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AGRICULTURAL POLICY IN A CHANGING DOMESTIC AND INTERNATIONAL ENVIRONMENT

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American agriculture has gone through four major stages of development since federal policies toward farming began to evolve in 1790. In each stage of development, these policies influenced the direction and composition of farming, changing as resource, economic and technological conditions have changed. This review suggests that more recently, federal policies have lagged behind the broad array of changes influencing farm production and commodity markets. Of special interest now are the trends and policies that have evolved since 1972 when agriculture entered an era of export expansion. Understanding this latest stage of agricultural development may help shape future farm policies that will more effectively strengthen the economic base of the agricultural sector.

Introduction

American farmers have played a major role in developing the basic resources of the United States. Through constant efforts to improve productivity, farmers have helped transform the nation from a 1790 economy in which 95 percent of the population produced enough food for itself and the remaining five percent, to the 1970 economy wherein, for the first time, agriculture requires less than five percent of the population to produce adequate food and fiber to feed and clothe the domestic population and provide sizeable exports to the world. In that brief span of geological time, the nation changed from rural to urban, from animal to mechanical power, and from practical application to scientific exploration (Schlebecker 1975).

Increased farm output evolved from two functional relationships. Under one, total output increased because total inputs increased. Under a second, total inputs remained relatively constant but output increased because of

increased transformation rates. This latter trend became pronounced after 1930. The index of production inputs measured 101 in 1930 and 101 in 1970. The index of farm output, by contrast, increased from 52 to 101 over the same period and the index of productivity (output index divided by input index) rose similarly from 51 in 1930 to 102 in 1970.

Table 1. Indices of Farm Output, Inputs, and Productivity, United States, 1870 to 1980.

Year	Farm Output	Production Inputs	Productivity	Year	Farm Output	Production Inputs	Productivity
(1967 = 100)							
1870	17	40	41	1930	52	101	51
1880	26	52	49	1940	60	100	60
1890	30	62	49	1950	74	104	71
1900	40	72	55	1960	91	101	90
1910	43	86	50	1970	101	100	102
1920	51	98	52	1980	122	106	115

Source: United States Department of Agriculture.
Agricultural Statistics 1972 and 1981.

Before 1930, agriculture in the United States in some respects fit the definition of a traditional society, as outlined by Rostow in his Stages of Economic Growth (Rostow 1960). In a traditional society, Rostow pointed out, "a ceiling existed on the level of attainable output per head. This ceiling resulted from the fact that the potentialities which flow from modern science and technology were either not available or not regularly and systematically applied." The United States economy as a whole achieved "take-off" and even "maturity" much earlier, take-off around 1850 according to Rostow and maturity around 1900. The agricultural sector also increased productivity during this period, most notably between 1870 and 1880. But farm productivity remained almost constant over the next forty years.

The real take-off in agricultural output began in the decade of the 1930s. It accelerated with the higher prices of World War II and the easing of severe capital restraints on agriculture. After the war, technology continued to flow into farming, changing the make-up of agriculture and the structure of rural communities.

Stages of Agricultural Development

The rapid increase in output after 1930 represented a new stage in the economic and social development of American agriculture. For the first century after 1790, agricultural output had expanded as new land was brought into production. Young people willing to expend the effort could generally enter farming and those taking nonfarm jobs chose those occupations relatively freely. The role of government in agriculture during this period was limited primarily to distributing the lands of the interior, establishing schools and institutions of higher learning, and setting up a national Department of Agriculture (USDA 1963).

Around 1900, the agricultural land base stabilized. Further increases in output became dependent on adding more inputs to existing cropland. These increases about matched growth in demand which led to a favorable farm economy. During this stage, establishment of new farms usually meant dividing existing farms or clearing less productive terrain. The number of farms, which increased from 1.4 million in 1850 to 6.5 million in 1910, rose only to 6.8 million in 1935, the peak of farm numbers in the United States.

The federal government generally followed a "hands-off" approach toward agriculture for most of this period despite the depressed economic conditions associated with the aftermath of World War I. The prevalent view during the 1920s seemed to be that agriculture, if left alone, would return to the favorable conditions it had experienced during the "Golden Age" of 1910 to 1914 (Black 1942, Chapter 5). It would be much later before the flow of new technology into farming would scuttle this optimistic view. Farmers first had to suffer through two decades of depressed economic conditions.

The Resource Adjustment Stage

After 1935, American agriculture entered a stage of resource adjustment, a phase that eventually brought considerable social change to most rural areas but also made American agriculture the envy of much of the world. Instead of output increasing as a function of increasing resource use, growth in output became a function of the increasing productivity of a relatively fixed level of inputs. Total inputs remained nearly constant over the next four decades although the composition changed, mainly in terms of a substitution of capital items for labor inputs.

Unfortunately for farmers, even a relatively fixed

resource base in farming allowed output to rise at rates that outstripped domestic and export demand. When the federal government established on-farm storage programs in the mid-1930s, inventories accumulated rapidly. The rising inventories and low prices were misinterpreted, however, as signs that agriculture had excess resources in production. Low prices were viewed as a result of weak demand associated with the Great Depression and federal income support policies were seen as the logical solution until the depression ended. The idea that new technology could reduce the quantity of resources required in food production was for the future; it would be much later before increased productivity would become a credible concept.

With relatively few off-farm jobs available and more supplemental income payments from the government, the rate of migration from agriculture dropped sharply between 1930 and 1935 (Table 2). But after 1935, not even a depressed general economy or new farm program could hold back the flow of labor. Net migration from farms increased and the farm population began a long decline.

Table 2. Farm Population Size and Migration Rates, 1920 to 1980

Year	Farm Population April 1	Period Beginning April 1	Net Change Births and Deaths	Average Annual Change: Migration & Redefinition of farm residences		
				Net	To Farms	From Farms
	(000)		(000)	(000)	(000)	(000)
1920	31,974	1920-25	509	-666	1,074	1,740
1925	31,190	1925-30	461	-593	1,554	2,147
1930	30,529	1930-35	384	-192	1,340	1,532
1935	32,161	1935-40	386	-706	811	1,517
1940	30,547	1940-45	377	-1,309	871	2,180
1945	24,420	1945-50	383	-471	1,507	1,978
1950	23,048	1950-55	321	-934	597	1,531
1955	19,078	1955-60	221	-806	408	1,214
1960	15,635	1960-65	139	-794	301	1,095
1965	12,363	1965-70	64	-594	270	864
1970	9,712	1970-75	31	-199	na	na
1975	8,864	1975-77	25	na	na	na
1980	6,051	--	na	na	na	na

Source: United States Department of Commerce. Historical Statistics of the United States. 1960; and U.S. Department of Agriculture. Farm Population Estimates. Series P-28. Appropriate years.

The outbreak of World War II in Europe and our entry in 1941 reversed the U.S. agricultural situation. Surplus commodities disappeared and it became imperative for farm output to be expanded. To raise farm production, price supports were raised to unprecedented levels. The federal government also guaranteed that high price supports would continue for two years beyond the official end of hostilities.

With improved incomes on farms and an insatiable demand for manpower from both the armed services and the industrial sector, World War II gave the agricultural work force its first real opportunity to adjust to the evolving levels of higher productivity. Net migration from farms doubled during the war years.

After hostilities ended in 1945, demand from war-ravaged countries along with government programs of income support kept agriculture operating at war-expanded levels. Even when surplus commodities began to accumulate in the late 1940s, farmers were shielded from lower prices.

Federal policies toward returning manpower from the armed forces added a further complication. Veterans with farm backgrounds were encouraged to return to the farm through offers of federal start-up loans and farm training under GI Bill programs. These programs attracted a substantial number of families back to the farm between 1945 and 1950. Abundant resource supplies led to mounting surpluses of commodities by 1950.

As it had done a decade earlier, war demand again bailed out the farm industry. Stockpiles of commodities disappeared with the Korean police action that began in June 1950. But the end of hostilities in 1953 reproduced the same problem on a larger scale. Without depression or war conditions to justify high price supports, and with a more market-oriented administration running farm programs, the farm economy was slowly exposed to a measure of market pressure. Farm prices trended downward, especially in real terms, and economic conditions worsened for many farmers. Migration rates doubled, with some post-World War II entrants forced to find other employment. A high rate of migration continued throughout the 1960s despite the increased efforts of the Kennedy and Johnson administrations to raise farm income (Hadwiger and Talbot 1965). It was not until the 1970s that expanded foreign demand finally slowed the decline in farm numbers.

In retrospect, the "farm adjustment problem" that characterized American agriculture from 1935 until around 1970 was the outgrowth of a complex set of forces. Technological innovations greatly increased the productive capacity of those farmers with access to adequate capital to increase the size

of their farming operations. In addition, the number of acres required to meet market demand for harvested crops slowly declined between 1930 and 1970 (Table 3). This combination of changes led to a dramatic decline in the amount of manpower required in farming. The market through low wages and low family incomes slowly pushed many families out of farming.

Table 3. Acreages of Harvested Crops, by use and idled, 1910 to 1980.

Year	Crop Acreage Harvested	Acreage used for Producing for:			Crop Acreage Idled*
		Total	Domestic Use Per Capita	Export	
(million acres)					
1910	325	200	2.17	37	23
1920	360	210	1.98	60	28
1930	369	265	2.15	39	34
1940	341	290	2.20	8	36
1950	345	276	1.82	50	22
1960	324	255	1.42	50	33
1970	293	221	1.08	72	51
1980	352	214	0.94	138	26

*Idled acres based on census data for nearest census year.

Source: United States Department of Agriculture.

Agricultural Statistics, 1972 and 1981.

Even with farm numbers and crop acres declining, agricultural output continued to outpace demand. This led commodity prices to rest on price supports which in turn forced the government to take over a growing amount of farm commodities. Budget costs for farm programs rose, especially for storage of excess commodities, and the nonfarm press began to question the large expenditures on these programs.

To help expand exports of agricultural commodities, Congress passed Public Law 480, the Food for Peace program, in 1954 (Peterson 1979). To reduce total crop acres and stem the flow of excess commodities, a new soil bank program was established in 1956 (Congressional Quarterly Service 1963). Neither more exports nor land removal programs were successful, however, in reducing the growing investment in stockpiles of agricultural commodities (Table 4).

With the arrival of a new administration in January 1961, the federal government sharply expanded land diversion programs for feed grain and wheat. With several million more

Table 4. Carryover Stocks of Major Crops, 1930 to 1980.

Year	Total Grains	Wheat	Feed Grains	Cotton
	(million metric tons)		(Million bales)	
1930	14.2	7.9	6.3	4.5
1935	7.3	4.0	3.3	7.2
1940	28.8	7.6	21.2	10.6
1945	21.4	7.6	13.8	11.2
1950	39.3	11.6	27.7	2.3
1955	63.7	28.2	35.5	14.5
1960	103.5	35.8	67.7	7.2
1965	58.6	18.0	40.6	16.9
1970	55.4	22.4	33.0	4.3
1975	37.1	18.1	19.0	3.6
1980	62.4	26.9	35.5	3.0

Source: United States Department of Agriculture.
Agricultural Statistics. 1972 and 1981.

acres of cropland removed from production and larger government programs of export assistance, stocks of feed grains and wheat began to decline. Cotton stocks gyrated, rising in the mid-1960s as acreage in the soil bank program--a sizeable portion of which was located in cotton-growing areas--returned to production. It was not until the early 1970s that both excess stockpiles and idle crop acreage finally disappeared, and now, it appears, only temporarily.

The Export Expansion Stage

It seems evident now that the agricultural industry was plagued by two major problems after 1935. One was an adjustment of labor resources made necessary by a flow of new technology into farming and the second was excessive production capacity generated partly by that same new technology and partly by the price guarantees provided by the federal government after 1933. World War II temporarily removed the visible signs but both problems reappeared as demand returned to peacetime levels in the late 1940s.

The two problems complicated the development of farm programs after World War II. The adjustment problem argued for higher price supports and greater income guarantees to

slow the structural change that was reshaping agriculture but these same solutions led to a growing level of excess capacity. The excess capacity problem was vividly illustrated in 1966 when drought in India suddenly boosted U.S. grain exports and prices. Reacting to this apparent opportunity, the government removed controls on crop acreage for 1967. The result was a sharp increase in grain output just as Indian crop production recovered. U.S. stocks of grain jumped and prices fell. Analysts who were forecasting an end to excess capacity in the U.S. farm sector had to rapidly revise their forecasts.

The next test of agriculture's production capacity came in 1972. The Soviet Union, to cover drought-related production shortfalls, initiated purchases of U.S. farm commodities that utilized all available supplies. These purchases were followed in the mid-1970s by an overall growth in world demand due partly to purchases by the newly affluent oil exporting countries and partly to purchases by the developing countries which began to use credit for importing food commodities, credit that appeared to have little real cost as inflation rates rose above interest rates.

This combination of demand factors along with favorable exchange rates for the dollar increased foreign demand for U.S. farm products and bolstered commodity prices. The volume of farm exports increased nearly 40 percent between 1970 and 1975 and rose another 67 percent by 1980. The value of exports rose even more, from \$6.7 billion in 1970 to \$21.6 billion in 1975 and \$40.5 billion in 1980 (USDA 1984). Export values increased more than volume as inflation raised commodity prices.

The upsurge of farm exports in the early 1970s further raised the export share of U.S. crop production. That share had climbed steadily after World War II. During the Great Depression, only five percent of U.S. wheat went to export. But nearly 65 percent of the crop was exported in 1965 when India required massive food aid. Overseas sales of corn, soybeans, rice and cotton also absorbed a steadily increasing share of domestic farm production (Table 5).

The unusual aspect of the export situation after 1972 was that a larger share of substantially larger crops was exported. Crop output increased as idled acreage was returned to crop production. Earlier, larger acreages would have depressed crop prices. But after 1972, export markets absorbed all of the rise in output and prices increased. In turn, exports became a driving force behind rural prosperity with incomes of farm families rising dramatically.

Table 5. Volume of Exports, and Percent of Major Crops Exported, 1930 to 1980.

Year	Index of Export Volume (1967=100)	Percentage of Crop Production Exported				
		Wheat	Corn	Soybeans	Rice	Cotton
		(percent of production)				
1930	39	14.8	0.2	-	na	51.2
1935	26	2.5	0.1	6.4	na	58.9
1940	20	5.0	0.7	0.1	na	9.3
1945	35	28.8	0.9	2.6	na	41.4
1950	46	36.7	4.0	11.6	39.5	42.7
1955	50	36.7	3.8	22.2	44.7	15.8
1960	84	46.6	7.1	28.8	56.6	48.0
1965	98	64.8	16.7	42.6	56.7	19.7
1970	106	54.8	12.5	55.6	55.5	36.7
1975	147	55.1	29.3	49.2	44.0	38.3
1980	246	63.6	35.4	55.6	62.5	50.7

Source: Id. Table 4.

Not all of the higher income of farm families was due to improved farm earnings. For a growing number of farm families, off-farm jobs were becoming the major source of family income. This was partially the result of industrial relocation into rural areas, with increased job opportunities for farm families, and partially the result of rising capital requirements in farming that encouraged many families to look elsewhere for more income. The effect was favorable, however, with the average level of farm family income doubling between 1960 and 1970, and almost doubling again by 1975. The increases continued and by 1980, farm family incomes averaged over \$26,000, nearly equal to families in the remainder of the economy. Even farms with only modest sales of farm products (under \$2,500 for example) averaged family incomes of over \$20,000 in 1982 (Table 6).

Not all farms fared so well, of course. Farms with medium-size sales (\$10,000 to \$40,000) averaged lower family incomes. For various reasons, these farms do not earn as much income from farming or from off-farm sources. Some may not have the opportunity for off-farm jobs. Other farming operations are too large to allow full-time jobs off the farm and yet too small to provide average farm family incomes.

Nearly a quarter of all farms have sales between \$10,000

Table 6. Income per Farm Family, from all sources, by value of sales classes.

Year	All Farms	\$100,000 & Over	\$40,000 /100,000	\$10,000 /40,000	\$2,500 /10,000	Below \$2,500
(dollars)						
1960	4,946	na	24,422	7,420	4,300	3,538
1965	7,325	40,361	18,816	9,065	5,900	5,613
1970	10,848	106,075	23,861	11,434	7,093	7,228
1975	18,269	107,138	22,225	11,434	11,032	11,675
1980	26,566	96,063	17,812	14,977	17,395	19,091
1982	26,389	89,171	16,132	14,971	18,314	20,278

Source: United States Department of Agriculture. Economic Research Service. Economic Indicators of the Farm Sector. October 1983.

and \$40,000 (Table 7). Another quarter are farms with larger sales (above \$40,000). The other half are farms with smaller sales (below \$10,000). The most dramatic increase has been in the number of farms with larger sales. Today, over 12 percent of U.S. farms have sales in excess of \$100,000, up from less than one percent in 1960. These farms have family incomes uncharacteristically high for the farm sector. They account for over 70 percent of total farm output. It is also evident from the data in Table 6 that some of these farms have experienced large income losses since the mid-1970s.

Table 7. Number of Farms, and Distribution by sales classes.

Year	All Farms	\$100,000 & over	\$40,000 /100,000	\$10,000 /40,000	\$2,500 /10,000	Under \$2,500
(000)		(percent)				
1960	3,963	0.6	2.3	18.2	32.3	46.6
1965	3,356	1.1	3.7	22.2	28.8	44.2
1970	2,949	1.8	5.6	22.6	24.8	45.2
1975	2,521	5.7	12.5	25.0	24.8	32.0
1980	2,428	11.8	16.0	23.3	27.2	21.7
1982	2,400	12.3	16.4	23.1	27.5	20.7

Source: Id. Table 6.

Forces Shaping Farm Policy

It seems evident from this short review that U.S. agriculture has passed through several stages in achieving its present high level of productivity. One stage was a long period of land expansion. After the land base stabilized around 1900, agriculture entered a second stage with increasing use of nonland inputs. A third stage was reached after 1935 when overall resource use stabilized but shifts continued in input composition. The fourth period saw a sudden growth in world demand that resulted in massive export expansion for U.S. farmers. This latter stage was perhaps the shortest, and partly because of the erratic interventions of the federal government, the most volatile (Chicago Board of Trade 1974).

In each of the four stages, federal policies were adjusted in an effort to improve conditions in agriculture. In hindsight, it appears that some of the policies applied were more appropriate to a previous stage of development. It can be argued, for example, that drawing families back into farming after World War II was a retrogressive policy. Similarly, keeping price supports at high levels after World War II was costly in terms of later economic and social adjustment. These examples illustrate that a major challenge for policymakers is to formulate for future conditions rather than to depend on past policies and conditions.

Farm Policy Goals and Purposes

Since 1933, federal farm policies have been shaped to meet many different goals. One theme, especially evident during the dust bowl days when federal farm programs began, was that weather-related variability in crop production created an unacceptable amount of risk for farm families. This was a major justification for the original federal programs of price support and disaster relief.

A second theme that developed during World War II was that farmers required protection against sudden shifts in demand, such as occurred after the end of World War I. This theme was implemented in the Steagall amendment that extended 90 percent of parity price supports for basic commodities for two years beyond the official end of World War II.

The period after the war brought forth still a different theme. New technology in the form of new and larger machines provided farmers who could afford them with an opportunity to expand farm size. With the land base relatively fixed, farm expansion meant taking over land from other farms. As the

pace of farm consolidation quickened after the war, and as low farm incomes intensified the pressure for many farm operators to quit, small town businessmen and national politicians sensed the upcoming loss if farm numbers dropped precipitously. Protection of the family farm became a major theme of proposed farm legislation. An early example was the Brannan Plan which Congress voted down in 1949.

In the 1950s, an additional goal, soil conservation, was highlighted in support of farm programs. This goal supported the removal of low quality cropland from production as a means of lowering output. It was the foundation under the Soil Bank program. Unfortunately, when the Soil Bank contracts expired, most of the submarginal acreage came back into intensive crop production. This was particularly true when exports raised prices and increased crop profitability in the 1970s.

Throughout the post-World War II period, an oft-repeated view was that farm families needed more economic assistance. Despite this, however, the amount provided by the federal government was inadequate to prevent the farm population and the number of farms from declining (Mayer 1983). Congress, and successive administrations, debated the merits of more economic aid for farmers, but the final shape of farm legislation generally left a substantial amount of economic risk with the farm operator. For many farmers, the risks proved too great and the result was a shift to part-time farming and an off-farm job or complete termination of the farming operation.

This policy approach generally resulted in declining real prices for farm commodities throughout the 1950s and 1960s. In turn, this meant that much of the gains from technological improvements went to consumers in the form of lower food costs. An alternative would have been for the government to hold farm prices up as technical advances lowered production costs, thus allowing farmers to retain the gains. One argument against this was that most scientific advances came from tax-supported institutions. A second was that the nature of the economic system in agriculture would have led the gains to be capitalized into land values, thus raising land costs, production costs, and food costs for the next generation.

While economic logic favored holding down production costs, some farm groups made strong arguments in favor of higher price supports. Such an action, it could be argued, would have slowed the migration from farming and restrained the influx of larger machines into agriculture. It would also have meant that more income claimants would have remained in farming. The added costs for these claimants

would have had to be paid, either by the federal government through farm programs or by higher prices for food in the market place.

Export Dependence and Farm Policy

When the export expansion stage of agricultural development arrived in the early 1970s, additional considerations became important in farm policy deliberations. Policy increasingly had to take into account the international market for commodities and not the domestic market alone as was true when farm programs began in the 1930s. To compete in the international market, American farm commodity prices had to be in line with product prices of other countries.

This requirement placed policymakers in a dilemma, a dilemma not unlike that which legislators faced with the excess capacity and resource adjustment problems three decades ago. Then, higher support prices might have slowed structural change but those same higher prices tended to worsen the excess capacity problem. Today, higher price supports might help relieve the severe income and debt conditions in parts of the farm sector but those same higher support prices tend to make the U.S. less competitive in international markets. Such a lack of competitiveness would be disastrous in terms of maintaining and expanding export markets for American farm products.

Some evidence of the impact of overly high price supports already exists. In the late 1960s and throughout the 1970s, American support prices were at competitive levels and exports expanded. But the 1981 Farm Act passed by Congress sharply increased the level of price guarantees for major commodities. As world production of commodities exceeded market requirements after 1981, world commodity prices declined, coming to rest on the U.S. price supports. U.S. exporters found themselves unable to purchase U.S. commodities at prices competitive with supplies from other countries. This reduced U.S. competitiveness in world markets. Farm exports, which hit a high of almost \$44 billion in 1981, declined in both 1982 and 1983 and would have declined in 1984 but for drought that reduced 1983 crops and raised prices on the smaller amounts exported in 1984.

A second effect of the higher price supports in the 1981 Farm Act was the encouragement of expanded production of crops in competitor countries. As U.S. support prices set a floor under world market prices, producers in other countries found they could depend on those prices as minimums for their production. With these expectations, and with a strong U.S. dollar, producers in other countries had

favorable incentives to expand production. (The value of the dollar is important because nearly all grain is exchanged in world trade for U.S. dollars. Marketing boards in competitor countries take those dollars and exchange them for their own currencies as the dollar strengthens. The marketing boards can then pay their farmers a higher price for their commodities which gives their producers an incentive to expand production.) Wheat is a particular example. Over the past few years, production in several competing countries has expanded by sizeable amounts (Table 8).

Table 8. Wheat area harvested in U.S. and competitor countries, 1970 to 1983.

Year	United States	Total Competitor	EC	Canada	Australia	Argentina
(million hectares)						
1970	17.6	26.1	10.9	5.1	6.4	3.7
1975	28.1	34.8	11.4	9.5	8.6	5.3
1980	28.7	40.0	12.6	11.1	11.3	5.0
1981	32.8	42.8	12.6	12.4	11.9	5.9
1982	31.9	44.4	13.0	12.6	11.5	7.3
1983	24.7	46.2	13.1	13.7	12.6	6.8

Source: United States Department of Agriculture. Foreign Agriculture Service. Foreign Agriculture Circular (Grains). FG-17-79. October 16, 1979, and FG-37-83, December 14, 1983.

With larger plantings, other countries also export more wheat. This became increasingly true after 1981 when higher support rates made the U.S. less competitive. The higher supports followed the U.S. imposition of an embargo on grain exports to the Soviet Union on 4 January 1980 and was probably the most disruptive effect of that embargo. The combination brought about a sharp drop in wheat exports from the United States and larger exports from other wheat exporting countries (Table 9).

Wheat exports from other countries had also expanded rapidly in the early 1970s, rising from 36 million tons in the 1970 marketing year to nearly 51 million tons in the 1975 marketing year. For the next five years, their exports of wheat remained relatively stable. But after 1981, their exports rose again, with the increase about equal to the decrease in U.S. wheat exports.

Table 9. Exports of Wheat from the U.S. and competitor countries, 1970/71 to 1983/84.

Year	United States	Total Competitors	EC	Canada	Australia	Argentina
	(million metric tons)					
1970-71	19.8	36.0	14.2	11.8	9.1	0.9
1975-76	31.9	50.9	26.7	12.3	8.7	3.2
1980-81	41.2	47.5	20.3	16.3	7.1	3.8
1981-82	48.2	49.6	15.5	18.4	12.1	3.6
1982-83	41.1	54.0	15.5	21.4	7.3	9.8
1983-84	38.1	58.5	16.0	21.5	13.0	8.0

Source: Id. Table 8.

The shifting fortunes of U.S. wheat producers after 1981 recalled earlier days when wheat exports had lagged. In the 1950s, supplies of wheat exceeded available markets at the prices established by support programs. In turn, commercial exports of wheat fell and only the assistance of government legislation such as Public Law 480 kept wheat sales on the increase. After support prices were lowered in the early 1960s, commercial exports of wheat began to pick up (Table 10). This trend continued until world demand absorbed all available supplies after 1972.

It is also evident from the data in Table 10 that the export experience after 1981 paralleled that of the 1950s. As market prices dropped to near or below support prices, exports of U.S. wheat declined. World wheat trade remained on a plateau with other exporting countries replacing U.S. exports. The U.S. market share dropped sharply, from nearly 48 percent in the 1981-82 marketing year to under 38 percent in the 1983-84 marketing year. While this situation was particularly acute for wheat, it illustrated a fundamental principle: Price supports at too high a level can have a devastating effect on commodities where export markets are an important part of total utilization.

Farm Policy for Export Expansion

The past few years have re proven that certain economic relationships do not change where agriculture is concerned. Primarily, the most important of these regards the role of commodity prices. Flexibility in commodity prices is

Table 10. Ratio of loan rates to prices received for wheat, wheat exports, and U.S. market share, 1950 to 1983.

Years	Ratio of loan Rates to Market Prices	U.S. Wheat Exports			U.S. Market Share	
		Total	Gov't Ass't	Net Comm.	Total	Net Comm.
	(percent)	(million bushels)			(percent)	
1950-54	104.4	335	29	306	32.9	29.9
1955-59	103.4	434	311	123	35.7	11.0
1960-64	98.3	684	494	190	40.5	12.3
1965-69	92.0	707	345	362	36.4	18.8
1970-74	64.7	944	155	789	41.8	34.5
1975-79	71.8	1163	140	1023	43.9	38.5
1980-81	76.7	1510	115	1395	43.8	40.5
1981-82	87.7	1769	120	1649	47.6	44.3
1982-83	100.0	1508	120	1388	41.9	38.5
1983-84	102.5	1398	120	1278	37.8	34.6

Source: United States Department of Agriculture.
Agricultural Statistics, 1972 and 1981; Foreign
 Agriculture Circulars. (Grains), FG-17-79 &
 FG-37-83. October 16, 1979 and December 14, 1983.

essential if production and allocation of commodities are to respond to changing market conditions. This has become even more true in the marketing of farm commodities as overseas markets have taken on a larger importance in terms of total sales.

The level of commodity prices has been a prime focus of all major farm legislation since the Farm Board attempted to stabilize farm marketing in 1929. That failure was a forerunner to later experiences with price stabilization. The major difference has been that the Farm Board had far more limited funding than the Commodity Credit Corporation that followed it. Given adequate funding, a nation can follow almost any farm policy. The actual policies followed in the United States in the post-World War II era have often tested that assertion.

There have been other limitations on farm policy. One has been the rate of social change acceptable in rural areas of the nation. This limitation was tested often after the end of World War II as new technology and machines resulted in the consolidation of farms. More recently, structural change has become a side issue which still attracts attention but does not excite legislative action. Family farm interest

groups have recently had to be satisfied with a legislative directive for a study of some type, a sure indication of waning influence.

With the importance of market competitiveness re proven since 1980, the stage is now set for turning farm policies away from high price supports and government-dictated acreage reductions and storage programs. One direction policies could go would be toward more market-dictated production and marketing decisions as in the 1970s. With the federal government showing clear signs that the negative impact of trade embargoes is better understood, heavier dependence on the market may now be more feasible.

This does not necessarily mean an end to all income support programs for farm families. Increased market orientation could be accomplished by again disengaging the income support function from the pricing function, a step that was taken in the early 1960s but was largely reversed in the 1981 Farm Bill. How much of that regression was due to the Soviet grain embargo imposed on 4 January 1980 is unknown but certainly the embargo did not reassure Congress and the farm public of the administration's ability to handle greater flexibility in farm programs.

Future decisions associated with farm income support programs, the issue of how to distribute federal support funds, who should get the benefits and how much each farm should be eligible to receive, are all questions that must receive thorough attention. As Assistant Secretary of Agriculture William G. Leshner recently pointed out in a speech before the 1984 Annual Farm Bureau Convention, "Agriculture and farm life have changed dramatically in the last few decades. And, the time is approaching when the public will require a comprehensive review of the degree and distribution of income protection provided to the farm sector, and the legitimacy or need for achieving the state objectives."

The data on current farm family incomes supports Secretary Leshner's assertion. There has been a vast improvement in farm family incomes in the past two decades. While some farming operations still face severe income problems, the majority do not. Continuing federal payments to all farms is going to strain the budget for farm programs and eventually endanger federal assistance for those farmers for which federal payments are critical.

There are other important issues to be determined for future farm policy. Competitiveness in world markets is a prerequisite to export expansion but it does not assure larger markets. Building overseas markets is an undertaking that requires a knowledge of products, markets, and marketing

techniques. Such a knowledge base must be established in university teaching and research programs as well as through practical experience. Currently, U.S. agriculture is far better supplied with information on production techniques than with information on foreign markets, marketing skills, and marketing essentials such as export financing methods, health and sanitary regulations in importing countries, and tastes and preferences of customers.

In a broad sense, farm policies need to be refocused to achieve a better balance between production and marketing. The U.S. has had a production-oriented farm policy almost from its beginning--an orientation that has been very advantageous to the nation in the form of low cost food supplies. The time has arrived, however, to phase in a greater marketing orientation in our farm policies to ensure that markets expand along with production. The exact steps necessary to accomplish this are not entirely obvious but it must begin with a greater focus on marketing in our universities, research centers, and government agencies.

One small phase of the imbalance between production and marketing in our current farm programs is the amount of funding that is available to encourage production through support prices as opposed to expanding overseas markets. The Commodity Credit Corporation has currently authorized \$25 billion of funds for supporting prices and reducing crop production when necessary. Total funding for export credit programs averages a small proportion of this, usually less than 20 percent. As Assistant Secretary Leshar recently pointed out to the Farm Bureau convention, "While the U.S. attempts to reduce production through acreage reduction programs, some of our foreign competitors continue to expand production while exporting surplus commodities and processed farm products using massive subsidies." One can fairly ask: If other countries are using their budgets for such different purposes, should we not question our own budget expenditure patterns?

Actually, we should examine rather carefully the whole concept of reducing acreages to hold down crop production. If it is true, as Leshar suggested in his Farm Bureau speech, that acreage reduction programs are largely ineffective because (a) producers first take their worst land out of production, (b) larger farms are precluded from participation by the payment limitation, (c) efficient producers outside the program expand production, and (d) any kind of tightening up of the program (such as cross compliance, restrictions on summer fallow, or mandatory controls on haying and grazing) will be blocked by the Congress, then one must ask if these programs are even feasible. In a prior time when inelastic domestic markets were the primary source of demand

for U.S. farm products, cutting back output may have made sense. But with more competitive international markets now making up such a large part of total demand, the feasibility and usefulness of acreage reduction programs must be questioned.

This further underscores the importance of increasing our focus on marketing, especially overseas marketing. But it should be stressed that this will add further complexities to the process of developing farm legislation. Over the last few decades, the farm policy environment has become more and more complex. In the early years, the trade-offs were primarily between different sectors of the total economy--more for agriculture meant less for other sectors. Today, the trade-offs are within agriculture--higher price supports mean greater farm income but less foreign sales, and more excess production capacity and more federal expenditures to hold down farm output or store the excess.

Farm policy has become complex for other reasons as well. Food is now an international issue, made so by the shortages of the early 1970s and the continuing growth of population in most of the developing world. As an international issue, farm policy has taken on characteristics associated with foreign policy, international economic policy, and even national security. These additional elements increase the number of interested participants in farm policy deliberations and food program administration and make the dialogue more complicated. Perhaps the most succinct description of the whole farm and food policy agenda is that U.S. foreign policy has always been complex, and U.S. farm policy is slowly joining it.

But that reality poses special challenges for farm policymakers. Their framework for formulating farm legislation must broaden to a more international orientation. While the constituency for farm programs remains domestic, some major economic factors affecting those programs are international. The framework for farm programs must become global if the agricultural sector is to continue expansion and growth.

REFERENCES

- Black, John D. Parity, Parity, Parity. Cambridge: Harvard University Press, 1942.
- Chicago Board of Trade. The Soybean Phenomena. Special report. Chicago, 1974.
- Congressional Quarterly Service. U.S. Agricultural Policy in the Postwar Years: 1945-1963. Washington, D.C., 1963.
- Hadwiger, Don F. and Talbot, Ross B. eds. Food Policy and Farm Programs. Proceedings v 34 no 3, The Academy of Political Science. New York, 1982.
- Hadwiger, Don F. and Talbot, Ross B. Pressures and Protests: The Kennedy Farm Program and the Wheat Referendum of 1963. San Francisco: Chandler Publishing Company, 1965.
- Hillman, Jimmie S. and Schmitz, Andrew, eds. International Trade and Agriculture: Theory and Policy. Boulder: Westview Press, 1979.
- Humphrey, Hubert H. "Pragmatic Administration of Food Policies: Domestic and International." Public Administration Review No. 2 March/April 1976.
- Mayer, Leo V. Farm Income and Farm Structure in the United States. Library of Congress, Congressional Research Service, Report No. 79-188S. September 1979.
- _____. "U.S. Agricultural Export Policy: The 1980s." Wisconsin Law Journal. Proceedings of the 1982 Symposium on United States Agricultural Export Policy. Madison, 1983.
- Peterson, Trudy Huskamp. Agricultural Exports, Farm Income, and the Eisenhower Administration. Lincoln: University of Nebraska Press, 1979.
- Rostow, W.W. The Stages of Economic Growth. New York: Cambridge University Press, 1960.
- Schlebecker, John T. Whereby We Thrive: A History of American Farming 1607-1972. Ames: Iowa State University Press, 1975.

United States General Accounting Office. Food in the Future: Proceedings of a Planning Symposium. Washington, D.C., 1981.

United States Department of Agriculture, Economic Research Service. Agricultural-Food Policy Review: Perspectives for the 1980s. Washington, D.C., 1981.

. U.S. Foreign Agriculture Trade Statistical Report: Fiscal Year 1983. Washington, D.C., 1984.

. Century of Service: The First 100 Years of the United States Department of Agriculture. Centennial Committee. Washington, D.C., 1963.

Woods, Richard G. ed. Future Dimensions of World Food and Population. Boulder: Westview Press, 1981.