Chapter 1

Influences on International and U.S. Trade in Agriculture

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AGRICULTURAL TRADE AND THE WORLD RECESSION

For U.S. agriculture policy, the most important development in world agricultural trade in the early 1980s was a slowdown in the rapid rates of growth of key commodity markets that had characterized the preceding decade. International trade in coarse grains, wheat, soybeans, and soybean meal increased fairly steadily during the 1970s, but exhibited varying rates of decline in the early 1980s. The most serious reversal was in coarse grains—all grains but wheat and rice—which are used primarily for livestock feed. Coarse grain trade rose throughout the 1970s, and jumped abruptly in 1981 to 109 million metric tons (MT). Thereafter, exports for this commodity declined for three consecutive years, producing a 17-percent decrease by 1984. U.S. corn farmers, who dominate world coarse grain trade, were hit especially hard. U.S. corn export volume has declined every year since 1980, from 61,4 million MT to 46.3 million MT in 1985—a 24,5-percent decrease.

The decline and stagnation of many world agricultural markets resulted from the global recession of the early 1980s. Characterized by slower growth in incomes, rapidly increasing interest rates, and—especially in developing countries—serious repayment problems on external debts, the recession constricted trade in a broad range of commodities and manufactured goods.

Generally, the change in a country's agricultural exports as a function of a given change in export price—the "elasticity of excess supply "—depends on "domestic demand and supply elasticities, the importance of trade, and effects of domestic agricultural programs on producer and consumer behavior."] Smaller export levels relate to domestic supply and use, while larger levels respond to price changes.

[1]"The U.S. Competitive Position in World Commodity Trade," *Agricultural-Food Policy Review*, Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 530, 1985, p. 104.

The United States appears to be more sensitive to declines in international agricultural trade than other exporting nations. Relative to Canada and Australia, the United States has experienced a proportionately greater decline in exports for both wheat and coarse grains during the early 1980s. However, because of large U.S. stocks, domestic supply and demand are more sensitive to price changes than in Canada or Australia; a decline in export price causes a relative reduction in supply and relative increase in demand. In recent years, U.S. Government stocks have absorbed much of the excess supply that has resulted when price support loans act as a floor on market prices. When export demand falls, U.S. commodity programs shift American grains into storage at the floor price instead of to exports, bringing about a decline in the U.S. market share.

As for developing nations, debt problems have prompted strong measures to reduce imports and expand exports in order to repay international lenders. Developing countries played a key role in the U.S. agricultural export boom of the 1970s, due to significant demographic and economic growth in those countries, and to the availability of large amounts of credit on favorable terms. The onset of the world debt crisis and recession at the end of the 1970s led developing countries to reduce agricultural imports more than nonagricultural imports; the exception was low-income Africa, where severe drought triggered large increases in food purchases and aid. U.S. Department of Agriculture (USDA) analysts have noted the importance of developing countries on U.S. agricultural exports:

> Because the 93 developing countries make up approximately one-third of the U.S. export market for agricultural commodities, their import performance (our export potential) is highly significant for U.S. agricultural export performance. These countries have the potential to increase or

decrease total U.S. agricultural exports by almost 20 percent. In addition, probable export losses are concentrated in countries most severely constrained by external finances. The degree to which such losses are realized depends heavily on the scope and types of response by the United States.[2]

[2] Matthew O. Shane and David Stallings, *Financial Constraints to Trade and Growth: The World Debt Crisis and Its Aftermath,* Economic Research Service, U.S. Department of Agriculture, Foreign Agricultural Econmic Report No. 211, 1984.

The opportunity to export commodities and manufactured goods to developed countries is crucial to resolving long-term debt and income problems in many developing nations. As a result, a rise in protectionism in the developed world—including the United States—could delay recovery of U.S. agricultural exports both directly and indirectly.

THE VALUE OF THE U.S. DOLLAR

An important and related feature of the world economic environment in the early 1980s was the strong and rapid growth in the value of the U.S. dollar, following a decade of sustained depreciation against other currencies. A relatively weak dollar served to boost U.S. exports, including farm products, during the 1970s. This was of particular importance for the soybean and corn trade, which grew rapidly over that period (see table 1-1).

Between 1980 and 1984, however, the dollar appreciated by over 40 percent against most other currencies. American farmers, suffering from product price declines, faced the additional problem of export difficulties. Appreciation of the dollar meant that foreign customers had to expend more of their currency to pay for U.S. agricultural imports. Accordingly, American farmers were rendered less competitive: "U.S. exports of wheat, corn, and soybeans were reduced by about $3 billion in 1981 to 1982 as a result of the strengthening of the dollar. That decline translates into a volume of 16 million tons; corn exports alone were nearly 10 million tons less, " according to USDA. Furthermore, an economic model developed by USDA indicates that "a 20 percent rise in the value of the dollar will reduce farm ex-

Table 1-1 .—Agricultural Trade-Weighted Indices of the Foreign Exchange Value of the U.S. Dollar[a]

Year	Total	Soybeans	Wheat	Corn
	April 1971 = 100			
1970	102.10	102.40	101.29	102,38
1971	98.98	98.25	99.84	98.65
1972	91.19	88.21	94.29	89.80
1973	82.74	77.75	87.15	80.61
1974	79.12	74.53	82.07	77.01
1975	76.92	71.33	80.52	74.66
1976	77.97	73.33	80.66	76.89
1977	75.30	69.99	76,93	73,79
1978	70.02	63.28	72.76	67.10
1979	71.00	61.62	74.35	67.27
1980	72.24	64.28	76.39	68.59
1981	79.43	74.43	79.05	77.55
1982	86.80	83,52	85.37	86.84
1983	90.64	88.23	91.73	91.80
1984	97.17	95.34	98.69	98.19
1985	101.27	98.39	104.74	101.48

AdjU~t@ by the Consumer Price Index of the countries involved

SOURCE J. Longmire and A Morey, Strong *Dollar Dampens Demand for U S Farm Exports,* Economic Research Service, U S Department of Agriculture, Foreign Agricultural Economic Report No 193, 1983

ports by 16 percent. "[3] As table 1-1 shows, the reversal in the dollar's value in the early 1980s was considerably more acute for soybeans and corn than for wheat.

The stronger dollar affected U.S. exports in a number of ways. Because the dollar appreciated in comparison to the currencies of competing nations such as Canada, Australia, and Argentina, export prices received by producers in those nations rose relative to U.S. prices. The dollar's rising value actually increased returns to producers in several other nations, enabling them to compete with the United States. In addition, a considerable portion of the debt incurred by developing countries in the 1970s was denominated, or payable, in American dollars. As the dollar appreciated in value, more of the debtor nation's currency was required to repay interest and principal, which constrained their ability to pay for imports from the United States, and encouraged purchases from other suppliers.

Estimated impacts of a 10-percent appreciation in the value of the dollar appear in table 1-2. The projected changes do not match real developments within the given parameters, since factors other than exchange rates affect prices, exports, and stock levels. Nevertheless, the estimates show the potential magnitude of an appreciation of the dollar, other things being equal.

Markets for corn and soybeans are more sensitive to exchange rate fluctuations, but all three commodities are affected. The price that U.S. farmers receive for their commodities declines because a strong dollar reduces U.S. exports. In the cases of both corn and wheat, the predicted price declines would amount to 20 cents per bushel for 1984. By comparison, target prices for wheat increased 25 cents per bushel between 1983 and 1984, and by 16 cents per bushel for corn between 1982 and 1983. The price-decreasing effect of a lo-percent appreciation of the dollar would tend to offset the price enhancement offered by USDA commodity programs. Actual increases in the 1982 exchange value of the dollar were 11.4 percent for corn and 7.6 percent for wheat. Also, a 5.6-percent decrease in the price of soybeans would have reduced the 1982 seasonal average price by 34 cents per bushel.

Table I-2.—Simulated Impacts of a 10-Percent Appreciation in the Value of the Dollar

Commodity	Percent change		
	U.S. price	U.S. exports	U.S. stocks
Wheat	–5.6	– 1.9	4.8
Corn	–6.2	–2.5	6.4
Soybeans	–5.9	–3.1	5.8

SOURCE "The U.S Competitive Position in World Commodity Trade, " *Agricultural-Food Policy Review Commodity* Program *Perspectives* Economic Research Service, U S Department of Agriculture, Agricultural Economic Report No. 530, 1985

Generally, reductions in exports and prices result in substantial increases in U, S. Government stocks. As world prices fall below the government price support loan rate, farmers participating in the price support programs tend to forfeit commodities they have offered to the government as collateral for the loan. Wheat stocks averaged 1.356 billion bushels between 1981 and 1983; an increase of 4.8 percent, which would result from a 10-percent dollar appreciation, would lead to an increase of 65 million bushels—roughly the amount of wheat produced in either Oregon or Illinois in 1982. At 1982 stock levels, the increase for corn would equal 169 million bushels, the equivalent of the 1982 crop in North Carolina, and 17 million bushels for soybeans, or the amount of the 1982 crop in Virginia.

[3] J. Longmire and A. Morey, *Strong Dollar Dampens Demand for U. S. Farm Exports,* Economic Research Service, U.S. Department of Agriculture, Foreign Agricultural Economic Report No. 193, 1983.

U.S. AGRICULTURAL POLICIES

Falling export demand for U.S. grains and oilseeds in the early 1980s, combined with a simultaneous increase in U.S. production, drove U.S. prices down to the price support loan rates for wheat, feed grains, and soybeans, as set by Congress and USDA. In effect, this loan rate forms

a floor under domestic prices. A farmer can expect to receive the minimum price, even if he or she is not participating in the price support programs. Because of the major role of the United States as a producer, stockholder, and exporter in the wheat, corn, and soybean markets, the U.S. Government price support loan rate can also form an artificial floor for the world price. Producers in competing nations may be signaled by this artificially high price—driven higher by the appreciating dollar—to increase production, since they may be able to undersell the United States. Importers may purchase less from the United States than they would have at a lower price. All of these interactions serve to reduce the U.S. market share.

Income supports, provided to farmers participating in USDA wheat and feed grain programs, have also affected U.S. exports. In the late 1970s, market prices for wheat and feed grains did not fall to the loan rate, but did decrease below the "target prices" established for each commodity. As a result, participating farmers qualified for direct "deficiency" payments, equal to the difference between the official target price and the lower market price. If market prices fall to the loan rate, participating farmers receive the difference between the loan and target prices. During the late 1970s, some participating farmers were able to receive these payments without having to idle land; in fact, acreage planted in program "bases," or the acreage on a farm that is eligible for program enrollment, expanded dramatically at that time. The availability of deficiency payments, along with tax and credit policies and low real rates of interest, stimulated grain production in the late 1970s. This resulted in lower U.S. and world prices, which, in turn, boosted world exports. In effect, by subsidizing production, U.S. commodity policy subsidized exports to high levels through 1981, contributing to the subsequent decline.

POLICIES OF OTHER NATIONS

Policies of other nations directly affect every major international market in which U.S. producers participate. Recent policies of U.S. competitors have brought about a decrease in American agricultural export volume, value, and market share.

Table 1-3 lists those agricultural policies of foreign competitors that have an impact on international trade in wheat, corn and other feed grains, and soybeans, all of which are major U.S. export commodities. Macroeconomic policies that affect the agricultural export performance of these other countries, such as currency devaluations, are not included.

The agricultural policies of the European Economic Community (EEC) have the most adverse effects on U.S. interests in wheat and feed grain markets. EEC policies that insulate their wheat and feed grain producers from world market fluctuations have stimulated production, and restitutions paid to facilitate exportation of the resulting surplus crops cut directly into U.S. markets. The Community's policies for soybeans have the effect of encouraging imports to the EEC from this country, but Community subsidies tend to erode U.S. markets for higher-valued soybean meal and oil.

Policies of Brazil, and more recently those of Argentina, which encourage rapid development of soybean processing industries, have also had a pronounced impact on the U.S. market share for soybean products. Brazil now leads the United States in soybean meal exports, and Brazil and Argentina combined surpass America in exports of soybean oil. Ironically, importation of American technology has played a key role in the development of the South American soybean industry (see ch. 4).

Table 1.3.—Price Support and Export Policies of Major U.S. Wheat, Corn and Feed Grains, and Soybeans and Products

commodity: Country	Policy and effect
Wheat:	
Canada	Canadian Wheat Board stabilizes wheat prices; Western Grain Stabilization Program stabilizes farm incomes. Little impact on producer price levels. Credit offered to importers.
Australia	Reforms in Australian Wheat Board policies will reduce insulation of producers from world prices and increase price variability, Little impact on producer price level. Subsidized credit sales of wheat for export to some markets (mainly China and Egypt).
Argentina	Sales through National Grain Board and private companies. Export taxes, official exchange rate regulations act to discourage production of wheat for export, Long-term agreements with China, Iran, Algeria, Iraq. Government "does not hesitate to undercut U.S. price. " (USDA Agr. Info Bull. 467)
France	High CAP domestic support prices combines with variable levy to insulate producers from world price changes. Exports subsidized by restitutions to producers.
Corn and feed grains:	
Argentina	Export taxes similar to those for wheat discourage production of corn and sorghum for export.
South Africa	Government Maize Board offers price stabilization, sets minimum support price which provides some insulation from world prices.
Thailand	Export controls for corn removed in 1981, but no direct incentives or restrictions for corn exports. Bilateral agreements with Taiwan and other countries,
France	High domestic price supports and variable levies support domestic prices; restitutions to producers and subsidized exports of corn and barley.
Commodity: Country	Policy and effect
Australia	Marketing boards handle sales of barley and sorghum, stabilize but do not support producer prices. Long-term agreements with Egypt, China, Japan, and U.S.S.R. Subsidized credit sales of wheat for exports to some markets (mainly China and Egypt).
Canada	Marketing of barley and sorghum through national boards, stabilizing but not supporting producer prices. Long-term agreements with Brazil, China, U. S. S. R., and East Germany for wheat and feed grains.
Soybeans and products:	
Brazil	Wide array of policies (tariffs, quotas, licenses, price ceilings, currency adjustments, and subsidies); designed to increase exports of soybean oil and meal; discourage export of unprocessed soybeans, Policies also used to assure adequate domestic supplies and expand domestic crushing capacity, Differential export taxes are now the main instrument for encouraging export products, and bean exports are expected to increase.
Argentina	National Grain Board restricts oilseed and product exports to protect domestic prices; preferential taxes to encourage exports of processed soybean products instead of beans; but export taxes discourage product ion of beans for export.
EEC	Exports of soybean meal and oil aided by "production aids" that support domestic prices above world price; crushers receive payments to compensate for higher domestic bean prices (however, most soybeans are imported).

SOURCES "World Agricultural Markets and U S Farm Policy'' and "The U S. Competitive Position in World Commodity Trade, " *Agricultural-Food Policy Review: Commodity Program Perspectives,* Economic Research Service, U.S Department of Agriculture, Agricultural Economic Report No 530, 1985, and ''Background for 1985 Farm Legislation, " Economic Research Service, U S Department of Agriculture, Agricultural Information Bulletins No 467 (wheat), 471 (corn), and 472 (soybeans), 1985

GOVERNMENT SUPPORT FOR AGRICULTURE

USDA analysts have attempted to quantify the overall importance of a broad range of policies that support agriculture in other nations. Table 1-4 shows the magnitude of direct government expenditures for agriculture from 1978 to 1980 in 10 selected countries. In absolute terms, Japan and the United States maintain a comfortable lead. It is important to note that government expenditures for agriculture in the United States have increased sharply since that time, from under $4 billion to

Table 1-4.–Direct Government Assistance to Agriculture, Selected Countries, 1978-80

Country	Total assistance (million $)	Percent of agriculture GDP (percent)	Per capita agricultural population ($ per capita)
Belgium	518	57	4,655
West Germany	1,147	28	1,942
United States	8,507	12	1,775
France	2,546	23	1,260
Japan	15,888	38	1,083
Canada	1,231	14	1,005
Australia	529	7	630
Mexico	2,620	21	106
Argentina	301	3	82
Brazil	1,925	8	53

SOURCE: "The U.S. Competitive Position in World Commodity Trade," *Agricultural-Food Policy Review: Commodity Program Perspectives,* Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 530, 19S5

more than $15 billion. Agricultural support levels in the EEC have also increased substantially; more recent figures for other countries are not available. Furthermore, these estimates do not reflect the effects of certain government policies, such as dairy price supports and import quotas, which effectively raise consumer prices.

Expenditures as a proportion of agricultural gross domestic product (GDP) reveal a different picture. In this category, the United States ranks seventh among the 10 countries; government expenditures constitute 12 percent of the U.S. agricultural GDP. This is well below Belgium at 57 percent, Japan at 38 percent, West Germany at 28 percent, France at 23 percent, and even Mexico at 21 percent. Canada and the United States ranked about the same, at 14 and 12 percent, respectively. Three competitors ranked lower: Brazil at 8 percent, Australia at 7 percent, and Argentina at 3 percent.

However, when government expenditures for agriculture are divided by the agricultural population of these countries, the United States again ranks fairly high—third, behind Belgium and West Germany. France and Canada fall somewhat below the United States; Australia, Argentina, and Brazil rank far behind.

Absolute and per capita levels of expenditures for agriculture may be interpreted as indicators of overall commitment to agriculture. By these measures, the United States ranked high from 1978 to 1980, and may increase its position as a result of the rise in farm program outlays that has occurred since 1981. In a Congressional Budget Office analysis of government support for U.S. business, agriculture ranked highest among industries in terms of support expenditures as a percentage of the sector's "value added, " or percentage of the gross national product.[4]

Government agriculture expenditures in relation to agricultural GDP reflect with greater accuracy the extent to which national agriculture sectors depend on their governments for support. By this measure, the United States ranks below many countries, but above several other competitors. In recent years, high farm program costs throughout the world—particularly in the EEC—have made farmers more dependent on government expenditures for their livelihood.

4U.S. Congress, Congressional Budget Office, *Federal Support of U.S. Business* (Washington, DC: U.S. Government Printing Office, 1984).