
El Salvador	179	219	290	138	208
Guatemala	108	129	81	0	0
Haiti	206	221	449	94	321
Honduras	75	103	181	6	80
Jamaica	418	450	380	133	64
Nicaragua	7	40	0	0	0
Peru	1,553	1,320	1,645	559	884
Total	31,839	29,694	48,357	12,393	32,825

[1]Amount necessary to maintain average per capita intake levels achieved during 1979-82.
[2]Amount necessary to improve per capita intake to minimum levels recommended by FAO.
[3]Includes 34 countries.

Since 1954, P.L. 480 has provided more than 300 mmt of commodities valued at $32 billion, including wheat and wheat products, corn and corn products, sorghum, rice, nonfat dry milk, and soybean oil. Although the volume of donations as a share of total U.S. agricultural exports has declined in recent years, P.L. 480 remains important. During 1982, P.L. 480 shipments accounted for 7.9 percent of total U.S. wheat exports; wheat flour, 58.1 percent; rice, 15.2 percent; and soybean oil, 31.9 percent.

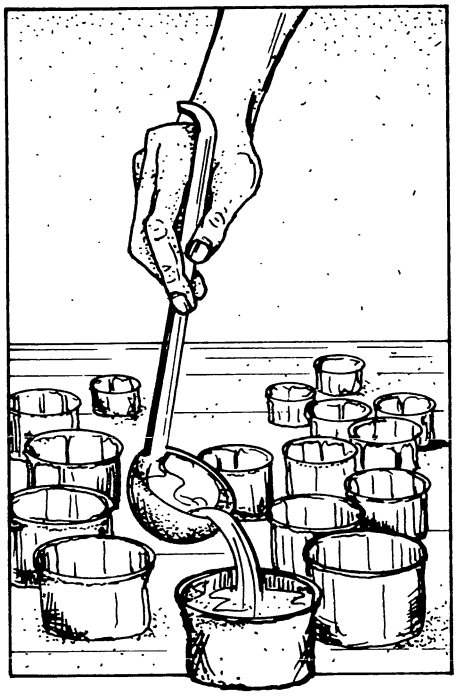
The United States established a 4-million-ton Food Security Wheat Reserve in January 1981 to ensure availabilities for P.L. 480 to meet urgent needs in developing countries, even if U.S. supplies are tight. Up to 300,000 tons of the reserve may be used annually for unexpected emergency situations, when title II funding has been fully utilized and Congress is unable to appropriate additional money for P.L. 480 in a timely manner.

Other Programs

Food aid to poor nations is also provided through two major international efforts of the United Nations: the World Food Program (WFP), initiated in 1963 by the UN's General Assembly and the Food and Agricultural Organization, and the International Emergency Food Reserve (IEFR), created in 1976 and administered by the WFP.

Countries, including the United States, donate either commodities or cash for food purchases for distribution through the WFP to developing nations' school lunch programs, mother and child feeding clinics, food-for-work projects, and other feeding efforts. The WFP also supplies food during emergencies.

The IEFR responds to emergency situations, especially those of refugees and displaced persons, so the WFP can more easily continue its long-term development projects. The IEFR has an annual target of 500,000 tons of food commodities. Contributions are voluntary, with the United States providing over 250,000 tons in 1982.



Food Aid Needs

Most of the developing world failed to show significant improvement in food production during 1982/83. In addition, the population in developing countries increased by nearly 40 million, exceeding the productive capacity of their agricultural sectors.

Meanwhile, nearly all developed and centrally planned countries showed increases in cereal production. High yields, along with dampened world trade, resulted in large stocks of grains. Such abundant global stocks and low world prices would normally allow for increases in per-capita consumption in medium- and low-income countries. However, severe financial constraints in many of the poorest countries limited commercial trade. Instead, these countries relied heavily on concessional financing for food purchases. World food aid totaled 9.3 mmt of cereals in 1982/83. P.L. 480 assistance alone amounted to 5.5 mmt of grain and processed food valued at over $1 billion.

The outlook for food supplies in 1983/84 appears somewhat more favorable. Per capita cereal production in low-income countries is expected to increase marginally, but still remain below food needs. Financial conditions in poor nations are likely to decline further. Therefore, even if prices remain stable in 1983/84, most poor countries will not be able to purchase as much food as they did the previous year.

Needing supplies to keep their populations adequately nourished, but lacking the funds, many poor countries will require substantial food aid in 1983/84 (table 2). To maintain per capita consumption at the average level of the four most recent years, countries such as Madagascar, Mozambique, Somalia, Tanzania, Bangladesh, Vietnam, Bolivia, and Peru will each need over 280,000 tons of food aid in 1983/84. Even larger amounts of food would be needed to raise the nutritional levels in many of these countries.

Ghana, Kenya, and Sudan will each need in excess of 150,000 tons of cereal grains to maintain current consumption. Bangladesh and Vietnam could need 1 mmt each, Bolivia and Peru, 900,000 tons, and El Salvador and Haiti, 100,000 tons each, depending on actual harvests in late 1983.

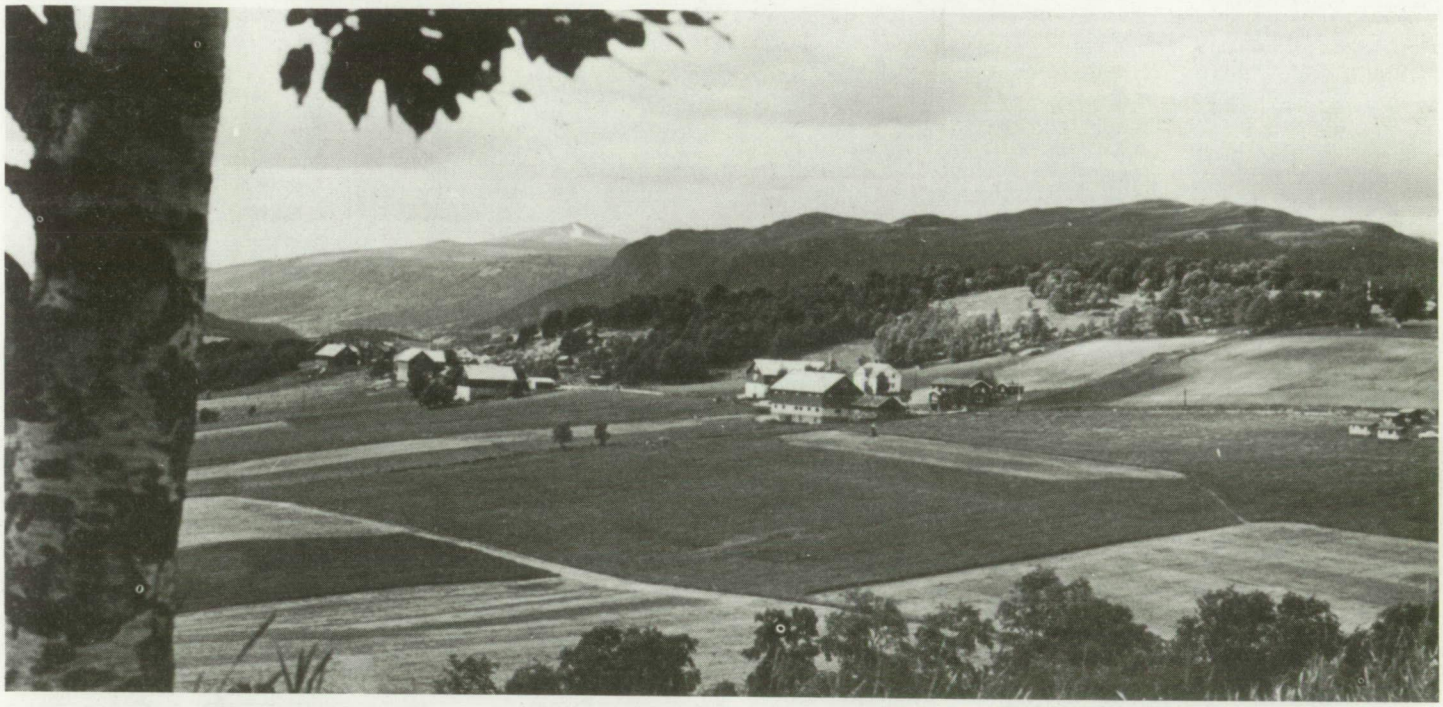
Food Aid Budgets

Donations are subject to both food aid budgets and commodity prices. In 1981/82, for example, limited funds for food assistance and higher commodity prices led to some shrinkage in donations. While budgets failed to increase substantially in 1982/83, relatively low prices prevented further reductions in quantity.

High stocks and good cereal crops this year will ensure that most donors will have adequate and relatively low-priced supplies through mid-1984. However, significant increases in the volume of donations are not likely given the only marginal increases in aid budgets (table 1). Based on the composition of past food donations, 1982/83 budgets, and 1983/84 budget forecasts, a total of approximately 9.6 mmt, including 9 mmt of cereal and 500,000 to 600,000 tons of other products will be provided over the next year, versus aid needs of between 12.4 mmt and 32.8 mmt (table 2). U.S. donations will likely be curtailed by smaller grain crops resulting from the 1983 drought in the Midwest. □

Norwegian Nutrition and Food Policy

Marshall Cohen
(202) 447-8289



Norway instituted the first comprehensive integrated nutrition, food, and agricultural policy in Western Europe in 1975 to improve diets, increase food production, develop agricultural resources in disadvantaged areas, and promote domestic products. This ambitious pioneer project was partly in response to a resolution affirmed during the World Food Conference in Rome in 1974 that each country formulate integrated food and nutrition plans. In addition, Norway was concerned about alarming increases in serious diseases in that country. According to scientific research, the links between diet and certain medical disorders appeared to be unquestionable.

A Changing Diet

The diet in Norway improved dramatically after World War II, contributing to longer life expectancy rates and reduced infant mortality. The diet became more abundant and well-balanced, partly due to increased imports of high quality fruits, vegetables, and protein feeds, many of them from the United States. However, the proportion of fats, especially saturated fats, in the diet also increased, sugar intake rose, while the proportion of carbohydrates to total caloric intake declined, factors that may have had a negative effect on national health.

The Norwegian perception that changes in the diet were necessary was based on research there and in many other developed countries which uncovered strong relationships between diet and health, particularly between high levels of fat consumption (especially saturated fat) and cardiac disorders and certain forms of cancers. Cardiovascular disease in Norway among the middle-aged population increased following the postwar period. Tooth decay, obesity, certain digestive disorders, and iron deficiency anemia also increased.

The long-range nutrition and food policy was detailed in a 1975 report to the Norwegian Storting (parliament). A 1981 study restated the objectives of the initial report, evaluated its direction, and added further recommendations, particularly related to preventive health care and intensifying the coordination and dissemination of information.

Both documents stressed the importance of improving the Norwegian diet. Consequently, the following guidelines were established, although the 1981 report emphasized that "it does not set up a standard prescription for what the diet of each individual Norwegian ought to be...(but) concerns the diet of the population as a whole."

- The diet should be modified to reduce total fat consumption from 42.5 percent (a level which was relatively constant during the 1974-78 period) to 35 percent by 1990. Some fat should be replaced through increased consumption of grain-based foods, potatoes, fruits, and vegetables.
- Skim milk consumption should be increased at the expense of whole milk.
- Consumption of red meat should be held constant at about 1975 levels. (The 1981 report assumed that the long-run reduction in the fat content of meat would continue through selective breeding and feed techniques.)

The 1981 report emphasized improving both educational and scientific research relating directly to food and nutrition, as

well as updating instruction in nutrition and preventive medicine in the school system. The report also emphasized continuing research in food biology and the effects of industrial processing and preservation of food on nutrition, as vitally important to producing quality foods.

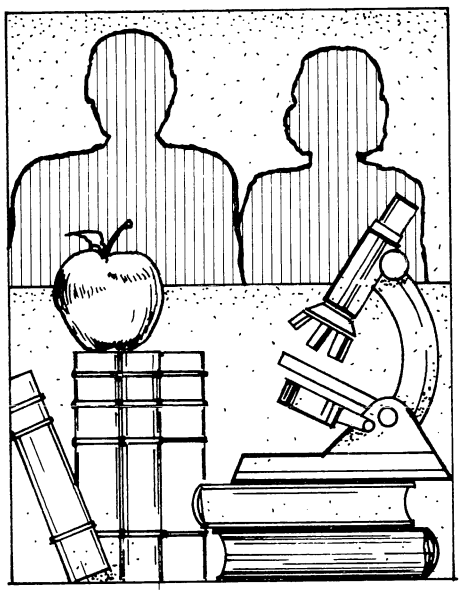
Implementing the Policy

Implementation of the food and nutrition policy was based on consumer education, cooperation with producers and manufacturers, and subsidies.

Norway recognized that consumer education is a highly important and flexible tool for shifting food demand and altering dietary habits, particularly since information related to diet and health is continually changing. The National Nutrition Council, established in 1946, plays a very important public information role, as well as proposing nutrition and food policy to the government. In addition, many other government agencies, voluntary organizations, and private producers and manufacturers publish a wide range of information related to nutrition.

Voluntary cooperation among food producers, manufacturers, and the Government to change product-mix towards nutritional objectives was effectively demonstrated when the margarine industry lowered the percentage of saturated fat in its products. In Norway, the use of hardened marine fat, which has a relatively high content of saturated fat, has declined from 46 percent to about 41 percent since 1975. The industry has also successfully promoted margarine largely made from soybean oil, which now represents about 50 percent of total margarine consumption. These developments have played a significant role in reducing edible fat consumption in Norway.

Subsidies paid to producers have been one of the major economic instruments used by the government, both to encourage production and to restrain possible increases in retail prices. Producer prices for nearly all the major commodities produced in Norway are set at levels



above world market prices to support income and ensure that production remains relatively high, the latter reflecting a longstanding philosophy which began with the urgent need for food during and following World War II. The per-unit subsidy amounts to the difference between the designated higher producer price and that necessary to keep consumer prices at a particular level. Because of the effect on retail prices, these payments are referred to as consumer subsidies. The subsidies have been an effective price policy tool, particularly when certain categories of producers, notably dairy farmers, needed to receive relatively higher prices while consumer prices were restrained. They have usually been applied during periods of relatively high inflation.

The subsidies have also been used to stimulate consumption of specific products, including nutritionally beneficial foods. Nutrition policy has played an important role in determining the choice of certain foods to be subsidized. Currently, they apply only to dairy products, beef, veal, lamb, bread grain, and fish products.

Norway imposes a 20-percent value-added tax (VAT) at each stage of the marketing system—producing, processing, wholesaling, and retailing—and applies it as a sales tax to foods. A second price policy tool involves compensation to producers of dairy and fish products, beef, veal, lamb, and bread grain for this tax. This reduces retail prices, thereby serving as a consumer subsidy.

During the 1973-80 period, consumer subsidies and VAT compensation rose from 848 million kroner ($166 million) to 3.4 billion kroner ($677 million). The government reduced total subsidies to 2.6 billion kroner ($482 million) in 1981 to cut costs and lower taxes. In 1982, more subsidies were reduced or removed. Those on flour, which had held down prices since 1964 regardless of world price, were sharply reduced in 1982.

Policy Effects

Shifting consumption away from some foods has not yet been fully achieved, although a trend of reduced consumption of edible fat—a major policy goal—has emerged. Fat contributed about 42.5 percent of total caloric consumption in 1975 and declined to 38 percent in 1979, with the goal of 35 percent by 1990.

Per capita consumption of some of the key food groups responsible for contributing fat to the diet, such as whole milk, margarine, and pork, have declined since the policy was implemented in 1975. The sharp increase in the substitution of skim milk for whole milk largely reflects a favorable price differential brought about by higher consumer subsidies for skim milk. The enormous growth in real per capita income, from $4,738 in 1971 to $13,129 in 1981, largely explains the continued high levels of meat consumption, a major contributor to fat in the diet. Red meat consumption averaged 33.1 kilograms (kgs.) per person in 1953-55, but climbed to 49 kgs. by 1975 and 52 kgs. by 1980, then declined to 47.2 kgs. in 1982.

A sharp increase in meat prices did not encourage greater fish consumption between 1975 and 1979, a recommendation of the nutrition policy. However, studies related to improving the marketing and distribution of fresh fish are in progress in Norway. Consumption of fish increased between 1979 and 1982, and total red meat consumption fell, probably reflecting the effect of a relatively high

Table 1.—Per Capita Consumption of Selected Foods in Norway

Food category	1953-55	1970	1975	1976	1977	1978	1979	1980	1981	1982[1]	1990[2]
						Kilograms per capita					
Grain (including rice)	98.0	71.0	74.9	76.8	76.8	76.4	77.5	79.5	81.2	78.7	90.0
Potatoes (including potato flour)	92.0	85.8	79.4	79.0	78.6	75.3	73.4	71.4	71.9	72.6	93.0
Beef and veal	19.9	22.7	28.5	27.6	28.9	29.6	29.9	30.4	27.6	29.2	NA
Pork	13.2	17.7	20.5	22.0	21.1	20.4	20.8	21.6	19.5	18.0	NA
Red meat (total)	33.1	40.4	49.0	49.6	50.0	50.0	50.7	52.0	47.1	47.2	45.0
Eggs	7.3	9.6	9.4	9.9	9.8	10.7	11.1	11.2	11.3	11.8	10.0
Fish	39.6	39.5	26.3	29.5	33.9	30.2	29.8	33.7	36.6	35.0	40.0
Milk (whole)	193.4	172.0	169.2	165.6	161.0	160.1	161.3	163.8	161.6	156.8	135.0
Skim milk	10.0	15.2	26.8	27.9	29.1	29.8	28.2	29.6	31.8	34.1	60.1
Butter	3.8	5.5	4.6	5.3	5.1	5.3	5.3	5.6	4.7	4.9	6.5
Margarine	24.0	18.7	17.6	16.6	16.0	15.8	15.3	16.5	14.7	14.8	12.5

NA = Not available.
[1]Estimated.
[2]Forecast.
Sources: Report No. 11 to the Storting (Parliament) On the Followup of Norwegian Nutrition Policy, Norwegian Ministry of Health and Social Affairs, 1981/82, July 10, 1981; Central Statistical Office (Statistisk Sentrabyra, Oslo, Norway).

VAT compensation subsidy applying to fresh and processed fish and fish products.

Carbohydrates in the diet rose to 49 percent in 1979 from 46 percent in 1975. However, the rising intake of sugar played a large role in this increase, despite policy recommendations for reduced consumption. Grain consumption has increased gradually since 1975, but is still far short of 1953-55 levels.

Another aim of the Norwegian policy—to ensure availability of a nutritious food supply for the population through increased production—has been achieved. Although Norway's agricultural self-sufficiency rate of nearly 50 percent has not changed perceptively since the mid-1950's, total per capita food consumption has increased by nearly 40 percent, and Norway produces surpluses of meats and dairy products. Furthermore, grain acreage has continued to increase, and cultivated farmland is likely to rise as farmers in economically disadvantaged areas respond to special price support programs.

Conclusion

Although the 1981 report endorsed a continued mix of price adjustments and subsidies to improve the national diet and increase domestic production, economic and political factors have changed, shifting policy emphasis. The present government has deemphasized the use of consumer subsidies and VAT compensation and has adjusted agricultural supply and demand policies to eliminate surpluses and meet farm income targets.

The effectiveness of consumer subsidies in altering consumption can only be demonstrated for certain food categories, most notably the increased substitution of skim milk for whole milk. Other factors, such as the relative size of the subsidy to price as well as consumer tastes and customs, may play larger roles in determining consumption patterns. The reduction in subsidies has, however, resulted in a lower per capita consumption of dairy products and meat, increasing the problem of surplus disposal.

The Norwegian experience with nutrition and food policy is reflected in national health data that indicate the rate of increase in cardiac disorders has slowed—a development probably linked to reduced fat consumption and the impact of consumer education. Norway's nutrition and food policy is long range, and consequently may be subject to considerable modification since life styles and information related to diet and health, as well as economic and political forces, change. Norway's pioneer policy, however, will continue to raise important questions relating to the extent to which a government can effectively intervene in shaping consumer decisions relating to food. □

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Organic Farming Grows In Western Europe

Stephen Sposato
(202) 447-8289

Market days are still a tradition in Western Europe. Vendors bring fresh fruit, vegetables, and meats from nearby farms to designated city squares where shoppers often find several stands selling organically grown food.

USDA defines organic farming as food production largely without synthetically compounded fertilizers, pesticides, growth regulators, and livestock and poultry feed additives.

Organic farming has a long history in Europe and has been increasing the last 15 years because of the characteristics of European agriculture, consumer concerns about healthy diets, product promotion, and the existence of "schools" of organic farming based on different philosophical concepts and technical practices. Although strictly organic techniques were applied to less than 1 percent of farmland in the 10 countries of the European Community (EC) in 1982, the impact on food retailing and consumer attitudes is widespread.

Influences on Organic Farming

One factor tending to favor organic farming in Europe is the smaller average farm size, compared to farms in the United States. A 60-to-80 acre farm is typical in Europe, while U.S. farms average over 400 acres. Small farms can more easily produce a mixture of crops and livestock, a practice that lends itself best to organic farming because of the availability of fertilizers from animal manures and organically grown feeds.

Farms in Europe have remained small for both historical and policy reasons. Government protection of agriculture in Germany, for example, dates from the 1880's and has allowed small farms to remain viable. Laws limiting the size of livestock farms exist in Switzerland and Finland. Sweden has a number of policy measures that "protect the family farm," including limiting the number of acres per farm. Denmark and France have similar limitations, although these are rarely applied in France.

The rising cost of farm chemicals, influenced by increased energy prices, has also induced some farmers to turn to organic techniques. In many cases, yields are comparable to those achieved with nonorganic farming methods.

In Europe, there are a variety of organizations that support organic farming from production through retailing. Activities include quality control, labeling and promotion, research, and dissemination of information to group members who include farmers, processors, retailers, and consumers. While the groups cross national boundaries, some are more prevalent in one country than another and a few have a following in the United States:

- Bio-Dynamic farming is the largest organization, with members throughout Europe and the United States. Products are marketed under the "Demeter" label in Europe. Research centers exist in Germany, Sweden, Switzerland, Austria, and New York and California. The group's philosophy, known as "Antrophosophy," emphasizes the unity of the spiritual and material in man and is reflected in the desire for healthful agricultural practices.
- Organic-Biological, the next largest group, with a following in Holland, Germany, and the Scandinavian countries, provides extension and commercial trade services for its members. Its trademark is "Bioland." The group has its own philosophy of the role of diet in assuring good health.
- Lemaire-Boucher is the largest group in France. Members are supplied with "Lemaire" products, such as fertilizer from marine algae. The resulting food products are sold under the house label. The group also contracts with many wheat millers and bakers to use Lemaire-grown grains and certain processing practices to guarantee the quality of the product produced.
- Nature et Progres (Nature and Progress) is the second largest group in France, with an active membership of both consumers and producers.
- The Howard-Balfour system is particularly widespread in the United Kingdom, while Macrobiotic has a following in northwestern and central Europe.

Many of these groups organize nature walks, discussions, and other activities that touch a much larger public than their immediate members.

Sophisticated marketing techniques in Europe, particularly specialty shops and "organic" labeling, have helped widen the use of the products. "La Vie Claire" in France, for example, was founded over 30 years ago and currently has more than 200 stores. The "Bioval" label is another important organic trademark in France. There are 1,800 independent diet shops in France carrying these products; 500 are in the Paris region alone. "Lima" in Belgium is another processing and marketing organization which sells organic products throughout Europe.

Organic products are more common in northern European shops than in southern Europe. The widespread existence of family gardens in southern Europe, many of which are organic, may account for much of the apparent difference.

For consumers, health and diet concerns as well as the quality and taste of food have been the driving factors in awakening interest in organically grown products. The 1980 consumer boycott of French veal in nine European nations was indicative of the extent of concern. High levels of synthetic hormones discovered in veal exported for baby food from France to Italy gave the initial impetus to the boycott. Both countries are members of the EC and are regulated by its Common Agricultural Policy (CAP). Public reaction forced stricter enforcement of EC regulations forbidding the use of hormones in animal production.

Organics in the U.S.

An estimated 25,000 U.S. farms, 1 percent of those with agricultural sales of $1,000 or more, produce only with organic methods, while many more use some of these techniques.

The farm structure in the United States presents difficulties for organic farming which, for the most part, do not exist in Europe. The last 20 years, for example, have seen an increase in average farm size here and a switch from mixed crop-

livestock operations to specialized ones which lack the fertilizer and natural feed to farm or raise livestock organically. Large farm size also may inhibit the use of labor-intensive organic techniques.

The economic advantages of the smaller mixed crop and livestock farms were enhanced as energy prices increased in the 1970's. These farms can more readily substitute organic techniques for chemicals. Some larger units have also adopted mixed crop and livestock farming and organic methods.

Marketing of organic foods appears to be more advanced in Europe than in the United States, although strictly comparable data are difficult to obtain. Many U.S. organic products are sold without special labeling or marketing and relatively few specialty shops exist. The Western States show the greatest interest in organic products in the United States.

Organic products face some of the same problems of legal definition in Europe as they do here. Only Oregon, Maine, and California have standards for organic labeling (*see NFR-15*). Efforts at developing a nationwide certification standard for the United States were abandoned in 1973.

In the United States, 22 regional organizations exchange information among members, and certify, inspect, market, and distribute organically-produced crops. The philosophical aspects of organic farming are stressed less in these groups than in Europe.

In Europe, there is both private and government involvement in certification and labeling. In France, producers, processors, and sales outlets have recently joined in an association which has obtained the legal right to set standards for labeling products as organic and for certifying farms providing organically grown produce. Among the other EC countries, only Belgium and Germany have organic labeling regulations set by the government. However, the regulations do not extend to farm certification. To date, the issue of organic labeling has not been addressed by the EC parliament, although a bill has been proposed.

Many European and American organic farm groups belong to the International Federation of Organic Agriculture Movements. The Federation was formed in 1972 and has 80 member organizations in 30 countries. It promotes the aims and principles of organic agriculture, and coordinates organic farming developments internationally. □

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Domestic Food Programs

Larry Traub and Joyce Allen
(202) 447-8491
(202) 475-5119

Since 1935, USDA has purchased excess agricultural production to help stabilize farm prices and has given some of the surplus to the needy. As recently as 1970, 41 percent of the total Federal expenditure for domestic food relief was in direct food distribution; however, by 1980 the level was down to about 4 percent as new food programs relied more on coupons and cash. Now USDA is once again looking to its food stocks as a way to assist needy people.

Current efforts to reduce Federal expenditures, reflected in a number of changes in food assistance program eligibility and benefits, along with high unemployment and large Government stocks of some agricultural products, have renewed interest in distributing surplus commodities to needy persons. In December 1981, the President announced a special program to distribute cheese acquired under Federal dairy price support efforts through food banks and other charitable organizations. USDA funds the processing, packaging, and transporting of the cheese to designated points within each State, where selected local agencies assume responsibility for storing and distributing it to eligible organizations.

Between December 1981 and June 1983, over 424 million pounds of American cheese in 5-pound loaves were distributed through this program. Distribution averaged about 12 million pounds per month for the first 9 months of 1982 but reached 60 million pounds monthly by early 1983, as the network of distribution outlets and volunteers became more firmly established.

In early 1983, USDA announced that cheddar cheese also would be available. From May through June, over 26 million pounds were donated in blocks of 1, 2, and 5 pounds.

Since States differ in their unemployment rates, as well as in the proportion of needy and elderly persons, each is allowed to establish its own eligibility standards for recipients of free cheese. As a result, persons with similar income, age, or family characteristics may be eligible to receive commodities in some States but not others. For example, in some States, all persons 60 years and older may obtain free cheese, while elsewhere only those with annual incomes of less than 185 percent of the Federal poverty guideline established by the Office of Management and Budget are eligible. In other States, persons must be enrolled in an income maintenance program. USDA is currently formalizing guidelines for States to follow in establishing their eligibility standards.

Because of differences in eligibility standards and in the capacity of States to prepare 5-pound loaves of cheese from wheels that weigh several hundred pounds, distribution varies among States. For example, from January 1982 to June 1983, recipients in Iowa received 12.6 million pounds while those in Nebraska, a State similar in economic base and population, received 1.9 million pounds.

One concern associated with the distribution efforts is the impact on commercial sales of cheese. According to USDA estimates, the commercial disappearance of American-type cheese fell 15 percent from the first quarter of 1982 to the same period of 1983. Disappearance is defined as production plus beginning commercial stocks and imports minus ending commercial stocks and USDA purchases. The decline may be partially attributable to the distribution of free cheese. To reduce the impact on commercial sales while guaranteeing an adequate supply for needy persons, USDA stabilized cheese distribution at approximately 25 to 35 million pounds per month.

This action required that USDA change the basis for allocating surplus cheese. Previously, States received cheese based on quantity requested. In late July, USDA began allocating cheese to States for household distribution based on State unemployment, the number of households below the Federal poverty guideline, and the capacity and willingness of the States to utilize the cheese without waste.

Cheese not planned for donation under other programs, called uncommitted Government inventories, amounted to 570.7 million pounds when distribution began on December 31, 1981. Even after donating 424 million pounds, uncommitted inventories had risen 52 percent to 865.6 million pounds by June 30, 1983. However, without the cheese program, these inventories would have risen by 125 percent. The added storage costs for these inventories are estimated at $8.5 million, after adjusting for differences in when cheese would have been purchased and stored during the period. In other words, the addition to inventories would not have been stored all 18 months since cheese was acquired in both January 1982 and June 1983.

In early 1983, the special distribution program was expanded to include other commodities held in stock by USDA's Commodity Credit Corporation (CCC): butter, 10 million pounds distributed monthly; cornmeal and rice, 2 million pounds; instant nonfat dry milk and flour, 5 million pounds; and honey, 3 million pounds. These commodities are allocated to States according to the same criteria used for cheese.

In late July, USDA announced higher monthly distribution levels of some CCC commodities beginning in October 1983: cheese, 35 million pounds; butter, 12 million pounds; instant nonfat dry milk, 7 million pounds; honey, 5 million pounds; and cornmeal, 3 million pounds. Further, States that have contracts with food manufacturers to prepare American cheese and cheddar cheese in consumer sizes from bulk wheels, or to process nonfat dry milk, can receive unlimited quantities of each, as long as these commodities can be used without waste.

To facilitate distribution of these commodities, the Emergency Food Assistance Act (P.L. 98-8) was enacted on April 24, 1983, to provide funds for storage and distribution costs incurred by States and local agencies, such as charitable institutions, food banks, and soup kitchens. The act appropriated $50 million for April-October 1983, with an

upper limit to each agency of 5 percent of the value of commodities distributed.

The act also authorized distribution of up to 75 million dollars' worth of poultry products, pork, beef, fruits, vegetables, and fish products for nutrition assistance in soup kitchens, temporary shelters, and other charitable facilities. These commodities will be allocated to areas of high unemployment, with each State receiving a minimum of 25,000 dollars' worth.

The Temporary Emergency Food Assistance Act (P.L. 98-92) became law on September 2, 1983. It continues the authorization of funds to States for storage and distribution costs of CCC commodities to needy families and unemployed persons provided under P.L. 98-8. The act appropriates $65 million annually for fiscal years (October-September) 1983-85, with an upper limit to each agency of 5 percent of the value of commodities distributed. Further, States that have contracts with food manufacturers to process CCC commodities can receive assistance of up to $10 million each fiscal year. Allocations of commodities available to emergency feeding organizations are made to State agencies in accordance with the number of unemployed persons.

To further reduce Government stocks, USDA established the National Commodity Processing System (NCPS) through which its Food and Nutrition Service (FNS) can contract with manufacturers to process certain surplus agricultural commodities. In turn, these manufacturers sell the processed products nationwide to any eligible agency at prices reduced by the value of the Government-donated ingredients. For example, low-fat mozzarella cheese would be further processed by manufacturers into cheese pizzas. USDA anticipates that NCPS will increase consumption of dairy and other agricultural products by making lower priced processed foods available, which are more easily used by schools and institutions in their feeding programs. Foods proposed to be included in NCPS are American processed and cheddar cheese, butter, nonfat dry milk, and honey. □

FOOD PROGRAMS INFORMATION UPDATE

Total Federal expenditures for USDA food assistance programs increased considerably in the April-June quarter, up 24.1 percent from the same months of 1982. Expanded food distribution to needy households, greater participation in 9 of the 12 food programs, and annual cost-of-food increases in food stamp benefits and meal reimbursement rates were largely responsible for higher program costs. Food stamp benefits are adjusted annually according to changes in the cost of USDA's Thrifty Food Plan, and meal reimbursement rates used in the National School Lunch Program, School Breakfast Program, Child Care Food Program, and Summer Food Service Program reflect changes in the Consumer Price Index for food away from home.

Federal expenditures for the Summer Food Service Program rose from $13.7 million in the second quarter of 1982 to $22.9 million a year later, a 68-percent gain. During this period, average participation climbed from 368,000 to 442,000 persons. Total expenditures for the National School Lunch Program rose from $597.9 million in April-June of 1982 to $695.3 million in the same period of 1983. Similarly, expenditures for the School Breakfast Program increased from $78.8 million to $85.8 million. Average daily participation in the National School Lunch Program and the School Breakfast Program rose by 16.3 percent and 8.8 percent, respectively.

Food stamps worth $2.8 billion were distributed to an average of 21.9 million persons during April, May, and June of 1983. Per-person benefits averaged $42.65 per month. A year earlier, 20.4 million persons (not including those in the Puerto Rico program) participated in the Food Stamp Program (FSP) and received benefits worth $2.4 billion.

In July 1982, the FSP in Puerto Rico was replaced by the Nutritional Assistance Program and funded at $825 million, about $54 million per year below fiscal 1981 Puerto Rican FSP costs. Consequently, Federal expenditures for family food assistance in Puerto Rico fell 13.3 percent during the year, from $225.9 million to $195.8 million. Average monthly benefits were about $40.63 per person in the second quarter of this year, compared with $43.77 a year earlier under the FSP.

Food and administrative costs for the Special Supplemental Food Program for Women, Infants, and Children (WIC) totaled $281.5 million in the second quarter of this year, about $39.7 million higher than a year previous. Average monthly benefits for the 2.5 million WIC participants rose to $30.26 in the second quarter of 1983 from $29.18.

Food valued at $5.9 million was distributed under the Commodity Supplemental Food Program (CSFP) in April-June 1983, about the same as a year earlier. CSFP participation reached an average of 138,000 persons during this period, compared with 128,000 a year earlier. Consequently, monthly benefits per- person fell from $12.91 to $11.21, a 15.2 percent decline.

Table 1.—Federal Cost of USDA Food Programs, Calendar Years, 1980-83

Program	1980	1981	1982	1982 (quarters)[1] I	II	III	IV	1983 (quarters)[1] I	II
				Million dollars (Current)					
Family Food									
Food Stamps	9,004	10,968	10,375	2,647	2,601	2,363	2,764	2,918	2,800
Puerto Rico Assistance[2]	—	—	396	—	—	200	196	196	196
Food Distribution									
Needy Families	23.5	31.1	34.0	7.6	7.9	8.4	10.2	9.4	10.2
Schools[3]	967	834	786	263	104	168	250	266	168
Other[4]	115	109	168	43	27	44	54	47	68
Special Distribution[5]	—	—	304	60	65	55	124	294	352
Cash in Lieu of Commodities	85	112	118	31	31	29	27	21	34
Child Nutrition[6]									
School Lunch	2,395	2,283	2,244	704	531	292	718	782	581
School Breakfast	311	330	328	100	79	45	104	111	86
Special Food[7]	338	401	357	68	81	134	74	80	102
Special Milk	137	72	19	5	4	5	5	5	4
Nonfood Assistance[8]	18	9	—	—	—	—	—	—	—
WIC[9]	783	863	1,003	237	242	261	263	267	282
Total[10]	14,177	16,012	16,132	4,166	3,773	3,605	4,588	4,997	4,683

[1] Preliminary.
[2] Puerto Rico switched from the Food Stamp Program to a nutrition assistance program on July 1, 1982.
[3] Includes child care centers and camps participating in the Child Care and Summer Food Service Programs.
[4] Commodity Supplemental Food Program, Nutrition Program for the Elderly, and donations to charitable institutions.
[5] Initiated December 1981.
[6] Cash expenditures. Includes money donated for local purchase of food.
[7] Divided into Child Care Food Program and Summer Food Service Program in fiscal 1976.
[8] Nonfood assistance was terminated on October 1, 1981.
[9] Special Supplemental Food Program for Women, Infants, and Children. Includes food and administrative costs.
[10] May not add due to rounding.
Source: Computed from monthly data supplied by the Food and Nutrition Service.

Food Spending and Income

Anthony E. Gallo
(202) 447-8707

The U.S. Department of Commerce releases monthly, quarterly, and annual estimates of Disposable Personal Income and its allocation among Personal Consumption Expenditures, Personal Savings, Interest Paid by Consumers to Business, and Personal Transfer Payments to Foreigners. The monthly and quarterly estimates are adjusted to eliminate seasonal fluctuations so that trends can be readily discerned and put on an annual basis for comparing the three series.

An improving economy during the second quarter of 1983 helped boost the Nation's Disposable Personal Income (DPI) to over $2.3 trillion (seasonally adjusted annual rate), 6.7 percent higher than a year earlier. While increased prices absorbed about 4.5 percent of the gain, real income managed to improve by about 2 percent.

Out of the DPI, total Personal Consumption Expenditures (PCE) took $2.2 trillion, up 9 percent. As Americans increased their expenditures, they cut back on savings. The portion of the DPI allocated to savings dropped from almost 6 percent, or $123 billion in the second quarter of 1982, to less than 4 percent, or $89.4 billion in that period this year.

Of the nearly $800 billion in PCE for nondurables, food outlays during the quarter amounted to nearly $370 billion—$265 billion for food at home, while the remaining $105 billion was spent at restaurants and for snacks, not including business meals worth $35 billion. Expenditures for food away from home, which tend to be very sensitive to changes in DPI, rose almost 12 percent. Of this, 5 percent was due to higher prices and 7 percent represented increased volume. Expenditures for food at home rose 5.1 percent, with 3.5 percent reflecting higher prices.

Despite the sharp gain in DPI, Americans still allocated 16 percent for food, unchanged from a year earlier. However, the relative portions going for both food at home and away changed. The share for home needs declined from 11.7 to 11.5 percent, while eating out increased from 4.3 to 4.5 percent.

Table 1.—Personal Consumption Expenditures—Seasonally Adjusted at an Annual Rate

Item	1982 I	1982 II	1982 III	1982 IV	1983 I	1983 II
	Billion dollars (current)					
Total personal consumption expenditures	1938.9	1972.8	2008.8	2046.9	2073.0	2151.3
Nondurables	749.7	754.7	766.6	773.0	777.1	799.8
Food, beverages, and other groceries	449.5	458.0	465.2	471.8	479.0	488.1
Food exc. alcoholic beverages	339.4	345.5	351.2	355.2	361.8	369.3
At home	248.2	251.9	254.7	256.4	259.2	264.8
Away from home	91.2	93.6	96.5	98.8	102.7	104.6
Alcoholic beverages	48.7	49.2	49.2	49.3	49.8	50.8
At home	30.8	31.1	30.7	30.5	30.6	31.1
Away from home	17.9	18.1	18.5	18.8	19.3	19.7
Cleaning and household supplies	21.9	22.3	22.5	22.7	22.8	23.3
Toiletries	16.5	16.9	17.0	17.2	17.6	17.9
Tobacco	23.0	24.2	25.3	27.3	26.9	26.9
Drugs	19.4	19.9	20.1	20.3	21.4	21.5
Clothing and shoes	118.4	119.0	119.2	119.6	120.0	126.3
Gas and oil	94.0	89.6	91.3	91.1	87.3	90.9
Fuel oil and coal	19.4	19.6	20.9	20.2	17.7	20.6
Other	49.0	48.7	49.8	50.1	51.7	52.4
Durables	239.4	242.9	243.4	252.1	258.5	278.1
Motor vehicles and parts	106.4	107.6	109.4	116.1	118.4	134.5
Furniture and household equipment	91.7	93.9	93.5	94.9	97.3	100.5
Other	41.3	41.4	40.5	41.0	42.9	43.1
Services	949.7	975.2	998.9	1021.8	1037.4	1073.4
Housing	323.8	329.7	337.8	345.2	352.6	361.0
Household operation	140.2	144.6	145.2	147.1	145.9	157.2
Transportation	66.5	68.0	69.8	69.2	70.1	73.1
Personal care	18.1	18.2	18.4	18.6	18.5	18.6
Medical care	188.7	194.4	199.9	203.5	207.0	212.3
Personal bus. service	105.2	109.2	114.9	122.9	127.0	132.3
Recreational services	46.4	47.8	48.8	49.3	49.8	51.7
Other	60.8	63.2	64.1	66.0	66.4	67.2
Savings	130.8	127.1	123.0	120.8	121.7	89.4
Other	58.2	59.1	59.7	60.1	61.2	62.1
Disposable Personal Income	2127.9	2159.0	2191.5	2227.8	2255.9	2302.8

Among the other PCE sectors, durables accounted for $278 billion during the second quarter, compared with $243 billion a year earlier and services took nearly $1.1 trillion, compared with $975 billion in 1982. □

Productivity and Food Costs

Lloyd D. Teigen
(202) 447-8168

Dime-a-loaf bread and fifty-cents-a-pound steak are reminders of what were considered part of the "good old days." However, those prices were really not such a bargain in terms of work time required to buy the products. Lower productivity and lower wages meant that the typical wage earner worked over 2 hours in 1929 to earn enough to buy what it took only about 64 minutes to purchase in 1982.

Relating the Consumer Price Index (CPI) for food to wages (after taxes and social security payments) over the decades reveals the work time required to purchase a comparable market basket of food: 1940, 79 minutes; 1950, 83 minutes; 1960, 66 minutes; and 1970, 58 minutes. By comparing the minutes of work required each year to those in a selected or base year, an index was developed which indicates changes in the amount of time required to purchase products (table 1).

The index indicates, for example, that the "price" of food, measured in minutes of work in 1970 was 3 percent lower than in the 1967 base year. Similarly, in 1980 costs were 7.3 percent higher.

Changes in the minutes of work required between decades can also be measured. The index fell from 137.6 points in 1950 to 109.7 in 1960, for instance, a decline in work time required of 20.3 percent.

This index of work time as an alternative measure of food costs has a distinct advantage over considering fluctuations in food prices alone. The latter may be misleading since both prices and wages tend to change disproportionately over time, affecting the relative cost of food. For example, while retail food prices were more than four times higher in 1980 than 50 years earlier, average wages were almost 10 times greater.

The alternative measure reflects changes in the price of food, wages, and tax rates. The real cost of food, for example, will decrease as the price of food declines, wages rise, or tax rates fall.

Table 1.—Index of Food Prices in Work Time, 1940-80[1]

	1940	1950	1960	1970	1980	1982
			1967=100			
Total food	131.4	137.6	109.7	97.0	107.3	106.0
Cereals and bakery products	139.3	122.8	108.6	91.9	103.8	105.1
Margarine	207.9	184.7	110.5	89.5	101.7	95.8
Sugar and sweets	152.3	140.0	112.3	97.1	143.8	136.3
Nonalcoholic beverages	—	160.1	114.1	99.1	166.8	157.3
Fresh fruits and vegetables	113.0	113.8	105.5	98.2	106.5	110.8
Processed fruits and vegetables	161.3	138.1	115.8	92.2	102.2	106.1
Meats	117.2	148.3	108.7	99.3	104.9	100.3
Beef and veal	124.0	158.5	114.8	100.9	113.9	102.6
Pork	112.7	141.3	101.9	97.8	88.1	95.7
Poultry	273.6	261.9	133.3	91.5	80.3	72.4
Fish	97.8	135.0	105.0	99.6	139.2	137.5
Dairy products	148.6	134.1	110.2	94.4	95.8	91.6
Eggs	238.9	218.7	141.1	106.0	71.5	66.3

[1]CPI relative to average hourly wage after taxes and social security payments.

Table 2.—The Price of Selected Food Items in Minutes of Work[1]

Item	Amount	1930	1950	1970	1980	1982
				Minutes		
Round steak	1 lb.	48.4	43.8	28.8	29.4	29.8
Potatoes	10 lb.	40.9	23.3	20.7	22.1	21.3
Bacon	1 lb.	48.3	29.8	21.0	15.5	22.6
Eggs	1 doz.	50.6	28.3	13.6	8.9	8.8
Bread	1 lb.	9.8	6.7	5.4	5.4	5.4
Butter	1 lb.	52.7	34.1	19.2	20.0	20.7
Milk	1 qt.	16.0	9.6	7.3	5.6	5.7
Coffee	1 lb.	44.9	37.2	20.2	33.3	25.5
Sugar	5 lb.	34.7	22.7	14.4	22.8	17.4
All the above	1 ea.	305.4	212.2	129.9	140.9	135.9

[1]Price of food item relative to manufacturing wage rate after taxes and employee social security contributions.

Food Prices Fall

The index of food prices in work time fell from 131.4 in 1940 to 106 in 1982, a 19.3 percent decrease. The decline, however, wasn't steady over the 40-year period. Real food costs declined by more than 2.5 percent annually from 1947 to 1972, then increased 11 percent from 1972 to 1974, and have varied less than 3 percent per year since. On the index, the cost of pork fell over 15.1 percent and beef and veal almost 17.3 percent from 1940 to 1982. Poultry costs declined nearly 73.5 percent, reflecting substantial boosts in productivity in the industry (*see NFR-23*). In contrast, the cost of fish rose by 40.6 percent over the 40-year period. The index of work time fell 38.4 percent for dairy products, almost 34.2 percent for processed fruits and vegetables, and 24.6 percent for cereals and baked goods. Fresh fruit and vegetable costs declined only 1.9 percent between 1940 and 1982, while sugar fell 10.5 percent.

Real food costs, in general, were higher in 1982 than in 1970, reflecting the dramatic changes occurring during the period. Farm prices, for example, rose in response to higher costs of production resulting from increases in energy prices. Rising energy costs in the food processing and distribution industries further increased food prices. At the same time, after-tax wage rates didn't rise fast enough to offset higher food costs. As a result, more work time was required to purchase the same quantity of food products as in 1970. The share of total income spent for food, however, did decline slightly due to increases in both the labor force and the number of hours worked per person.

Total food costs were approximately 9 percent higher in 1982 than 12 years earlier. The largest increase—58.7 percent—occurred for nonalcoholic beverages, reflecting a 40.4-percent rise in the real cost of sugars and sweeteners.

Productivity Gains

The reduction in relative food costs between 1940 and 1982 may be attributed primarily to greater output per hour and the resulting increases in wages which raised the value of work time. Labor productivity is an important factor in the final cost of food since salary and employee benefits in the food marketing system nearly equal the farm value of domestically produced foods.

Output per hour in the nonfarm economy increased more than 2 percent per year during 1950-72 and wages increased almost 4.4 percent per year, or 2 percent faster than the general price level. From 1973 to 1977, output per hour declined an average of less than 1 percent per year because of such factors as higher energy prices, inadequate or unproductive plant and equipment investments, and increased regulation. Productivity decreases mean more time is required to produce products. The resulting higher labor costs per unit are passed on to the consumer as retail prices rise. Output per hour has not changed since 1977.

Gains in productivity on the farm have also been important for increasing the food supply and lowering real food prices. Technological advances have increased the productivity of agricultural resources and have enabled greater output per farm. Virtually the entire rise in crop production is due to higher yields per acre, with increased fertilizer and pest control playing a substantial role. The increased use of feed concentrates and improved animal health practices have raised the output per breeding animal. Since 1930, livestock output has grown at an average of 1.5 percent a year, while crop output increased 1.6 percent.

How Do U.S. Food Expenditures Compare?

U.S. consumers spend a smaller fraction of personal disposable income on food than any other nation. With income rising far faster than expenditures, the share of income used for food purchases has fallen from 27 percent in 1940 to 16 percent today. According to 1979 data, the proportion varies considerably worldwide: 17 percent in Britain; 34 percent in Russia; 53 percent in Sierra Leone; and 56 percent in India.□

What is the Prospect for the Real Cost of Food?

Food prices this year will likely be up less than 3 percent over 1982, while hourly wages will increase 4 to 5 percent, indicating a 1 to 2 percent real cost decline.

With the combined effects of the 1983 drought in the Midwest and the payment-in-kind program (*see NFR-22*), food prices may rise 4 to 7 percent in 1984. Wages across most industries should be about 4 percent higher, reflecting contracts negotiated in 1982. However, social security rates are scheduled to increase 0.3 percent in 1984, and higher wages would raise average income tax rates about half a point higher, so that an hour of work in 1984 would generate less than 3 percent additional cash than in 1983. Expressed as hours of work, the cost of food in 1984 may be 1 to 3 percent higher—or approximately the same as in 1982.

Over the long term, real food costs have declined, but a number of factors may slow this trend in the years ahead: social security tax rates are scheduled to rise in 1984, 1988, and 1989, and overall increases in incomes will raise the effective tax rate paid. If changes in the structure of employment in the United States continue to emphasize growth in industries with traditionally low wages (services, wholesale and retail trade, and finance, insurance, and real estate), average wages will rise more slowly.

Nonfarm labor costs are more than one-quarter of the retail price of food, and labor productivity in food stores and eating and drinking places is expected to change little. Transportation and energy are about 12 percent of of the retail food dollar, although oil supply disruptions would raise these costs. Productivity gains on the farm will only affect a third of the retail food dollar. It is likely, then, that the hours of work required to buy a shopping cart of groceries in 1990 will be about the same as in 1983.

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Food and Nutrition Actions by USDA

Tom Fulton
(202) 447-4943

USDA regularly proposes and implements operational and regulatory changes that affect the status of food and nutrition in the United States. Here are some recent actions.

Food Safety

- USDA has removed Czechoslovakia's meat processing plants from the list of approved exporters to the United States because of polychlorinated biphenyl—PCB—residues. USDA offered to assist the Czechoslovakian government in determining the source of contamination so that imports could be resumed.
- Inspection officials in 25 countries were notified that they must correct deficiencies in their inspection programs if they want to continue exporting meat to the United States after January 1, 1984.
- The Department has increased the dollar value of red meat products retailers can sell to hotels, restaurants, and similar "nonhousehold" consumers without Federal inspection. Under Federal law, retail meat and poultry merchants are exempt from Federal inspection if their total dollar sales and the percentage of those sales to institutional customers do not exceed certain limits. The limit on annual sales will increase from $28,000 to $30,200 for meat, while poultry will remain at $23,100.
- USDA has exempted rendering plants from animal health regulations governing treatment of food wastes fed to swine.

Food Stamps/Elderly

- USDA has raised income eligibility limits for people who use food stamps. The maximum allowable gross income for a family of four rose from $1,008 to $1,073 a month because of increased costs of living.
- USDA has awarded a contract to test an electronic food stamp system in Reading, Pennsylvania. The demonstration project is scheduled to run for 18 months following a pretest period.

Food Assistance

- USDA has donated 3,969,000 pounds of dairy products to the World Vision Relief Organization for distribution to needy persons in Poland. The donation was composed of equal amounts of nonfat dry milk, cheddar cheese, and butter. Donated dairy products also went to Columbia, Indonesia, Panama, Pakistan, India, and Guatemala for direct assistance to needy persons.

School Lunches/Nutrition and Children

- Rice was added to the surplus foods offered by USDA to charitable institutions during fiscal year 1983 and will be available as bonus donations to schools through June 1984. Dairy products and honey are supplied under earlier regulations.
- Increased income eligibility limits for free and reduced-price school lunches and breakfasts, and for the Special Supplemental Food Program for Women, Infants and Children (WIC) became effective July 1. Children can receive free meals at school if they are from a family of four earning up to $12,870 a year, increased from last year's limit of $12,090. The income limit for a family of four for reduced-price meals and the WIC program rose from $17,210 to $18,315.
- USDA now allows the Food and Nutrition Service to ship government-held processed and cheddar cheese, butter, nonfat dry milk, rice, and honey directly to commercial firms for use in processed foods. The products are sold to eligible schools and charitable institutions at lower prices which reflect the value of the donated commodities.
- USDA has proposed allowing the Food and Nutrition Service to ship government-held processed and cheddar cheese, butter, nonfat dry milk, rice, and honey directly to commercial firms for use in processed foods. The products would then be sold to eligible schools and charitable institutions at lower prices which reflect the value of the donated commodities. □

Food and Nutrition Legislation

David Lehman
(202) 475-5102

Legislators, facing the difficult task of controlling food assistance costs while maintaining the nutritional needs of children, low-income, and elderly persons, are currently considering the following major bills:

Food Stamps/Elderly

S. 1208/H.R. 3089 - Sen. Jesse Helms (NC)/Rep. Edward Madigan (IL)

Includes provisions for community work experience programs which would give States the option of requiring food stamp recipients to work for program benefits. Also, State agencies would be liable for administrative errors above 3 percent per year.

S. 1279 - Sen. Jesse Helms (NC)

Amends the Food Stamp Act of 1977 to allow States to operate block grant programs to finance food assistance for needy persons.

H.R. 2807 - Rep. Mario Biaggi (NY)

Increases the funds appropriated for fiscal years 1982, 1983, and 1984 to cover higher costs for meals served under the Older Americans Act of 1965. Increased funding reflects annual adjustments, according to changes in the Consumer Price Index in the per-meal reimbursement rate paid to charitable organizations. The rate has risen annually from 30 cents per meal in 1978 to 54 cents in 1982.

H.R. 3092 - Rep. James Quillen (TN)

Amends a provision of the Food Stamp Act of 1977 regarding the numerical limitation on group living arrangements (as opposed to institutions) of recipients of social security benefits. Currently a maximum of 16 persons may reside in such an arrangement and retain eligibility for food stamps. If more than 16 elderly persons live together, the arrangement is classified as an institution, and the residents are not eligible to receive food stamps. This bill would increase the numerical limitation from 16 to 25.

School Lunches/Nutrition and Children

S. 1209/H.R. 3180 - Sen. Jesse Helms (NC)/Rep. John Erlenborn (IL)

Amends the National School Lunch Act of 1946 and the Child Nutrition Act of 1966 by changing the formula used to determine the amount of cash or commodity assistance given to States. The amount of assistance given would be determined by multiplying the national average value of donated foods by the number of meals served in the preceding school year. In any school year, the Secretary of Agriculture could adjust the amount of assistance provided to a State if the number of lunches served in the State in the preceding school year differed substantially from the number of lunches served two years before. The inflation adjustment for reimbursement rates and commodities would be increased to 11.5 cents from 11 cents. The bill also proposes termination of the Summer Food Service Program for Children, the Child Care Food Program, and the School Breakfast Program. □

Subject Index (Summer 1981 - Summer 1983)

References are coded "Issue Number/Page." Example: 16/5 means issue NFR-16, page 5.

Advertising: 19/2, 23/14

Aquaculture: 17/11

Bread: 23/19

Casein: 17/7

Categorical grants: 15/33

Child nutrition programs: 15/2, 16/5, 16/12, 17/28, 18/26, 19/29, 20/22, 21/29, 22/24, 22/27

Codex Alimentarius Commission: 21/14

Coupons: 18/11, 19/12

Delaney Clause: 18/29

Deposit laws: 17/2

Diet and health: 15/27, 19/32

Disposable Personal Income: 15/4, 16/2, 17/25, 18/23, 19/28, 20/19, 21/26

Drug Residues in Animals: 22/18

Elderly: 19/7

Energy Conservation: 22/8

Environmental protection: 17/2

Farm-to-retail price spread: 21/2

Farm support: 16/12, 22/11

Federal inspection acts: 19/32

Food assistance: 15/2, 15/25, 15/33, 15/36, 16/5, 16/12, 16/34, 17/28, 18/16, 18/20, 18/26, 19/29, 20/22, 21/29, 21/31, 22/24, 22/27, 23/21, 23/27

Food consumption-
- **And advertising**: 19/2
- **Away-from-home**: 15/4, 18/23, 21/22
- **Concentration and Frequency**: 22/5
- **Outlook**: 15/22, 17/22, 21/5
- **Per capita**: 16/7, 20/11

Food demand: 17/20, 20/13, 20/15

Food expenditures: 15/4, 15/20, 16/2, 17/18, 17/25, 17/31, 18/23, 19/28, 20/19, 21/26, 22/21, 23/23

Food manufacturing: 15/7, 15/10, 16/20, 22/8, 23/8

Food preservation: 18/5, 20/2, 20/7

Food prices: 15/5, 17/22, 19/26, 21/5, 22/2

Food quality: 15/31, 15/36, 16/33, 19/11, 19/32

Food safety: 15/36, 16/33, 18/29, 18/31, 19/11, 19/32, 21/14, 22/18, 22/27

Food safety amendments of 1981: 18/31

Food service: 15/10, 15/25, 18/16

Food stamp program: 15/2, 15/33, 16/5, 17/28, 18/26, 19/9, 19/29, 21/29, 21/31, 22/24, 22/27, 23/21, 23/27

Food supply: 21/17

Foreign investment: 15/7, 15/10, 16/20

Frankfurters: 17/20

General interest: 15/38, 16/35

Generics: 18/7

Generic Advertising: 23/14

Grading: 19/17

High Fructose Corn Syrup: 23/10

Imports: 21/10

Independent supermarkets: 16/27, 16/31

Labeling: 15/31, 19/32, 22/14, 22/27

Legislation: 22/27, 23/29

Marketing-
- Farm-to-retail spread: 17/22, 20/17, 21/2, 21/5, 22/2, 23/2, 23/19

Other than retailing: 16/9, 16/10, 16/16
Retailing: 15/13, 15/18, 16/16, 16/27, 16/31, 17/15, 18/11, 19/12, 19/22
Structure: 18/7, 23/8
Wholesaling: 15/14

Motor Carrier Act of 1980: 15/16

National School Lunch Program: 15/2, 15/25, 16/5, 16/12, 17/28, 18/16, 18/20, 18/26, 19/29, 20/22, 21/29, 22/24

Nutrition: 19/7, 20/2, 21/17, 22/14

Payment-in-kind: 22/11

Personal Consumption Expenditures: 15/4, 16/2, 17/25, 18/23, 19/28, 20/19, 21/26

Poultry Industry: 23/2

Processed Potatoes: 23/5

Puerto Rico: 23/27

Retailing: (see Marketing)

Retort pouches: 18/5

School Breakfast Program: 15/2, 16/5, 17/28, 18/26, 19/29, 20/22, 21/29, 22/24

Sodium: 15/27, 19/11, 19/32

Special Supplemental Program for Women, Infants, and Children: (see WIC program)

Staggers Rail Act of 1980: 20/23

Statistical highlights: 15/40, 16/37

Transportation: 15/16, 20/17, 21/23

UHT milk: 18/2

USDA actions: 15/36

WIC program: 15/2, 16/5, 17/28, 18/26, 19/29, 20/22, 21/29, 22/24, 23/21

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