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**Agriculture, Trade, and Development: A Comparative Look at U.S.,
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TRADE POLICY, COMMERCIAL MARKET RELATIONSHIPS, AND EFFECTS ON
WORLD PRICE STABILITY

The United States

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A review of U.S. Department of Agriculture (USDA) budget testimony reveals important characteristics of U.S. agricultural trade policy through time. One characteristic has been an apparent preference for less rather than more Government intervention in the trade process. A second is that the United States, like all other countries, has found its agricultural trade policies generally shaped by its domestic-price and income-support programs.

The result is that U.S. agricultural trade policy has shifted as domestic policy has changed. Specifically, there have been three important watersheds in U.S. farm policy orientation that have altered the course of U.S. agricultural trade policy. First, prior to 1933 the focus of U.S. farm policy was developmental. Internal population expansion provided the opportunity for agricultural growth with a minimum of Government outlay. Government support was resource oriented--land dispersal and the development of its productivity.

Agricultural commodities dominated the nation's exports during this early period. As late as 1900, farm exports accounted for three-fourths of total export sales, although a relatively small percentage of total agricultural production. Trade policy for agriculture, unlike that for the nonfarm sector, generally favored open markets although growing protectionism toward the end of the period culminated in the Smoot-Hawley Tariff Act of 1930.

The collapse of farm prices after World War I and the passage of the Agricultural Adjustment Act of 1933 marked a turning point for both U.S. farm policy and agricultural trade policy. Policy emphasis shifted from developmental to compensatory. Programs shifted from focusing on land to focusing on the products of land, with relatively high and rigid price supports that sought a return to the more prosperous 1910-14 period.

The early part of the period saw increasing Government involvement in agriculture, with commodity prices determined more by Government policy than by market forces. The latter part of the period--from the end of World War II through 1960--brought a slow realization that satisfactory incomes for some farmers could not be provided by manipulating commodity prices alone. As a consequence, greater attention was given to community development, rural industrialization, improved education, and regional development policies after 1960.

Throughout this 30-year period, agricultural trade policy was a captive of an inward-looking domestic policy. Exports accounted for a relatively minor portion of total farm output and consequently exerted little influence on policymaking. Surpluses, generated by high price supports, created mounting

interest in both domestic and foreign disposal programs. Section 22 and voluntary import restraints sought to protect the established price levels. 12/

A second major turning point came in 1963 when wheat producers rejected a mandatory acreage control plan. The new policy tilt came to full flower with the passage of the Agriculture and Consumer Protection Act of 1973. This period was marked by a turning away from high price supports and relatively tight controls on output in favor of greater reliance on market determined commodity prices and income support derived as needed from target prices and deficiency payments. 13/ This philosophy has continued since and has had obvious implications for U.S. agricultural trade policy and relationships with our trading partners.

Viewed from a trade policy perspective these three periods have seen the United States move from colonial days when agriculture was open and accounted for most of the Nation's foreign-exchange earnings through an inward-looking period where policy priorities were given to inflexible per unit price supports resulting in large and expensive surpluses, to a more recent period of trade expansion. The combination in the sixties and early seventies of a rejection by farmers of greater Government control and resistance by taxpayers to increased storage and disposal costs led to an agricultural trade policy more open to the world. This openness has been threatened recently in reaction to the effects of the world economic slump and mounting surplus stocks. The U.S. agricultural sector, after perhaps another period of high price supports and even export subsidies, for its own long-term health will need to become even more open and interdependent with the world economy.

This brief historical review, and the underlying fact that agricultural trade policy is dependent upon the domestic farm policy in place at the time, leads us to several observations. First, in recent decades there has been a greater reliance on the export market for U.S. agriculture. Second, this reliance has brought about increased price and income instability for U.S. farmers. Third, it has also led to growing economic and political linkages with other governments.

Comparing the fifties and sixties with the period of the seventies shows the effects of two sharply differing policy orientations. Moreover, the comparison suggests changes are needed in both farm and trade policy measures to meet conditions of the eighties.

To state the obvious, export markets and, by implication, trade policy has assumed a larger role in recent years for U.S. agriculture. Total U.S. agricultural exports averaged \$3.7 billion per year in the fifties, increased to \$5.8 billion annually in the sixties and jumped to \$19.7 billion in the

12/ Section 22 of the Agricultural Adjustment Act of 1935, as amended, requires the President to establish import quotas on price supported commodities, irrespective of existing international agreements, whenever imports threaten the ability of the Government to carry out the domestic price-support program. Since 1951, the United States has had a waiver in GATT for the use of Section 22.

13/ Obvious exceptions remained: dairy, tobacco, and peanuts.

seventies. As a percentage of cash receipts from farm marketings, exports increased from 11.8 percent in the fifties, to 14.4 percent in the sixties, to 22.6 percent in the seventies and have grown to almost 30 percent in the eighties.

The rapidly growing importance of agricultural exports to U.S. farmers and to the general economy cannot be over emphasized. In 1981, the U.S. exported \$43.8 billion worth of agricultural products, an all-time record. With agricultural imports of \$17.2 billion, the net gain in foreign exchange from U.S. agricultural trade was \$26.6 billion. Agricultural export sales accounted for approximately 30 percent of total farm sales in 1981. But, these aggregate figures do not tell the full story. For some commodities the export market is even more important: approximately 65 percent of the wheat, 35 percent of the corn, 41 percent of the soybeans, 54 percent of the cotton, and 67 percent of the rice produced in the United States in 1981 went into the export market. Moreover, agricultural exports in 1981 contributed 1.1 million jobs and \$43.8 billion dollars of GNP to the national economy, according to USDA's Economic Research Service.

The relatively rapid growth of U.S. agricultural exports is a result of a combination of events. Foremost has been the growth in world population and the global rise in real consumer incomes. Other factors that have driven up the import demand for U.S. agricultural exports have been the general reduction in tariff levels worldwide and, prior to 1980, the low relative value of the U.S. dollar on world markets. Clearly, also, changes in domestic support programs that placed relatively less emphasis on loan rates and more on income support via deficiency payments was a major factor in stimulating export growth. Real loan rates generally decreased from 1950 to the mid-seventies for wheat and corn and have since increased. Perhaps more importantly, seasonal average prices received for both wheat and corn were less than loan rates for most of the fifties and generally exceeded the loan rate afterward indicating less market interference.

While the focus thus far has been concerned with the total value of agricultural exports, a distinction is needed between crops and livestock products. Most changes in domestic support policies were directed to grains and soybeans and only indirectly affected livestock. U.S. support for meat prices has generally been confined to the price enhancement provided by import quotas. On the other hand, dairy products have been assisted both by domestic price supports and effective import constraints.

U.S. trade policy for both meat and dairy products serves as a considerable irritant to our trading partners. Reflecting trade policy restraints (among other reasons) in both the United States and other trading countries, world trade in meats and dairy products has not increased as has trade in grains and oilseeds, which tends to be much less influenced by trade restrictive policy.

While both domestic agricultural support policies and agricultural trade policies have changed to accommodate a favorable growth in U.S. agricultural exports, there have been costs as well. Of special interest is the increased variability in farm prices and incomes in the United States and, to a lesser degree in world markets, a variability associated with a more open trade policy and a domestic support policy that departs from dependence on rigid, relatively high price supports.

Table 1 provides decade by decade comparisons of variability in selected indicators important to the U.S. farm sector. As a generalization, the estimates indicate a growing variability through time. Variation in farm income was ameliorated by government payments and by growing off-farm income, especially for smaller farm units. These results are consistent with those reported by Penn for slightly different time periods. 14/

Besides the increased variability, the recent downward trend in U.S. agricultural exports is of no small concern to farmers and policymakers. FY 1982 agricultural exports declined to \$39.1 billion from \$43.8 billion in FY 1981, and estimates for FY 1983 exports suggest a further decline to around \$35.0 billion. The growth and stability of export markets are of importance to the continued prosperity of the U.S. farmer.

Data in table 1 show an increasing variability of selected indicators of farm income over the three most recent decades. ERS has estimated an increasing instability in U.S. export volumes. In 1950, according to their estimates, the instability was such that an estimate of U.S. export volume would have had a standard error of plus or minus 8 percent representing approximately 5.5 million metric tons. In 1980, the standard error of the estimate had climbed to plus or minus 12 percent and represented 16 million metric tons. The rate of increase in volume instability has grown much faster in the United States than elsewhere.

Two major causes of international market instability are weather and policy. Some argue that as production has been pushed out into marginal, semi-arid, rain-dependent lands and as high-yielding varieties have been adopted that are more susceptible to weather vagaries than are traditional varieties, the variation in cereal production on the world basis has increased. For the comparison of the decades of the sixties and the seventies the statistics show only a slight increase in variation. The average deviation from trend increased from 22.5 million metric tons in the sixties to 38.6 million metric tons in the 1970's (table 2). The coefficient of variation in world cereal production during the sixties was 2.4 percent, increasing only slightly during the seventies to 3.0 percent. Given that only about 15 percent of total cereal production in recent years has been traded in world markets, the instability brought about from variations in production as countries enter or exit or change between importing and exporting can be significant. It has, in fact, been decreasing. The average deviation from trend declined from 7.2 to 6.2 million metric tons while the coefficient of variation for world cereal trade decreased from 7.7 percent in the sixties to 4.2 percent for the decade of the seventies.

A more important source of instability for the United States than either weather or internal policy changes is the policy actions of others. Most countries in the world today, other than the United States, operate through state trading mechanisms, or with border protection measures, or a combination of both that insulate their domestic economies from the vagaries of the world market. Thus, most countries do not adjust or adjust only very sluggishly to world market conditions. They in turn are not sharing in the adjustment

14/ Penn, J. B., "The Changing Farm Sector and Future Public Policy: An Economic Perspective," Agricultural-Food Policy Review: Perspectives for the 1980's, U.S. Dept. Agr., Econ. Res. Serv., AFPR-4, April 1981, page 47.

**Table 1--Comparison of variability (coefficient of variation)
in selected indicators of farm income, 1950-79 ^{1/}**

Indicator	:	:	:
	1950-59	1960-69	1970-79
	:	:	:
	<u>Percent</u>		
	:	:	:
Total cash receipts from farm	:	:	:
marketings	5.6	10.8	28.3
	:	:	:
Operator's net income from	:	:	:
farming	9.7	11.8	29.1
	:	:	:
Real capital gains from real	:	:	:
estate	152.6	70.8	72.9
	:	:	:
Index of prices received by	:	:	:
farmers	8.0	4.1	23.7
	:	:	:
Index of crop prices received	:	:	:
by farmers	6.3	3.2	15.7
	:	:	:
Index of livestock and	:	:	:
product prices received	3.8	9.3	23.7
	:	:	:
Value of agricultural exports	16.6	12.9	44.5
	:	:	:

^{1/} Coefficient of variation is a measure of relative dispersion around the mean. It is the standard deviation divided by the mean multiplied by 100 and expressed as a percentage.

burden but rather have been able to shift a disproportionate, although declining in relative terms, adjustment to the United States. During the sixties the average deviation from trend of world trade excluding the United States was 2.9 million metric tons while that for U.S. trade was 5 million metric tons, nearly twice as large. The respective coefficients of variation were 5.3 percent and 12.9 percent. In the seventies the average deviation from trend for world trade excluding the United States, increased to 3.5 million metric tons while the same for U.S. trade increased to 7.2 million metric tons, slightly over twice as large. The respective coefficients of variation declined to 4.7 and 9.5 percent, thus, the relative stability of U.S. trade increased slightly but remained almost twice as unstable as trade of the rest of the world.

In comparing the standard deviation and coefficient of variation statistics in table 2 of world trade and its component parts (that is, world trade excluding the United States and U.S. trade), one might suggest that the direction of instability in the components tended to be opposite from each other, thus tempering the instability in world trade as a whole. This observation is particularly pronounced in the latter period, suggesting that the farmer-owned

reserve, while not particularly a stabilizing factor for U.S. trade, has been a stabilizing influence on world trade in total. One might expect this conclusion given the nature of the farmer-owned reserve, the rules by which it has operated and the fact that the United States has been the only intentional adjuster in the system to world-market conditions.

It would appear that a "more open" agricultural and trade policy is achieving the objective of increased farm income but without significant declines in price and income instability. The impact of instability is felt keenly on the larger, commercial farm operations which produce the majority of agricultural commodities. Parallel reasoning suggests that the benefits of rising income in the seventies and declining income in the early eighties also affected most the larger farm units.

Apart from the shocks imparted to the U.S. farm sector by the volatility of shifts in relatively inelastic demand and supply functions of foreign countries, three specific factors that contribute to instability are worthy of note. First is the failure of the farmer-owned reserve to provide expected increases in market stability. The logic of the reserve was to allow the market to work within the bounds established by the loan rate as a floor and the (mandatory) release price as a ceiling. The reserve apparently serves this purpose well with relatively small market stock overhangs but appears to have all the weaknesses of any state stocking scheme when large demand-supply imbalances are present.

Second, macroeconomic decisions have also affected agricultural trade: the 1973 soybean embargo, the rapid growth of exports to the USSR and Eastern Europe in the seventies (and the 1980 decision to partially embargo grain exports to the USSR). Obviously, such foreign-policy decisions are impossible for producers to anticipate and yet they affect U.S. farm prices and income as well as those of our trading partners.

Third, policy actions taken by other countries also affect the ability of the United States to export. This category includes the growing use of export subsidies by Brazil and the EC but also includes financial difficulties that cause governments to drastically curtail imports. The sum of all these Government actions, U.S. and other, explains in large part the greater variability of U.S. farm income and veils the effects of U.S. agricultural and trade policies.

An interesting speculation is how much world instability would there have been in the absence of U.S. farm programs. Two programs, land retirement and stocking, have been especially valuable in reducing unwanted quantities reaching the market in surplus periods and thus preventing further price declines, or in increasing quantities entering the market in periods of shortage and thus reducing price increases. U.S. carryover stocks of wheat exceeded the annual volume used domestically in 12 consecutive years in the fifties and sixties. The coefficient of variation of farm prices received in these two decades was a relatively low 8 percent and 4 percent, respectively, even though carryover was unusually low in 1952. By contrast in the seventies, the coefficient of variation of prices received increased to 24 percent.

Table 2--Statistical comparisons of world production, world trade, world trade excluding the United States, and U.S., 1960-80

Item	1960/61-1969/70	1970/71-1979/80
World production:		
"Best fit" form	Exponential	Exponential
R ²	0.94	0.88
Mean (million metric tons)	943.3	1275.1
Standard deviation (million metric tons)	22.5	38.6
Coefficient of variation (percent)	2.4	3.0
World trade:		
"Best fit" form	Power	Exponential
R ²	.61	.94
Mean (million metric tons)	92.8	147.9
Standard deviation (million metric tons)	7.2	6.2
Coefficient of variation (percent)	7.7	4.2
World trade, excluding U.S. trade:		
"Best fit" form	Power	Linear
R ²	.79	.70
Mean (million metric tons)	54.1	72.7
Standard Deviation (million metric tons)	2.9	3.5
Coefficient of variation (percent)	5.3	4.7
U.S. trade:		
"Best fit" form	Power	Power
R ²	.28	.89
Mean (million metric tons)	38.8	75.3
Standard deviation (million metric tons)	5.0	7.2
Coefficient of variation (percent)	12.9	9.5

NOTES

1. "Best fit" form choices were linear, power, exponential, and logarithmic. In all cases X values representing time were taken as 1,...,10.

2. The mean is:
$$\frac{\sum_{i=1}^N X_i}{N}$$
 that is, the simple average.

3. Standard deviation formula used was:
$$\frac{\sum_{i=1}^N (X_i - \bar{X})^2}{N}$$

4. Coefficient of Variation formula used was:
$$\frac{\text{Standard deviation} \times 100}{\text{Mean}}$$

The coefficient of variation is the relative dispersion of a variable expressed in percentage terms.

The eighties are likely to see an intensification of both the instability and the slackening of demand in export markets. With the world economies in recession, increasing unemployment and high inflation rates have caused a slackening in demand in the international market. Both intensified export competition and increasing protection have been the result in the past couple of years. Improvement on both counts depends in large degree on world economic recovery.

The problem is exacerbated in the United States by the strength of the dollar, the bumper crops of the past 2 years, and the trade practices of other nations that have excluded the United States from certain markets and have reduced its ability to penetrate other markets, particularly in the high-value category. Thus, the situation today is dramatically different than it was even as recently as when the 1981 Farm Bill was passed. The cost estimate for the 4-year life of the 1981 Farm Bill, when it was passed, was \$8 billion. The confluence of factors resulting in slack demand at home and abroad at the same time have drastically softened commodity prices and curtailed exports. Moreover, the 1981 Bill included what appears in hindsight to have been target prices and loan rates that were higher than warranted given the domestic economic situation and the rapid slowing of the inflation rate, and the strength of the dollar in foreign currency markets. The result is that the cost of the Bill in the first year alone stands at \$12 billion and is expected to reach about \$21 billion in the second year, with little expectation of any sharp declines in the cost during the remaining years of the Bill. Concern and frustration is growing in Congress with the practices of competitor nations in the international market and with the cost of the farm program. The failure of the GATT Ministerial Conference to make any substantive progress on agreements to turn back protectionist tendencies and to limit unfair competitive trading practices intensifies the frustration.

Thus, major changes in the 1981 Farm Bill are likely in 1983. The debate is likely to be hot and lengthy, turning on the fundamental philosophic base upon which our agricultural and trade policy should rest. On the one hand, some will argue that we should return to the farm program orientation of the fifties, with high support prices and rigid production controls through large diversion programs to hold resources, especially land, out of production. Proponents of this policy direction would argue, either explicitly or implicitly, that production for the export market is too costly when all costs are considered and, therefore, the United States should turn inward, produce for the domestic market and forget about exporting to the rest of the world. On the other side will be those who will argue that the United States is the last holdout of an ever increasing number of nations that have rejected the concepts of free trade and comparative advantage and that we can no longer alone afford to continue our open-market, free-trade philosophy. This group may argue that the United States should be prepared to use whatever tools are necessary to meet the export competition and to engage in whatever trade actions that may be necessary to capture or recapture world markets lost through unfair practices of others in the past. Some of this group would further argue that this strategy would lead to free trade in the end as the treasuries of competitor countries become depleted and they are no longer able to finance the unfair trade practices and will thus be forced to the negotiating table.

There are three major problems with the first alternative. First, with 30 percent of farm sales derived from the export market today, it would require substantial increases in commodity prices to maintain, let alone increase, farm incomes with production only for the domestic market. It is doubtful that consumers or taxpayers, or both, will be willing to foot the bill. Second, U.S. agricultural exports account for 39 percent of total world agricultural exports. A disproportionate share of the commodities being exported by the United States are basic food needs for a significant portion of the populations of many countries. On humanitarian grounds alone, it would be extremely inappropriate for the United States to turn its back on the export market. Third, a recent ERS study shows that U.S. agriculture has gained considerable economies of size through increasing production for the export market during the past couple of decades.

The second possible policy direction also presents some difficulties. First, it is an extremely high risk alternative in that trade conflicts, like military wars, may be difficult to limit and contain once they are started. Second, the last thing the world needs at this point is a disruption or decline in trade flows. The only way many countries can hope to come out of their precarious foreign debt situations is through increased trade flows that provide for greater rather than less foreign exchange earnings. Third, loss of the gains from trade by consumers and producers, even by those unprotected producers who are competing with protected producers for resources represent losses to the world economy that can never be recaptured. Again, the world economies do not need those kinds of losses, particularly in their present circumstances. Finally, engaging in trade wars takes a substantial war chest of funds. Unless the United States were to choose targets with a great deal of care to make sure it can inflict the greatest amount of damage to other country's treasuries, at minimal cost to the United States, we simply may not be able to afford such a venture. Overriding these concerns, however, is the further concern among some people that if the United States moves away from the free-trade philosophy it has expounded in the past, there will be virtually no challenge to those nations attempting to increase their protection or unfair trade practices in the future. It would be very difficult for the United States to make such challenges if we abandon the principles of free trade.

Given the present situation and the need to make some major changes in the 1981 Farm Bill, and indeed to begin looking toward the new Farm Bill in 1985 when the present Bill is scheduled to expire, it is appropriate to consider the list of international factors that should be taken into account in crafting such changes.

We start from the premise that with the heavy and growing dependence of the U.S. farm sector on exports it is now essential that domestic agricultural policy be formulated and implemented with considerable regard for international markets and the ability of U.S. farmers to compete in that market. It must also be recognized that domestic policy will trigger policy responses from other nations, trade competitors and trade partners alike. Finally, it must be recognized that in the normal course of other nations developing their own domestic agricultural policies, the effect of those policies will be felt in the United States. U.S. policy must be flexible enough to adapt and adjust to take advantage of the opportunities this might present and to ward off the adverse effects that may be presented.

Several factors that have become important, or increased in importance within the past several years, must be recognized and considered in any policy debate, even though they are external to the influence of domestic agricultural policy. First is the relationship between interest rates, exchange rates, and commodity prices. Generally, interest rates and exchange rates are positively correlated while commodity prices are negatively correlated with both. High interest rates in the United States, for example, increase the international demand for dollars and contribute to an appreciation of the dollar against foreign currencies. Other things equal, a strong dollar makes the United States less competitive in the export market. High interest rates also decrease purchases of farm commodities, domestic and foreign alike, due to the increased cost when interest costs are included and due to the increased carrying cost of stocks. Similarly, high interest rates increase the cost of working capital and of carrying stocks by the farm producer. All of these factors contribute to a softening of commodity prices and, thus, to a cost-price squeeze for farm producers. Thus, monetary policy has become an extremely important determinant of farmer well-being.

Second, given that international trade and international finance are flip sides of the same coin, the health of the international financial system is an important determinant of the level of trade that can be maintained. The alarming increase in foreign debt burden of virtually all the LDCs and many of the centrally planned economies is cause for grave concern, both in its own right and in its influence on trade. It has been estimated that in the coming year approximately \$50 billion of additional loan funds will need to be generated just to service existing foreign debt--without consideration of new loans. If these funds cannot be generated--and the commercial banking industry is quite pessimistic--a significant increase in de facto country defaults (reschedulings) can be expected. Not only has the creditworthiness of many countries declined to the point that they are poor risks for export credits, the need for scarce foreign exchange for debt service reduces further their ability to import. The depressed state of the economies of the developed world have been transmitted to the developing world through slack demand for LDC exports, causing a further decline in foreign exchange generation by the LDCs and economic stagnation in their domestic economies. This in turn has caused further slackening of their demand for imports, including for agricultural products.

Summary

We can sum up the characteristics of U.S. agricultural and trade policy in recent years by indicating it is more open to, and interdependent with, the world market than in the decades of the fifties and sixties. The volume of agricultural imports and exports has grown both absolutely and relative to U.S. production. This growth is in response to both pull factors acting on demand as well as policy measures that affect supply and facilitate exports.

Real loan rates (for grain) have generally trended downward over the past 32 years, although there was a rather abrupt change in 1976. In only 4 years since 1960 has the nominal loan rate for wheat exceeded the season average farm price and the same for corn. Deficiency payments beginning in 1963 have offset some of the declining income support of lower loan rates while being more trade neutral.

Accompanying a more flexible loan rate and increased support through other than the price support mechanism has come a greater variation in price and income support for domestic producers. Reflecting a more open trade policy and greater interdependence, this price variability has been transmitted to other market economies. We note, however, that an increasing number of countries have essentially shielded their producers and consumers from all price movements through a variety of measures that include state trading, quotas, two-price systems, and variable levies.

Price variability is perceived in this country as an expected result of a free-market economy, that, while imposing some added cost in the form of risk also offers the opportunity for profit. In this sense the more open economy facilitates commercial relationships and, in fact, business firms generally consider any Government intervention an anathema. In other countries, any form of instability, including price variation, is often looked upon as an evil to be avoided. As a result, Government intervention often exercises more control, and by being directly injected into the commercial process, often is itself a source of instability.

In this environment changes are needed in the U.S. agricultural trade policy. Ideally, the United States might persuade others to allow the market a greater role in allocating resources, to accept a larger burden of price adjustment, and to harmonize policies to some degree to prevent "excessive" price variation. Failing this, the United States may feel forced to adopt policies that insulate domestic producers from the increasing instability to which the United States has contributed, but which more and more is the result of a thinner residual free market.

**Appendix table 1--World production and trade of total grains
and U.S. exports of total grains, 1960/61 - 1981/83 1/**

Year	: : World : produc- : tion	: : World : trade <u>2/</u>	: : World trade : as percent of: : world : production	: : U.S. : exports	: : U.S. exports : as percent of: : world trade	: : World trade : excluding : U.S. : exports
<u>Million metric tons</u>						
1960/61	: 844.9	: 72.4	: 8.6	: 29.9	: 41.3	: 42.5
1961/62	: 805.0	: 83.3	: 10.3	: 35.6	: 42.7	: 47.7
1962/63	: 865.6	: 82.7	: 9.6	: 34.0	: 41.4	: 48.7
1963/64	: 869.3	: 97.8	: 11.3	: 41.1	: 42.0	: 56.7
1964/65	: 922.0	: 95.0	: 10.3	: 40.7	: 42.8	: 54.3
1965/66	: 919.5	: 110.7	: 12.0	: 50.3	: 45.4	: 60.4
1966/67	: 1,005.4	: 103.4	: 10.3	: 42.8	: 41.4	: 60.6
1967/68	: 1,037.0	: 96.8	: 9.3	: 43.3	: 44.7	: 53.5
1968/69	: 1,076.7	: 89.2	: 8.3	: 32.8	: 36.8	: 56.4
1969/70	: 1,087.1	: 96.9	: 8.9	: 37.2	: 38.4	: 59.7
1970/71	: 1,100.8	: 109.7	: 10.0	: 40.3	: 36.7	: 69.4
1971/72	: 1,193.5	: 109.8	: 9.2	: 42.3	: 38.5	: 67.5
1972/73	: 1,160.9	: 134.3	: 11.6	: 70.8	: 52.7	: 63.5
1973/74	: 1,267.9	: 142.0	: 11.2	: 75.4	: 53.1	: 66.6
1974/75	: 1,212.1	: 136.8	: 11.3	: 65.8	: 48.1	: 71.0
1975/76	: 1,243.5	: 150.6	: 12.1	: 83.7	: 55.6	: 66.9
1976/77	: 1,359.7	: 156.4	: 11.5	: 78.6	: 50.3	: 77.8
1977/78	: 1,333.2	: 166.2	: 12.5	: 89.2	: 53.7	: 77.0
1978/79	: 1,460.4	: 173.8	: 11.9	: 95.1	: 54.7	: 78.7
1979/80	: 1,418.5	: 199.6	: 14.1	: 111.5	: 55.9	: 88.1
1980/81	: 1,434.6	: 212.7	: 14.8	: 113.7	: 53.5	: 99.0
1981/82 <u>3/</u>	: 1,487.6	: 217.7	: 14.6	: 109.6	: 50.3	: 108.1

1/ Total grains include wheat, corn, sorghum, barley, oats, rye, and milled rice.

2/ Trade data exclude intra-EC trade.

3/ Preliminary.

Source: World Grain Situation/Outlook, Foreign Agriculture Circular, Nov. 1982.

Appendix table 2--Corn loan rate, 1950/51 - 1982/83

Year	Loan rate 1/	CPI 2/	Real loan rate	Season average 1/ price	Ratio average price to loan rate
(1967=100)					
1950/51	1.47	77.8	1.89	1.52	1.03
1951/52	1.57	79.5	1.97	1.66	1.06
1952/53	1.60	80.1	2.00	1.52	.95
1953/54	1.60	80.5	1.99	1.48	.92
1954/55	1.62	80.2	2.02	1.43	.88
1955/56	1.58	81.4	1.94	1.35	.85
1956/57	1.50	84.3	1.78	1.29	.86
1957/58	1.40	86.6	1.62	1.11	.79
1958/59	1.36	87.3	1.56	1.12	.82
1959/60	1.12	88.7	1.26	1.05	.94
1960/61	1.06	89.6	1.18	1.00	.94
1961/62	1.20	90.6	1.32	1.10	.92
1962/63	1.20	91.7	1.31	1.12	.93
1963/64	1.07	92.9	1.15	1.11	1.04
1964/65	1.10	94.5	1.16	1.17	1.06
1965/66	1.05	97.2	1.08	1.16	1.10
1966/67	1.00	100.0	1.00	1.24	1.24
1967/68	1.05	104.2	1.01	1.03	.98
1968/69	1.05	109.8	.96	1.08	1.03
1969/70	1.05	116.3	.90	1.16	1.10
1970/71	1.05	121.3	.86	1.33	1.27
1971/72	1.03	125.3	.82	1.08	1.05
1972/73	1.01	133.1	.76	1.57	1.55
1973/74	1.32	147.7	.89	2.55	1.93
1974/75	1.10	161.2	.68	3.02	2.74
1975/76	1.10	170.5	.64	2.54	2.31
1976/77	1.50	181.5	.83	2.15	1.43
1977/78	2.00	195.4	1.02	2.02	1.01
1978/79	2.00	217.4	.92	2.25	1.12
1979/80	2.10	246.8	.85	3/ 2.52	1.20
1980/81	2.25	3/ 272.4	.82	3/ 3.11	1.38
1981/82	2.40	289.1	.83	3/ 2.50	1.04
1982/83	2.55	4/ 293.8	.87	3/ 2.65	1.04

1/ Leath, Mack N., L. H. Meyer, and L. D. Hall. U.S. Corn Industry, U.S. Dept. Agr., Econ. Res. Serv., AER-479, Tables 32 and 43, February 1982.

2/ Economic Report of the President, U.S. Government Printing Office, Table B-50, January 1981.

3/ Agricultural Outlook, page 37, June 1983.

4/ 1982/83 estimated on basis of 4 months.

Appendix table 3--Wheat loan rate, 1950/51 - 1982/83

Year	Loan rate 1/	CPI 2/	Real loan rate	Season average 1/ price	Ratio average price to loan rate
(1967=100)					
1950/51	2.18	77.8	2.80	2.00	.92
1951/52	2.20	79.5	2.77	2.11	.96
1952/53	2.21	80.1	2.76	2.09	.94
1953/54	2.24	80.5	2.78	2.04	.91
1954/55	2.08	80.2	2.59	2.12	1.02
1955/56	2.00	81.4	2.46	1.98	.99
1956/57	2.00	84.3	2.37	1.97	.98
1957/58	1.82	86.6	2.10	1.93	1.06
1958/59	1.81	87.3	2.07	1.75	.97
1959/60	1.78	88.7	2.01	1.76	.99
1960/61	1.79	89.6	2.00	1.74	.97
1961/62	2.00	90.6	2.21	1.83	.91
1962/63	1.82	91.7	1.98	2.04	1.12
1963/64	1.30	92.9	1.40	1.85	1.42
1964/65	1.25	94.5	1.32	1.37	1.10
1965/66	1.25	97.2	1.29	1.35	1.08
1966/67	1.25	100.0	1.25	1.63	1.30
1967/68	1.25	104.2	1.12	1.39	1.11
1968/69	1.25	109.8	1.14	1.24	.99
1969/70	1.25	116.3	1.07	1.24	.99
1970/71	1.25	121.3	1.03	1.33	1.06
1971/72	1.25	125.3	1.00	1.34	1.07
1972/73	1.25	133.1	.94	1.76	1.41
1973/74	1.37	147.7	.93	3.95	2.88
1974/75	1.37	161.2	.85	4.09	2.98
1975/76	1.37	170.5	1.80	3.56	2.60
1976/77	2.25	181.5	1.24	2.73	1.21
1977/78	2.25	195.4	1.15	2.33	1.03
1978/79	2.35	217.4	1.08	2.98	1.27
1979/80	2.50	246.8	1.01	3/ 3.78	1.51
1980/81	3.00	272.4	1.10	3/ 3.91	1.30
1981/82	3.20	289.1	1.11	3/ 3.65	1.14
1982/83	3.55	4/ 293.8 5/	1.21	3/ 3.53	.99

1/ Heid, W.G., U.S. Wheat Industry, U.S. Dept. Agr., Econ. Res. Serv., Tables 19 and 26, April 1980.

2/ Economic Report of the President, U.S. Government Printing Office, table B-50, January 1981.

3/ Agricultural Outlook, page 37, June 1983.

4/ 1982/83 estimated on basis of 4 months.

Appendix table 4--Rice loan rate, 1950-82

Year	Loan rate 1/	CPI	Real loan rate	Season average price	Ratio average price to loan rate
(1967=100)					
1950	4.56	72.1	6.32	5.09	1.12
1951	5.00	77.8	6.43	4.82	.96
1952	5.04	79.5	6.34	5.87	1.16
1953	4.84	80.1	6.04	5.19	1.07
1954	4.92	80.5	6.11	4.57	.93
1955	4.66	80.2	5.81	4.81	1.03
1956	4.57	81.4	5.61	4.86	1.06
1957	4.72	87.3	5.41	5.11	1.08
1958	4.48	86.6	5.17	4.68	1.04
1959	4.38	87.3	5.02	4.59	1.05
1960	4.42	88.7	4.98	4.55	1.03
1961	4.71	89.6	5.26	5.14	1.09
1962	4.71	90.6	5.20	5.04	1.07
1963	4.71	91.7	5.14	5.01	1.06
1964	4.71	92.9	5.07	4.90	1.04
1965	4.50	94.5	4.76	4.93	1.09
1966	4.50	97.2	4.63	4.95	1.10
1967	4.55	100.0	4.55	4.97	1.09
1968	4.60	104.2	4.41	5.00	1.09
1969	4.72	109.8	4.30	4.92	1.04
1970	4.86	116.3	4.18	5.17	1.06
1971	5.07	121.3	4.18	5.34	1.05
1972	5.27	125.3	4.20	6.73	1.28
1973	6.07	133.1	4.56	13.80	2.27
1974	7.54	147.7	5.10	11.20	1.48
1975	8.52	161.2	5.28	8.35	.98
1976	6.19	170.5	3.63	7.02	1.13
1977	6.19	181.5	3.41	9.49	1.53
1978	6.40	195.4	3.27	8.16	1.27
1979	6.79	217.4	3.12	10.50	1.55
1980	7.12	246.8	2.88	12.00	1.68
1981	8.01	272.4	2.94	9.25	1.15
1982	8.14	288.3	2.82	1/ 8.25	1.01

1/ Estimated.

Appendix table 5--Soybean loan rate, 1950-82

Year	Loan rate	CPI	Real loan rate	Season average price	Ratio average price to loan rate
			(1967=100)		
1950	2.06	72.1	2.86	2.47	1.20
1951	2.45	77.8	3.15	2.73	1.11
1952	2.56	79.5	3.22	2.72	1.06
1953	2.56	80.1	3.20	2.72	1.06
1954	2.22	80.5	2.76	2.46	1.11
1955	2.04	80.2	2.54	2.22	1.00
1956	2.15	81.4	2.64	2.18	1.01
1957	2.09	84.3	2.48	2.07	.99
1958	2.09	86.6	2.41	2.00	.96
1959	1.85	87.3	2.12	1.96	1.06
1960	1.85	88.7	2.08	2.13	1.15
1961	2.30	89.6	2.57	2.28	.99
1962	2.25	90.6	2.48	2.34	1.04
1963	2.25	91.7	2.45	2.51	1.11
1964	2.25	92.9	2.42	2.62	1.16
1965	2.25	94.5	2.38	2.54	1.13
1966	2.50	97.2	2.57	2.75	1.10
1967	2.50	100.0	2.50	2.49	1.00
1968	2.50	104.2	2.40	2.43	.97
1969	2.25	109.8	2.05	2.35	1.04
1970	2.25	116.3	1.93	2.85	1.27
1971	2.25	121.3	1.85	3.03	1.35
1972	2.25	125.3	1.79	4.37	1.94
1973	2.25	133.1	1.69	5.68	2.52
1974	2.25	147.7	1.52	6.64	2.95
1975	0	161.2	0	4.92	0
1976	2.50	170.5	1.47	6.81	2.72
1977	3.50	181.5	1.93	5.88	1.68
1978	4.50	195.4	2.30	6.66	1.48
1979	4.50	217.4	2.07	6.28	1.39
1980	4.50	246.8	1.82	7.61	1.69
1981	5.02	272.4	1.84	6.05	1.20
1982	5.02	288.3	1.74	<u>1/</u> 5.25	1.05

1/ Estimated.

Appendix table 6--Tobacco (flue-cured) loan rate, 1950-82

Year	Loan rate	CPI	Real loan rate	Season average price	Ratio average price to loan rate
(1967=100)					
1950	45.0	72.1	.62	51.7	1.15
1951	50.7	77.8	.65	51.1	1.09
1952	50.6	79.5	.64	49.9	.99
1953	47.9	80.1	.60	52.3	1.09
1954	47.9	80.5	.59	51.1	1.07
1955	48.3	80.2	.60	53.2	1.10
1956	48.9	81.4	.60	53.7	1.10
1957	50.8	84.3	.60	56.1	1.10
1958	54.6	86.6	.63	59.9	1.10
1959	55.5	87.3	.63	58.3	1.05
1960	55.5	88.7	.62	60.9	1.10
1961	55.5	89.6	.62	63.8	1.15
1962	56.1	90.6	.62	58.9	1.05
1963	56.6	91.7	.62	57.7	1.02
1964	57.2	92.9	.62	59.2	1.03
1965	57.7	94.5	.61	65.1	1.13
1966	58.8	97.2	.60	70.9	1.21
1967	59.9	100.0	.60	66.8	1.11
1968	61.6	104.2	.59	69.5	1.13
1969	63.8	109.8	.58	71.8	1.12
1970	66.6	116.3	.57	72.9	1.09
1971	69.4	121.3	.57	78.6	1.13
1972	72.7	125.3	.58	83.0	1.14
1973	76.6	133.1	.57	90.1	1.18
1974	83.3	147.7	.56	108.6	1.30
1975	93.2	161.2	.58	102.6	1.10
1976	106.0	170.5	.62	112.5	1.06
1977	113.8	181.5	.63	118.6	1.04
1978	121.0	195.4	.62	132.4	1.09
1979	129.3	217.4	.59	141.1	1.09
1980	141.5	296.8	.57	152.3	1.08
1981	158.7	272.4	.58	--	--
1982	175.9	288.3	.61	--	--

Appendix table 7--Cotton loan rate, 1950-82

Year	Loan rate	CPI	Real loan rate	Season average price	Ratio average price to loan rate
(1967=100)					
1950	32.41	72.1	44.95	40.07	1.24
1951	33.50	77.8	43.06	37.88	1.13
1952	34.03	79.5	42.80	34.59	1.02
1953	34.55	80.1	43.13	32.25	.93
1954	32.74	80.5	40.67	33.61	1.03
1955	34.55	80.2	43.08	32.33	.93
1956	32.74	81.4	40.22	31.75	.97
1957	32.31	84.3	38.33	29.65	.92
1958	35.08	86.6	40.51	33.23	.95
1959	24.40 ^{1/}	87.3	27.95	31.66	1.30
1960	26.63 ^{1/}	88.7	30.02	30.19	1.13
1961	33.04	89.6	36.87	32.92	1.00
1962	32.47	90.6	35.83	31.90	.98
1963	32.47	91.7	35.41	32.23	.99
1964	30.00	92.9	32.29	29.76	.99
1965	29.00	94.5	30.69	28.14	.97
1966	21.00	97.2	21.60	21.75	1.03
1967	20.25	100.0	20.25	26.70	1.32
1968	20.25	104.2	19.43	23.11	1.14
1969	20.25	109.8	18.44	22.00	1.09
1970	20.25	116.3	17.41	21.98	1.08
1971	19.50	121.3	16.07	28.23	1.45
1972	19.50	125.3	15.56	27.30	1.40
1973	19.50	133.1	14.65	44.60	2.29
1974	27.06	147.7	18.32	42.90	1.58
1975	36.12	161.2	22.41	51.30	1.42
1976	38.92	170.5	22.83	64.10	1.65
1977	44.63	181.5	24.59	52.30	1.17
1978	48.00	195.4	24.56	58.40	1.22
1979	50.23	217.4	23.10	63.40	1.26
1980	48.00	246.8	19.45	76.40	1.59
1981	52.46	272.4	19.26	--	--
1982	57.08	288.3	19.80	--	--

^{1/} Choice B loan rates. For producers selecting choice A, the loan rate in 1959 was 3410 and in 1960 was 3242.