

Utah State University

DigitalCommons@USU

Economic Research Institute Study Papers

Economics and Finance

2-1-1985

The Status of Utah's Agriculture and its Contribution to the State Economy

Jay C. Andersen
Utah State University

Donald L. Snyder
Utah State University

Terrence F. Glover
Utah State University

Follow this and additional works at: <https://digitalcommons.usu.edu/eri>

Recommended Citation

Andersen, Jay C.; Snyder, Donald L.; and Glover, Terrence F., "The Status of Utah's Agriculture and its Contribution to the State Economy" (1985). *Economic Research Institute Study Papers*. Paper 411.
<https://digitalcommons.usu.edu/eri/411>

This Article is brought to you for free and open access by the Economics and Finance at DigitalCommons@USU. It has been accepted for inclusion in Economic Research Institute Study Papers by an authorized administrator of DigitalCommons@USU. For more information, please contact digitalcommons@usu.edu.



17.11:43
126

February 1985

-Study Paper #85-7

THE STATUS OF UTAH'S AGRICULTURE AND ITS
CONTRIBUTION TO THE STATE ECONOMY

By

Jay C. Andersen
Donald L. Snyder
Terrence F. Glover

17.11:43 #126
STUDY PAPER #85-7
FEBRUARY 1985

THE STATUS OF UTAH'S AGRICULTURE AND ITS
CONTRIBUTION TO THE STATE ECONOMY:
AN EXECUTIVE SUMMARY

From pioneer settlement in Utah, agricultural production has declined as a proportion of total economic activity. Yet this very decline has contributed to the economic growth in other sectors of Utah's economy.

Each farmworker in the U. S. now produces food and fiber for seventy-nine persons, one-third of whom live outside of the United States. Increases in output and efficiency mean that most American consumers spend only 15 percent of their disposable income on food, compared to 34 percent in Russia and well over 50 percent in most of the developing countries of the world. However, farmers receive only about one-third of each dollar spent for food.

The number of farms has declined in Utah, from 28,500 in 1940 to approximately 13,000 at present. Average farm size continues to increase. Only 3 percent of the state's workers are now directly employed on farms.

Decreases in the number of farmworkers and income to the farm sector have been largely offset by other increases in farm-related economic activities. A recent USDA report estimates that 21 percent of all Utah employment is in the food and fiber sector, including extensive retailing and servicing of all aspects of production and distribution. At least 12 to 15 percent of the state's employment can be attributed to agricultural production that originates in Utah. By any of these measures, agriculture remains an important part of the state's economy.

Some problems do exist in the agricultural sector. Farm income has declined since 1950, except for the mid-1970s. Much of that decline can be attributed to increased energy and interest costs. Increasing domestic

production and declining exports have seriously affected farm commodity prices.

As income has fallen, farm debt has risen. In fact, farm debt has quadrupled since 1970. The number of bankruptcies, foreclosures, and forced sales has increased. Debt as a percentage of total value has been increasing rapidly, but average debt is still not a large part of the asset value.

From 1964 to 1974, cropland acreage declined sharply but increased again from 1974 to 1978. Irrigated acreage has changed little from 1950 to 1982. While cropland was taken out of production along the Wasatch Front, additional cropland was put into production in other areas of the state.

Many aspects of agriculture in Utah typify a thriving industry. Production continues to increase and consumers are well-served. Other measures, especially farm income, debt, and values indicate that Utah's farm sector is in serious trouble.

A decline in agricultural prosperity affects many segments of the economy. Employment and production in other industries are dependent on the basic agricultural sector. Especially in rural areas, a reduction in farm income may precipitate declines in communities and high levels of unemployment.

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	ii
Farmers and Consumers	1
Farms are Fewer and Bigger	3
Farm-Related Economic Activity	5
Utah Farmer's Cash Receipts	14
Problems in Farm Income	16
Utah Farm Debt Problems	23
Declining Land Values	28
Land in Agriculture	31
Summary	33
References	35

LIST OF FIGURES AND TABLES

	Page
FIGURE 1. Number of persons fed by one farmworker	1
FIGURE 2. Share of consumer expenditures for food	2
FIGURE 3. Number of farms and average acreage per farm in Utah, 1900 to 1983	3
FIGURE 4. Employment in Utah agriculture	4
FIGURE 5. Agricultural related economic activity	5
FIGURE 6. Employment: Food and fiber sector in Utah	6
Table 1. 1983 Agricultural Employment in Utah	8
Table 2. 1982 Agricultural Income in Utah by County	9
Table 3. 1982-83 Agriculture-Related Employment in Utah by County	11
Table 4. Type III Employment Multipliers for Utah Agricultural Sectors	12
Table 5. Type III Output Multipliers for Utah Agricultural Sectors	12
FIGURE 7. Percentage of employment in agricultural production, directly linked industries, and the rest of the economy, Utah	13
Table 6. Cash Receipts from Farming in Utah	14
FIGURE 8. Cash receipts in 1977 dollars	15
FIGURE 9. Cash receipts in current dollars	15
Table 7. Sources of Farm Cash Receipts in Utah, 1983	16
Table 8. Net Farm Income of Utah Farmers, 1950-1983	17
FIGURE 10. Utah farmers net income, 1950-83	18
FIGURE 11. Utah farmers net farm income with inflation removed, 1950-83	18
FIGURE 12. Real net farm income of Utah farmers, 1950-83	19
Table 9. Ratio of Prices Received to Prices Paid by Farmers	19

FIGURE 13. The relationship of farm prices and costs depress net farm income 20

FIGURE 14. Impact of federal deficits on the economy 21

FIGURE 15. Factors that are keeping interest rates high 22

FIGURE 16. Exporting of farm commodities 22

FIGURE 17. Value of the dollar relative to other currencies 23

FIGURE 18. U. S. agricultural exports to the European countries and the value of the dollar 24

Table 10. Farm Debt in Utah, 1970-1984 25

FIGURE 19. Utah farm real estate debt, 1970 and 1983 25

FIGURE 20. Utah farm nonreal estate debt, 1970 and 1983 26

FIGURE 21. Index of real value per acre of U. S. farmland, 1920-84 29

FIGURE 22. Change in real value per acre from previous year, 1920-84 29

FIGURE 23. Land values 30

FIGURE 24. Fall in value leads to a large change in equity 31

FIGURE 25. Total land in farms, Utah, 1950-82 32

FIGURE 26. Total cropland and total irrigated land, Utah, 1950-82 33

Growth in agricultural productivity and the migration of labor from agriculture to other employment has been a source of growth for the whole economy. From the times of pioneer settlement in Utah, more than 130 years ago, agricultural production has declined as a proportion of total economic activity. Employment, personal income, gross sales, and other measures can be shown to have declined as a proportion of the totals of these measures for the state. Yet, it is this very decline in dependence on workers producing food that has helped the economy to grow in size and variety both in Utah and throughout the nation.

Farmers and Consumers

Utah farmers are part of the highly productive American agricultural system in which each farmworker produced food and fiber for seventy-nine persons in 1983. One-third of these people live outside of the United States. This is a dramatic increase from 1940 when one farmworker produced for only eleven others (Figure 1). Because of the decline in number of

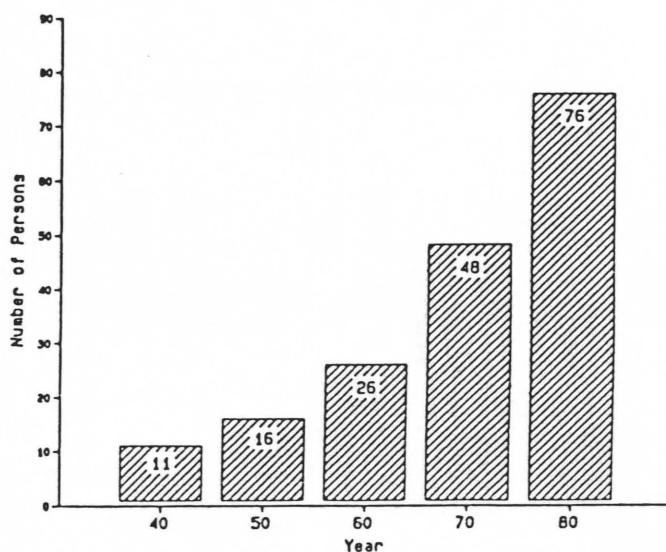


FIGURE 1. Number of persons fed by one farmworker.
(Source: Econ. Res. Serv., USDA, 1985, Economic Indicators of the Farm Sector. Production and Efficiency Statistics 1983, Washington, D.C.: USGPO, ECIFS-3-5.)

farmworkers producing and because of great increases in output and efficiency, most of consumers' income is able to be used for other purposes. In the United States, today only about 13 to 15 percent of disposable income of consumers is spent for food. By contrast, Russian consumers spend about 34 percent and, in many developing countries, well over one-half of disposable income is spent for food (Figure 2). This amount spent for food includes the substantial amounts now embodied in transportation, processing, packaging, and retailing. Now, the farmer receives about one-third of the consumer food dollar. Thus, payments to farmers are now only about 4 percent of consumers' disposable income. Besides the small amount going to farmers, the U. S. consumer receives a far more varied, safe, and nutritious diet than people elsewhere in the world. In fact, where expenditures for food are highest as a proportion of consumers' income, the people are eating poorly.

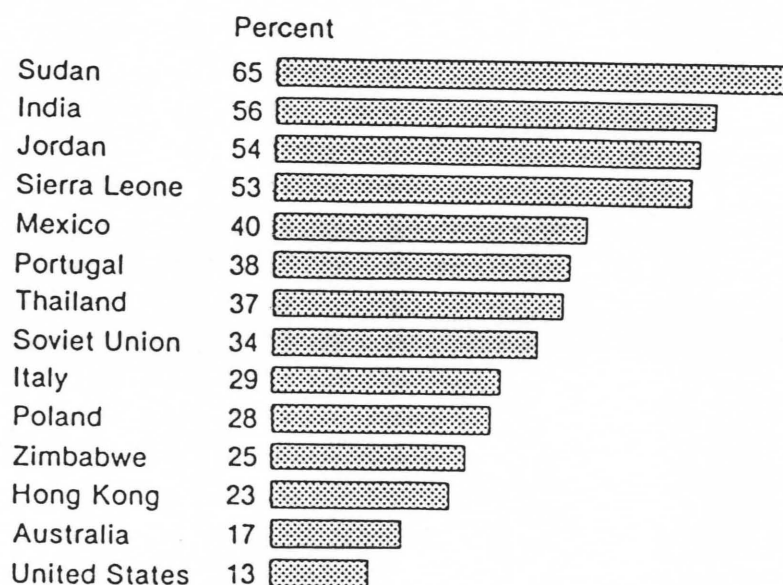


FIGURE 2. Share of consumer expenditures for food.
 (Source: USDA, 1983, Handbook of Agricultural Charts, Ag Handbook 619,
 p. 32.)

Farms are Fewer and Bigger

The intense competition in the farm sector has provided the incentive to farmers to become more productive and efficient. With plenty of capacity to produce at levels which drive farm prices way down, the producers are forced to per-unit cost-cutting measures in an attempt to make a profit. One of the main ways for costs to be reduced is to produce more per unit of inputs. Farmers have found it profitable to mechanize, to farm larger acreages, and to do it with far less labor. This drive for efficiency has paid off for those with bigger farms and high levels of production. There is ample capacity to produce far more than can be sold at home or abroad at prices which bring farmers competitive returns on investment.

The trend in farm numbers and farm size in Utah is shown in Figure 3. The number of farms in Utah has declined from 28,500 in 1940 to

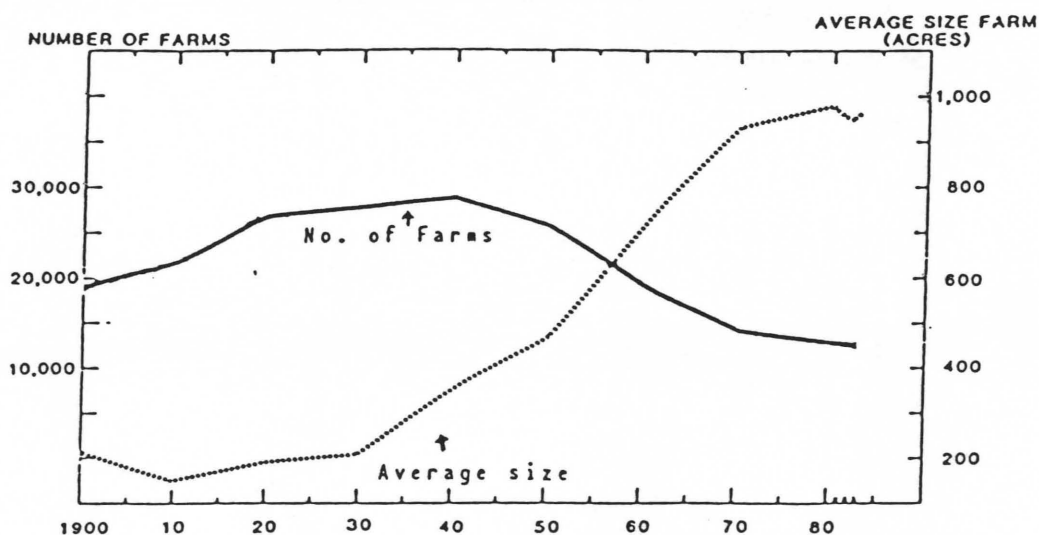


FIGURE 3. Number of farms and average acreage per farm in Utah, 1900 to 1983.

(Source: Utah Crop and Livestock Reporting Service and Utah State Department of Agriculture, 1984, Utah Agricultural Statistics, Salt Lake City, Utah, p. 7.)

12,000 or 13,000 at present. Average farm size has increased from 200 acres in 1930 to 1,000 acres at present. Even with the relatively few farms remaining, nearly one-half have less than \$5,000 gross sales, and about one-half have less than fifty acres. The majority of farm output and farm income comes from a few large production units. A recent increase in farm numbers, from 12,800 to 13,800 farms in Utah as reported in the 1982 Agricultural Census (U. S. Department of Commerce 1984), is in small part-time units.

Like in other places because of the change in farming methods, there has been a decline in the number of farms and the number of farmworkers in Utah (Figure 4). In the longer run, we have changed from a majority of people working on the farm to where only about 3 percent are directly employed on the farm at present.

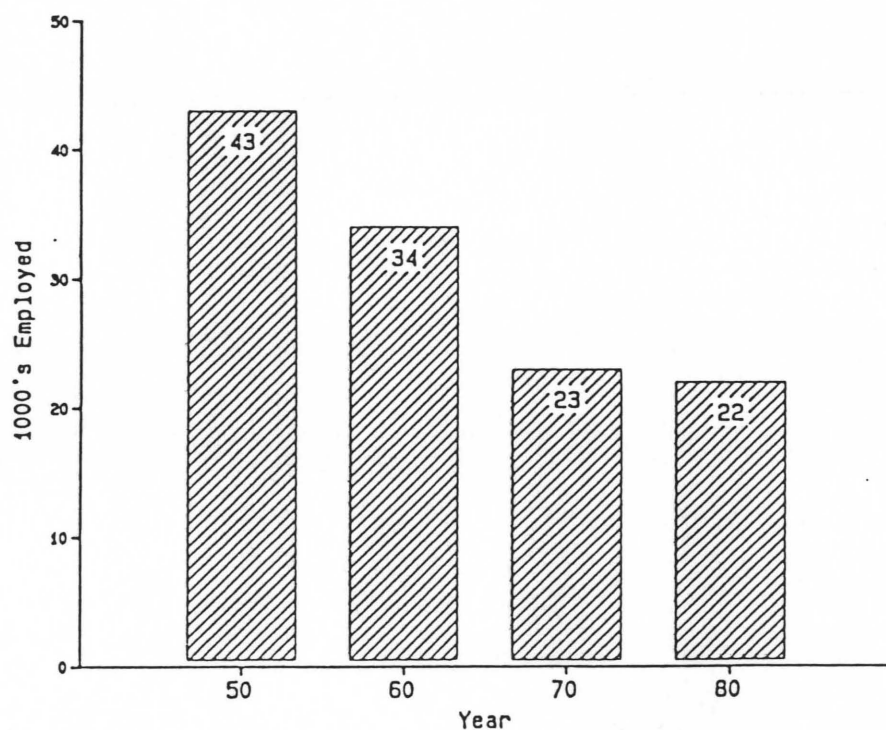


FIGURE 4. Employment in Utah agriculture.
(Source: Utah Crop and Livestock Reporting Service and Utah State Department of Agriculture, 1981, Utah Agricultural Statistics, Salt Lake City, Utah.)

Farm-Related Economic Activity

Changes in agriculture that have decreased the number of farmworkers and the income to the farm sector have been offset to a major degree by farm-related activity. There has been a large increase in activities "induced by" and "stemming from" agriculture (see Figure 5).

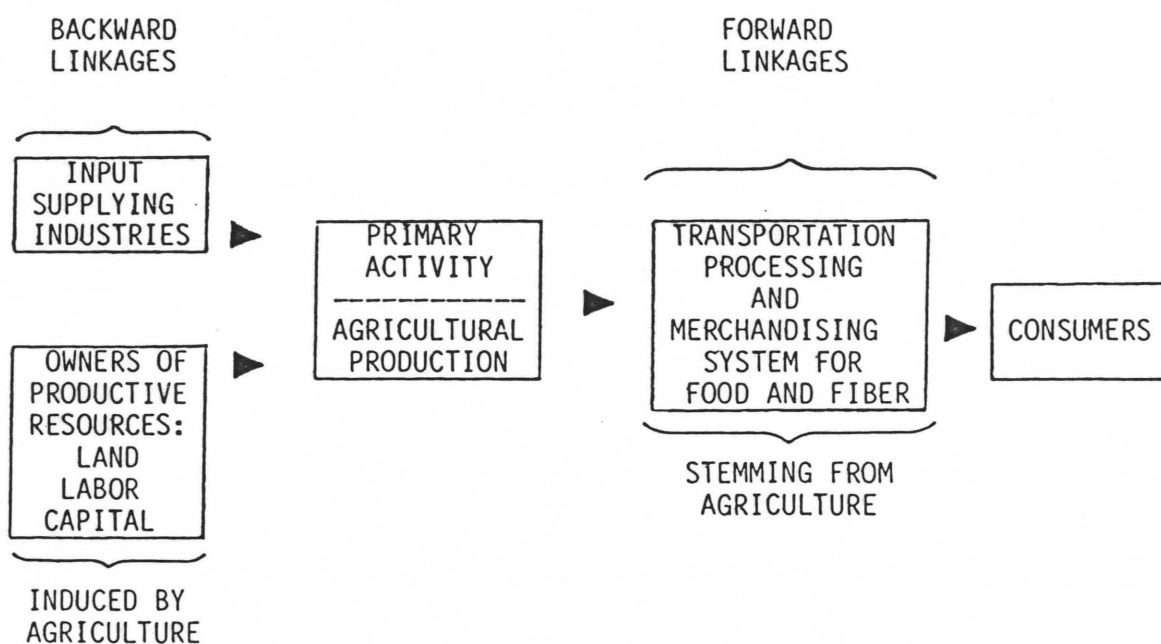


FIGURE 5. Agricultural related economic activity.

With related economic activity, agriculture is the nation's largest industry. It comprises over 20 percent of gross national product. While it is not possible to measure long-term changes in employment or output from the agriculturally related industry, it is apparent that much of the decline in farm employment has ultimately been absorbed in activities linked to agriculture.

Various measures have been made of the extent of the importance of the food and fiber sector in generating other economic activity. A USDA

report indicates that 21 percent of all Utah employment is in the food and fiber sector. Their estimate includes extensive retailing and servicing of all aspects of the production and distribution system. Figure 6 indicates that 3 percent of Utah employment is in direct agricultural employment and

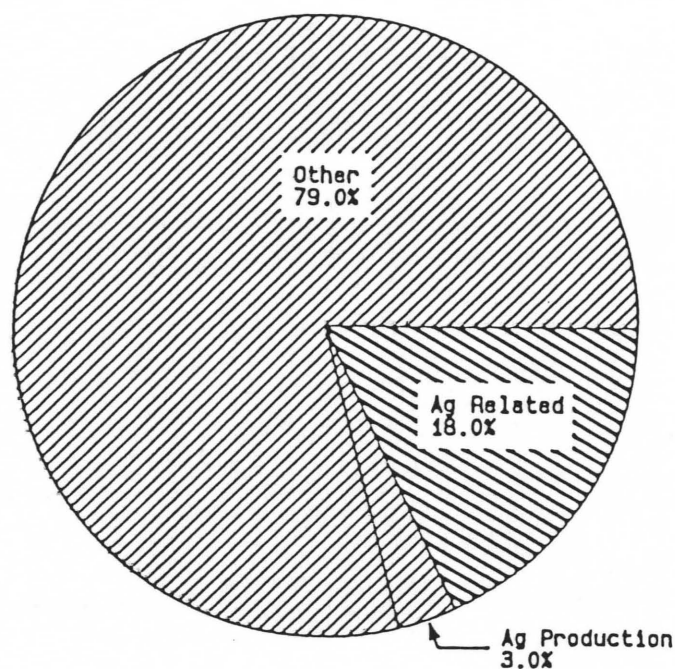


FIGURE 6. Employment: Food and Fiber Sector in Utah.
(Source: Economic Research Service, USDA, 1984, Farmline (April)).

18 percent is in related industries. Their estimates include processing and distribution of food and fiber products whether or not the basic commodities were produced in Utah. They include the employment generated by spending incomes earned in the food and fiber sector. The total employment due to the food and fiber sector is 124,000 in Utah.

Barber (1985) attributes 85,348 total employment to sectors linked to agriculture. He then assumes that none of the retail trade is related to Utah agricultural production and only 26 percent of the wholesale trade

in the farm-related sectors (farm machinery, groceries, farm product raw materials, and farm supplies) is due to Utah agriculture. This produces a very low estimate of employment related to Utah agricultural production of only 34,671 workers. His rationale seems to be that food and fiber production would exist somewhere and be shipped to local Utah consumers (as it is shipped into major urban areas). See Table 1.

Barber (1985) also indicates that when application of an export base multiplier of 2.1 is applied to the "basic" employment in Utah agriculture then "132,284 jobs are either directly or indirectly related to food production, manufacturing, distribution, and consumption in Utah" (p. 2). He acknowledges again that "not all of these jobs are tied directly to food produced in Utah. Much of the food consumed here is imported from outside the state" (p. 2).

As shown in Table 2, the importance of agriculture varies in different regions of the state. As Barber (1985) notes,

for example, although in Salt Lake County the percent of personal income derived from agriculture is negligible, Piute County received over 13% of its personal income directly from agricultural production and agricultural services in 1982. Rich County received 12%, Millard and Daggett, 9%; Morgan, 6%; and Wayne, 5%. Agriculture, of course, is entirely basic (almost all products are exported) to these counties and much more of their economies are dependent on agriculture than these percentages indicate. Also, no manufacturing or distribution of agricultural products is included in these percentages.

The importance of agricultural employment in many counties in Utah gives indication of the great dependence on the agricultural industry in rural areas. Barber (1985) continues:

Employment data can provide an even better illustration of the importance of agriculture to the economies of many rural Utah Counties. If total farm proprietors, farm wage and salary workers, food manufacturing and all other jobs related to Utah agriculture production, as described earlier, are examined in relation to total jobs, the results show how significant agriculture is in some counties. Rich County leads with 52%, followed by Piute 47%, Wayne 41%, Sanpete 35%, Emery 31% and Morgan 30%. The lowest percentages are Salt Lake 2%, followed by Davis, Tooele, Grand and Carbon with

Table 1. 1983 Agricultural Employment in Utah

Industry	SIC Code	(A) Total Employ- ment	(B) Basic Employ- ment	(C) Total Employment Related to Utah Ag. Production	(D) Basic Employment Related to Utah Ag. Production
<u>Agriculture</u>		21,490	21,490	21,490	21,490
Agricultural production	01-02				
Agricultural services	07				
<u>Manufacturing</u>		9,404	4,834	9,404	4,834
Food manufacturing	241				
Sawmills	2421				
Agricultural chemicals	287				
Leather tanning	3111				
Farm machinery	3523				
<u>Transportation & Util.</u>		224	142	224	142
Farm produce warehousing	4221				
Refrigerated warehousing	4222				
Irrigation systems	4971				
<u>Wholesale Trade</u>		7,022	2,739	1,855	724
Farm machinery	5083				
Groceries	514				
Farm product raw mater.	515				
Farm supplies	5191				
<u>Retail</u>		45,544	13,208	0	0
Food stores	54				
Eating places	5812				
<u>Finance</u>		101	35	101	35
Agricultural credit					
<u>Government</u>		1,663	931	1,663	931
Regulation of agriculture					
TOTALS		85,348	42,754	34,671	28,156

SOURCE: Barber (1985).

Note: Part-time farmers with other employment are not included.

Table 2. 1982 Agricultural Income in Utah by County (thousand dollars)

County	Agricultural Income	Total Personal Income	% of Total Personal Income
Beaver	1,066	31,474	3.42%
Box Elder	11,010	329,087	3.35
Cache	14,193	442,671	3.21
Carbon	755	263,590	0.29
Daggett	542	5,965	9.09
Davis	7,196	1,400,576	0.51
Duchesne	2,653	117,443	2.26
Emery	200	119,464	0.17
Garfield	764	28,505	2.68
Grand	774	72,275	1.07
Iron	1,529	124,505	1.23
Juab	571	36,652	1.56
Kane	308	32,436	0.95
Millard	6,326	65,240	9.70
Morgan	2,988	46,682	6.40
Piute	1,291	9,499	13.59
Rich	1,640	13,621	12.04
Salt Lake	19,828	6,495,105	0.31
San Juan	1,762	67,470	2.61
Sanpete	4,151	96,800	4.29
Sevier	3,313	130,227	2.54
Summit	4,624	108,884	4.25
Tooele	2,596	233,463	1.11
Uintah	4,115	231,281	1.78
Utah	10,457	1,522,570	0.69
Wasatch	2,370	72,998	3.25
Washington	3,866	196,026	1.97
Wayne	755	13,617	5.54
Weber	7,789	1,481,987	0.53
STATE	119,432	13,789,813	0.87

SOURCE: Barber (1985).

about 4%. These percentages do not include the induced employment created by the basic nature of most of these jobs. If these were included it would show that agriculture comprises the dominant portion of the economies in many rural Utah Counties.

Table 3 is also taken from Barber.

Our own work (Keith et al. 1985) takes a somewhat different approach to the analysis of the relationship of agricultural sectors to the remainder of the economy. By use of an input/output model for the state and one for each of several regions in the state, the connections between each sector of the economy and each other sector are analyzed. These models were developed by the Implan procedures of the U. S. Forest Service.¹ In these models, the direct dependence of each sector on all other sectors is measured. In addition, the procedures allow measurement of the total of direct and indirect dependence of each sector on the total of all others. Employment multipliers and output multipliers have been calculated for each sector. These multipliers are called Type III multipliers which include induced effects of household income impacts within the state. Table 4 gives these employment multipliers for the state. Table 5 gives the output multipliers for each agricultural sector. Only the state multipliers are given here, but both types of multipliers show that the interrelationships are greater for the state as a whole than is the case for any region. The regions that are more complex have larger multipliers for each sector than the smaller regions. See Keith et al. (1985).

Note that the employment and output multipliers for the poultry and egg sector and for the meat animal sectors have the largest values of any of the agricultural sectors. These mean that these sectors are more highly related to other sectors and that increases in these sectors have more impact throughout the economy. An increase in employment or output in the

¹Implan models are described in Keith et al. (1985).

Table 3. 1982-83 Agriculture-Related Employment in Utah by County

County	(A) Employment-Related to Utah Agriculture Production	(B) Total Employment	(C) % of Total Employment
Beaver	333	1,470	22.7%
Box Elder	1,298	14,230	16.1
Cache	5,699	22,702	25.1
Carbon	284	7,762	3.7
Daggett	49	292	16.8
Davis	1,673	47,226	3.5
Duchesne	858	5,012	17.1
Emery	1,519	4,890	31.1
Garfield	440	1,587	27.7
Grand	96	2,442	3.9
Iron	783	6,563	11.9
Juab	325	1,750	18.6
Kane	160	1,144	14.0
Millard	1,245	4,446	28.0
Morgan	369	1,242	29.7
Piute	171	365	46.8
Rich	408	786	51.9
Salt Lake	6,526	297,719	2.2
San Juan	441	3,329	13.2
Sanpete	1,701	4,877	34.9
Sevier	843	5,450	15.5
Summit	657	5,343	12.3
Tooele	360	10,026	3.6
Uintah	742	8,675	8.6
Utah	3,751	67,196	5.6
Wasatch	450	2,381	18.9
Washington	556	7,516	7.4
Wayne	237	578	41.0
Weber	2,881	51,588	5.6
STATE	35,855	588,587	6.1

SOURCE: Barber (1985).

Note: Column (A) does not include grocery trade or restaurants. Corresponds to Column (C) of Table 1, but these estimates from Barber are from slightly different sources.

Table 4. Type III Employment Multipliers for Utah Agricultural Sectors

Dairy	2.63	Fruit and tree nuts	2.22
Poultry	4.92	Vegetables	2.21
Meat animals	4.97	Oil-bearing crops	3.22
Grains	2.77	Greenhouse and nursery	2.14
Alfalfa	2.82	Forestry and fishery	2.31
WEIGHTED AVERAGE ¹		3.86	

SOURCE: Keith, Diamond, Andersen, and Snyder (1985).

¹Weighted by value of output in each sector.

Table 5. Type III Output Multipliers for Utah Agricultural Sectors

Dairy	2.16	Fruit and tree nuts	2.33
Poultry	4.92	Vegetables	2.05
Meat animals	2.65	Oil-bearing crops	1.67
Grains	2.00	Greenhouse and nursery	1.76
Alfalfa	2.04	Forestry and fishery	1.77
WEIGHTED AVERAGE ¹		2.41	

SOURCE: Keith, Diamond, Andersen, and Snyder (1985).

¹Weighted by value of output in each sector.

impact throughout the economy. An increase in employment or output in the livestock sectors brings forth increased economic activity in supplying feed, and many other inputs as well as requiring additional processing and distribution activities. It must be noted, however, that very large initial investments may be required for profitable levels of entry into some of these sectors. In fact, this study makes no estimate of the direct profitability of sectors at all. Thus, if funds are limited, or if the industry is relatively unprofitable, then the obvious indicator is not to emphasize the sector where capital requirements are untenable or where profitability is lacking even if multipliers are relatively high.

The weighted average (weighted by the value of output in the sector) of the employment multipliers for the state is 3.8, meaning that for each increase in employment in agriculture, there is an accompanying increase of 2.8 jobs elsewhere in the state's economy. A decrease would produce a similar multiplied decline. A similar relationship applies in the output multipliers (with a weighted average multiplier of 2.4) in which each additional dollar of direct agricultural output produces \$1.40 of additional output elsewhere in the economy.

Applying the employment multiplier of 3.8 for the state to the agricultural employment in the state of 20,000 jobs yields a direct and indirect employment due to agriculture of 76,000 jobs or 12 to 13 percent of total employment (see Figure 7). For output, the total agricultural output (as measured by cash receipts) is about \$579 million. Applying the output multiplier of 2.4 to this output gives total direct and indirect output of \$1,390 million.

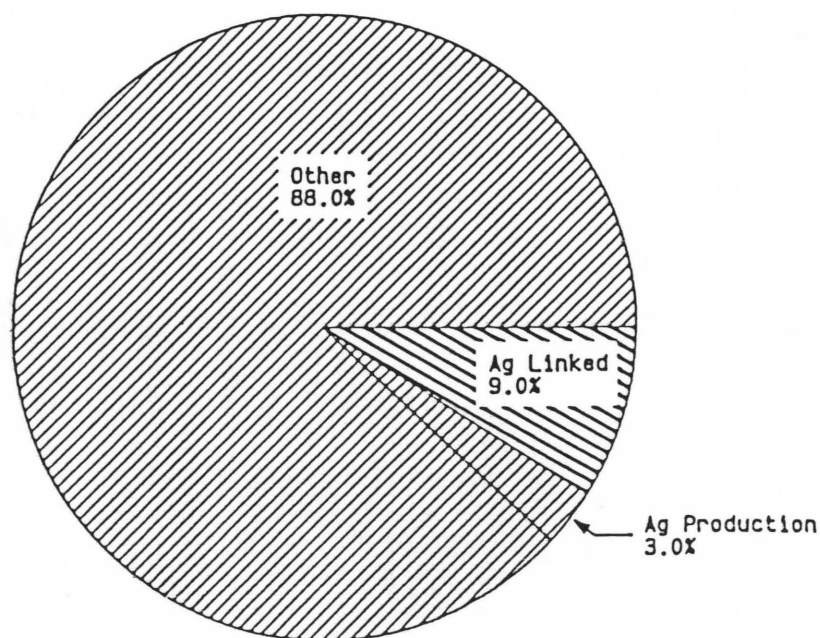


FIGURE 7. Percentage of employment in agricultural production, directly linked industries, and the rest of the economy, Utah. (SOURCE: Keith, Diamond, Andersen, and Snyder (1985).)

By any of these measures, agriculture remains an important part of the state's economy. As Barber (1985) indicates,

agricultural development in some parts of rural Utah can do more for their future by the creation of forward and backward linkages than attempting to achieve the same industrialization that has occurred along the Wasatch Front. Utah agriculture is indeed important to Utah's economy and, furthermore, is critical to the economic future of the state (p. __).

Utah Farmer's Cash Receipts

Contrary to some expectations, total cash receipts by Utah farmers has been increasing. Sales have increased dramatically in the past forty years. In current dollars, the increase has been tenfold. With inflation removed, there still has been nearly a doubling in cash receipts since 1940. Since 1970, there has been a 27 percent real increase (Table 6, and Figures 8 and 9). Of these cash receipts, about 75 percent are from sales of livestock and livestock products (Table 7). This proportion has remained constant for several decades.

Table 6. Cash Receipts from Farming in Utah

Year	Current Dollars (Mil. of current \$)	Constant Dollars (Mil. of 1977 \$)	Year	Current Dollars (Mil. of current \$)	Constant Dollars (Mil. of 1977 \$)
1940	47	224	1970	222	317
1950	152	271	1980	517	386
1960	163	320	1983	579	429

SOURCE: USDA, 1983, ERS Economic Indicators of the Farm Sector, ECIFS 2-4, Washington, D.C.: USGPO.

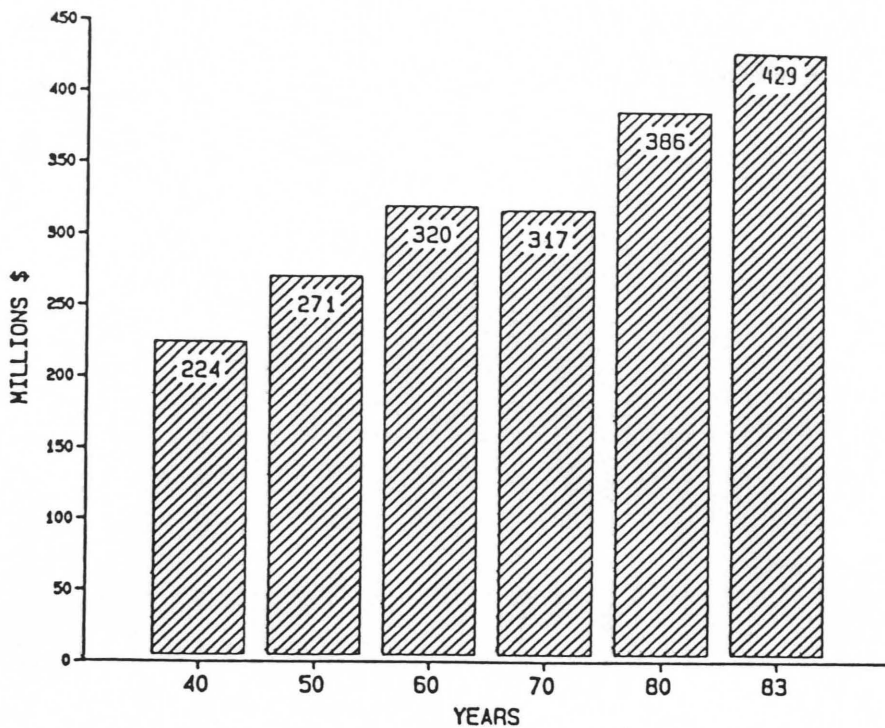


FIGURE 8. Cash receipts in 1977 dollars.
(Source: Utah Crop and Livestock Reporting Service (1984).)

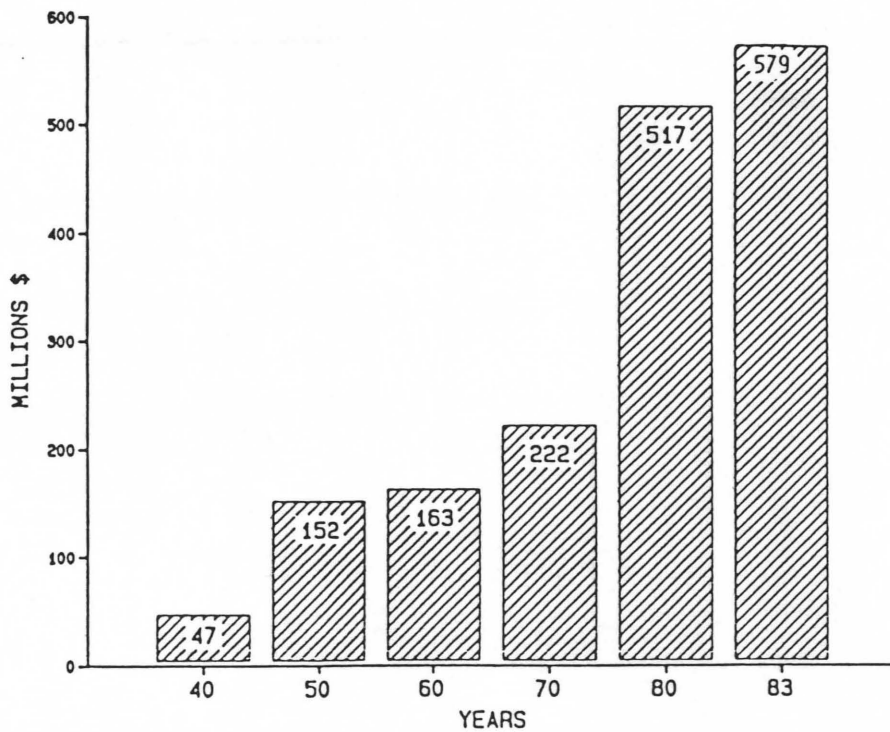


FIGURE 9. Cash receipts in current dollars.

Table 7. Sources of Farm Cash Receipts in Utah, 1983

Source	Cash Receipts, 1983				
	Mil. \$	%	Source	Mil. \$	%
Meat products	208	36	Food grains	30	5
Dairy products	150	26	Feed crops	63	11
Poultry and eggs	46	8	Vegetables	11	2
Miscellaneous livestock (wool, honey, etc.)	29	5	Fruit, nuts	24	4
			Other (greenhouse, forest products, etc.)	18	3
Livestock Products	433	75	Crops	146	25
Cash Receipts from Farm Marketings			\$579	100%	

SOURCE: Economic Research Service, USDA, 1985, Economic Indicators of the Farm Sector: State Income and Balance Sheet Statistics, 1983, ECIFS 3-4, Washington, D.C.: USGPO.

Problems in Farm Income

Net farm income has declined. Since 1950, the trend has been distinctly downward. In current dollars, the trend is clearly unfavorable. When inflation is removed, the situation is drastic (see Table 8). In graphic form, the trends can be seen clearly in the real dollars (1977 level). The problem has been building and is now even worse (see Figures 10 through 12).

The reasons for the farm income decline are complex, but they can be summarized by comparing the ratio of prices received by farmers to prices paid (see Table 9). This sharp decline in relative prices has been led by interest costs, energy costs, machinery and equipment costs, and depressed commodity prices.

Table 8. Net Farm Income of Utah Farmers, 1950-1983

Year	Net Farm Income After Inventory Adjustments (Current Dollars)	Net Farm Income After ¹ Inventory Adjustments (Real 1977 Dollars)
-----million dollars-----		
1950	64.0	167.4
1955	48.8	112.4
1960	30.4	62.0
1965	33.3	62.7
1970	62.3	95.4
1971	64.2	93.6
1972	81.4	114.0
1973	132.2	175.1
1974	84.3	103.8
1975	52.9	58.9
1976	57.7	61.1
1977	49.5	99.5
1978	81.3	75.7
1979	109.2	99.6
1980	63.0	49.4
1981	77.2	55.4
1982	27.3	18.5
1983	38.4	24.9

SOURCE: ERS, USDA, 1985, ERS Economic Indicators of the Farm Sector: State Income and Balance Sheet Statistics, 1983, ECIFS 3-4, Washington, D.C.: USGPO; and Economic Report of the President, February 1984.

$$^1 \text{Real net farm income} = \frac{\text{nominal net farm income}}{\text{GNP deflator}} \times 100 .$$

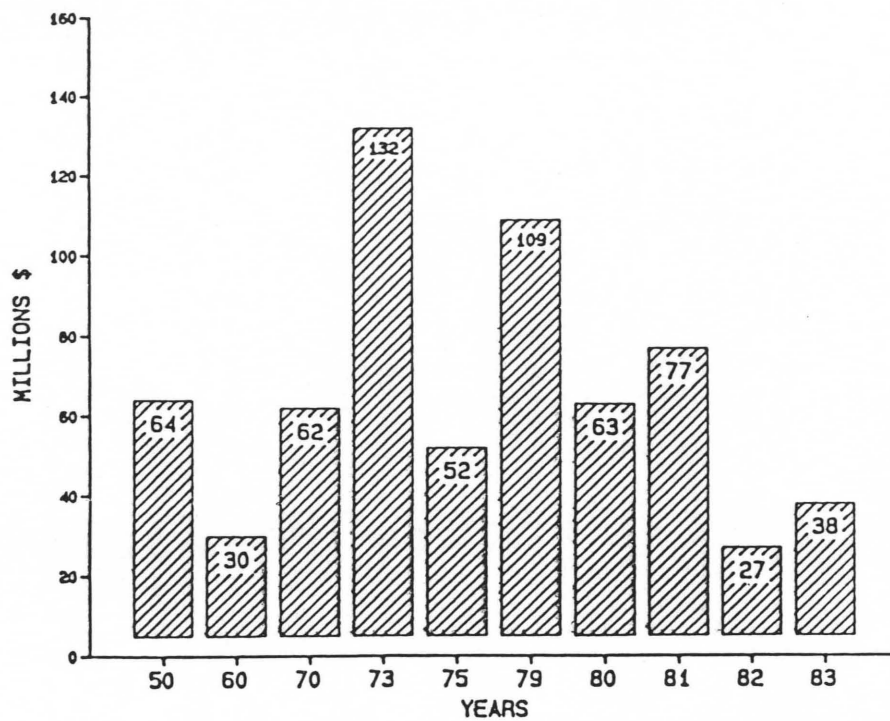


FIGURE 10. Utah farmers net income, 1950-83.

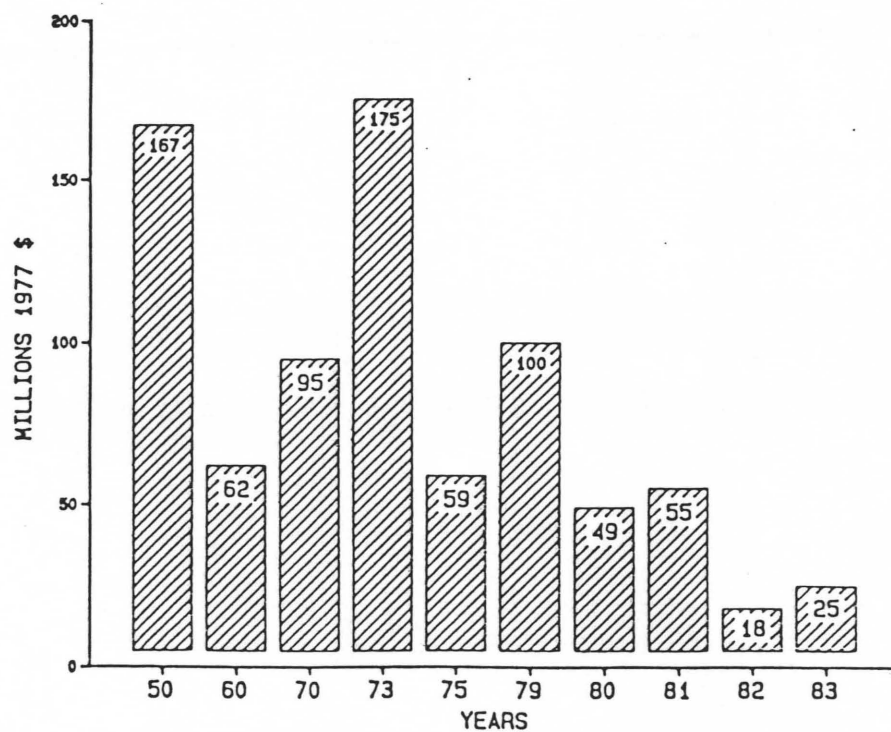


FIGURE 11. Utah farmers net farm income with inflation removed, 1950-83.

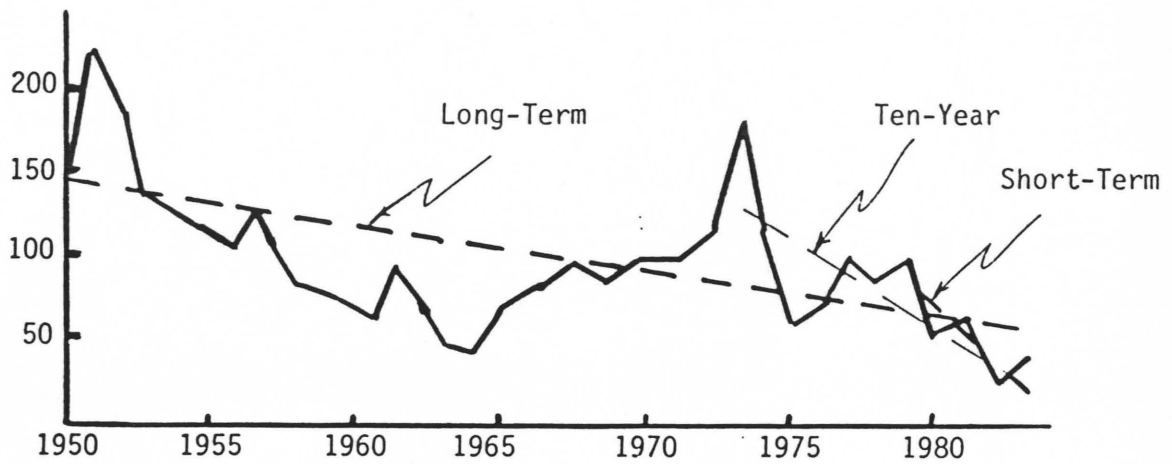


FIGURE 12. Real net farm income of Utah farmers, 1950-83 (1977 dollars).

Table 9. Ratio of Prices Received to Prices Paid by Farmers

Year	(1977 = 100)
1973	138
1977	100
1983	84

SOURCE: U. S. Department of Agriculture (1984), p. 7.

As mentioned, there are particular problems in farm prices and farm costs. These are summarized as they affect farm income as shown in Figure 13.

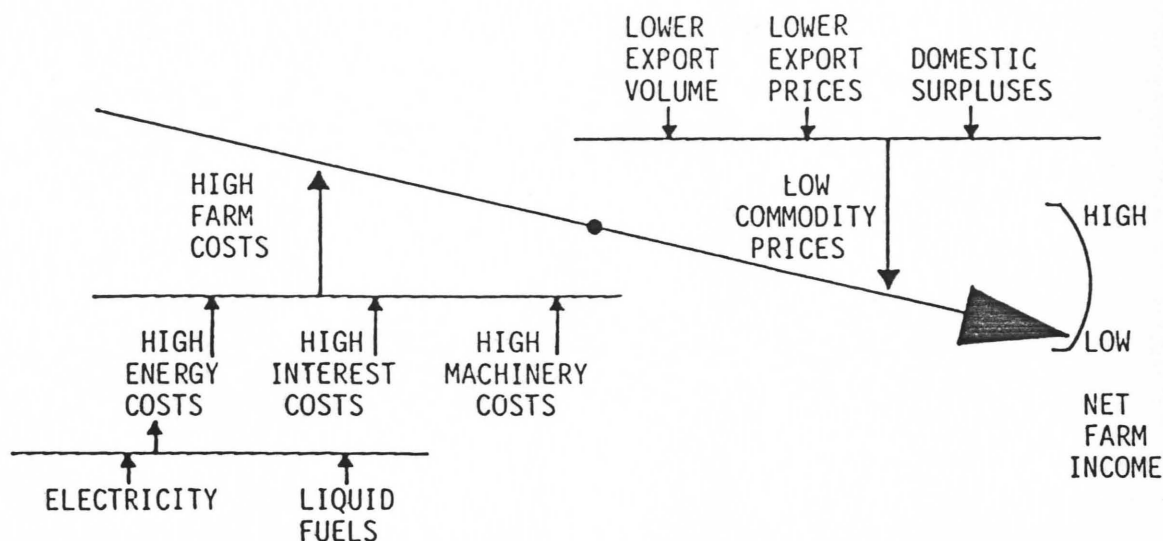


FIGURE 13. The relationship of farm prices and costs depress net farm income.

Costs of liquid fuels and electricity have quadrupled or more in the past decade. Many problems have arisen for farmers because of their very substantial dependence on energy and because they expected that lower costs would prevail.

At the root of much of the farm income problem is the set of national economic conditions that now prevail and that have prevailed for some time. The most dominating factor is the very large federal deficit that has prevailed for several years but, especially, since 1982. These deficits have had a profound impact on the farm economy as well as on other sectors. As shown in Figure 14, many forces which are adverse to agriculture are strongly caused by the large federal deficits which have accumulated at the rate of \$150 to \$200 billion per year for the last three years. Of particularly detrimental significance are the high real interest rates and reduced exports. These are of great significance to the agricultural economy.

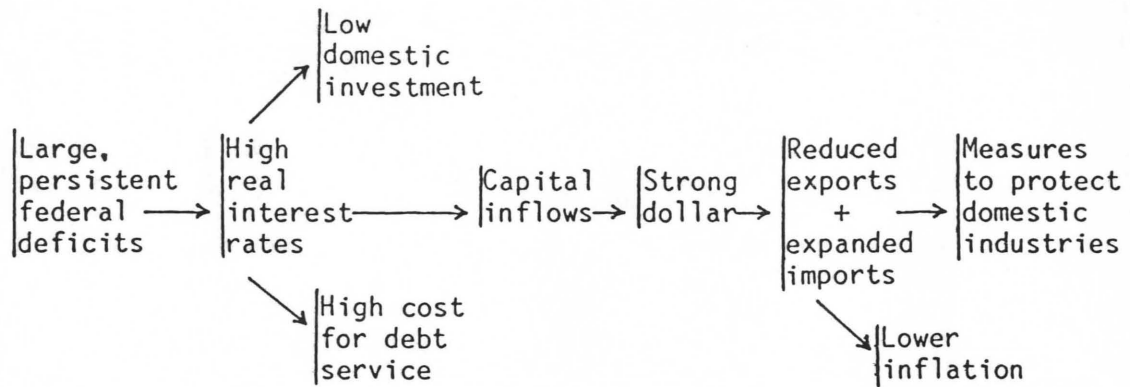


FIGURE 14. Impact of federal deficits on the economy.
(Source: Dobson (1984).)

A particularly troublesome aspect of the deficits is that they tend to be self-perpetuating. The following factors especially tend to feed the deficits even more:

1. Low domestic investment—lack of new capital expenditures prevent the economy from efficiency gains and from growth so that many kinds of tax collections are depressed (a major reason why we are not "growing" out of the deficit problem);
2. High cost for debt service—interest payments on debt represent a high proportion of federal expenditures so that high interest rates increase government outlays;
3. Lower inflation—keeps the value of the dollar high so that the debt and deficit cannot be funded with cheap dollars;
4. Measures to protect domestic industries—also promotes lack of efficiency and progress in the economy.

Thus, it would appear that a major step toward improvement in agriculture would be to eliminate or sharply reduce the deficit. In addition to the deficits, other factors harm agriculture. Interest rates are high because of the factors as shown in Figure 15. The government has succeeded in

reducing inflation to the level of 4 percent per year the last three years. This has been accomplished by the tight money policies. However, this has led to the high interest rates that have driven up farm operating costs and have driven down farm values.

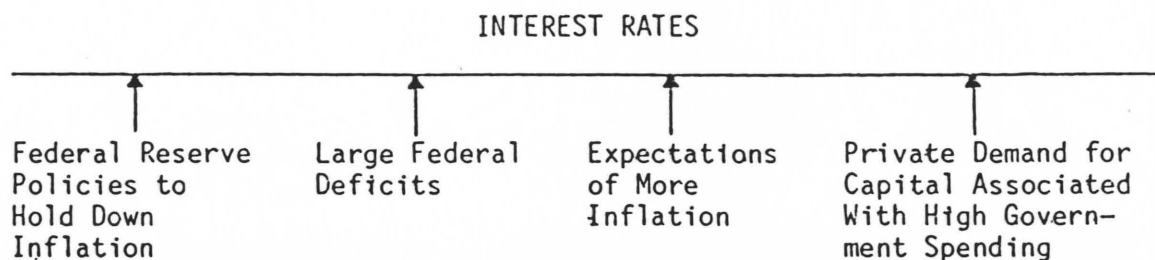


FIGURE 15. Factors that are keeping interest rates high.

Machinery costs have gone very high because of inflation and because farmers have invested in complex, large machinery to save labor and to do the job better.

Declining exports have seriously impacted on farm commodity prices. These prices are highly sensitive to surpluses. Exports are depressed because of many factors as shown in Figure 16. Loss of exports has serious price impacts. In 1981, about 70 percent of U. S. wheat production was sold in export markets. As exports have declined, prices have been depressed.

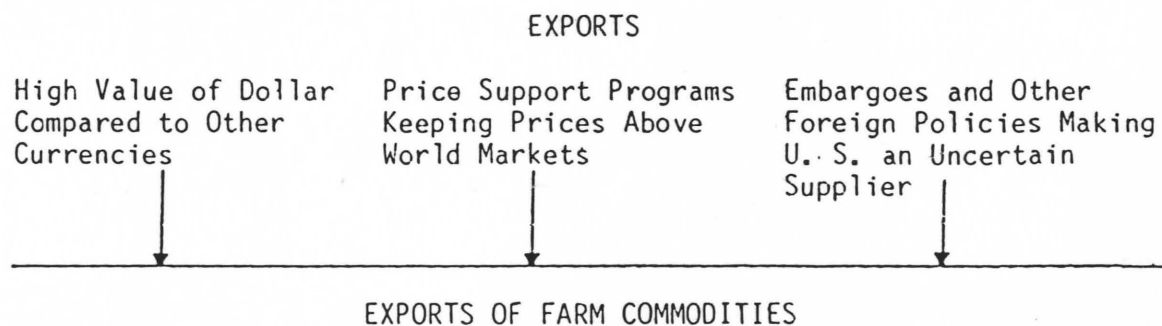


FIGURE 16. Exporting of farm commodities.

Value of the dollar is an important determinant of imports and exports. Sustained high currency value has made it hard to sell our goods elsewhere and cheap to buy imported goods (Figure 17). In 1981, the Utah average price of wheat was \$3.70. In 1984, the price was about \$3.20. In Mexico, the wheat could have been bought for the equivalent of \$3.70 in 1981, but, in 1984, the price converted from devalued pesos would have been \$26.56 (8.3 times as much as the Utah price). Other countries have similar problems. Even in Europe, we have seen a sharp increase in value of the dollar compared to their currency and a resulting decline in sales of our agricultural products to them (Figure 18). As the cost of our farm goods has risen in Europe, they have reduced their purchase to where dollar amounts have remained about constant.

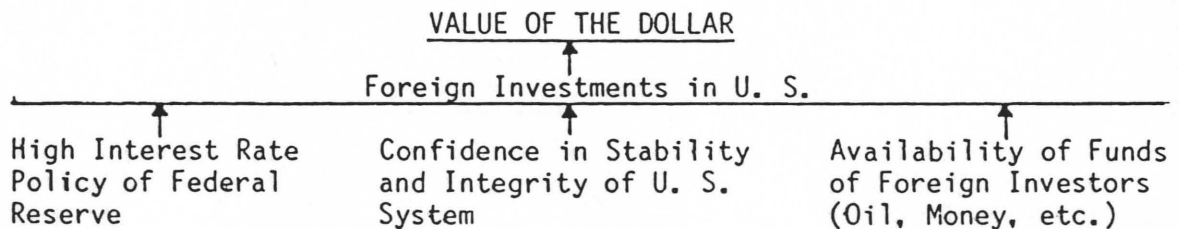
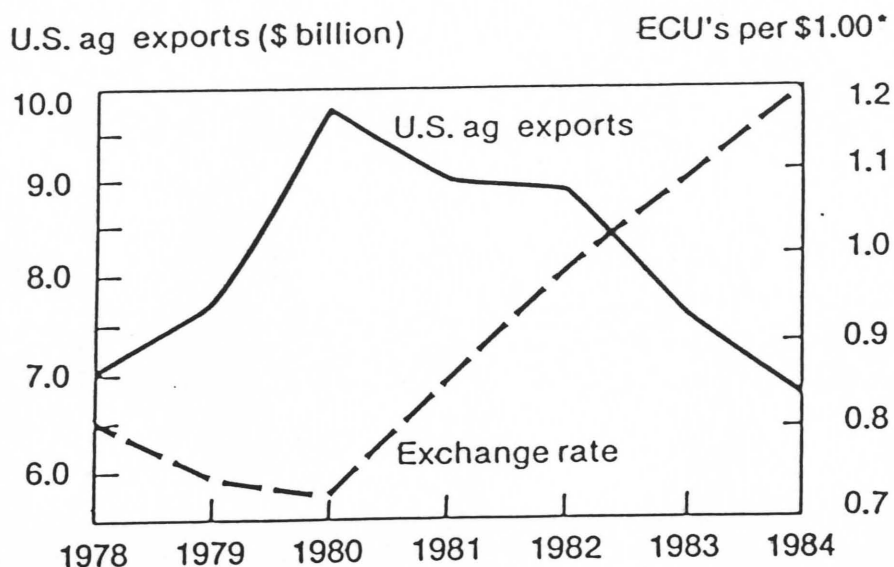


FIGURE 17. Value of the dollar relative to other currencies.

Utah Farm Debt Problems

Because of lower income and other factors, farm debt in Utah has quadrupled since 1970. Much of the reason is that farmers have been borrowing on their equity to meet farm production and living expenses. The increased number of bankruptcies, foreclosures, and forced sales has resulted from exhausting equities. Of course, those who bought in or increased investment recently with the high interest rates have been hit



*The European Currency Unit is a weighted basket of the 10 members' currencies.

FIGURE 18. U. S. agricultural exports to the European countries and the value of the dollar.
(SOURCE: ERS, USDA (1984).)

hardest (see Table 10). Figure 19 shows the change in real estate debt of Utah farmers, while Figure 20 shows the change in nonreal estate debt. Debts as a percentage of total value have been increasing rapidly. Debts on average are still not a large part of asset value. However, only about one-half of the farmers have significant debts. For those who do, debts have become very burdensome. For those Utah farmers who have debt, both large and small, the average indebtedness is over \$150,000 and growing rapidly.

Although debt problems are not limited to specific enterprises, a preliminary survey indicates higher debt in Utah tends to be concentrated in cash grain farms. In some areas, dairy farmers are burdened with rather large debt relative to asset value. It also appears that debt-to-asset ratios rise with farm size in the state, a trend which is general

Table 10. Farm Debt in Utah, 1970-1984

Year	Real Estate Debt	Farm Nonreal Estate Debt	Total
-----millions-----			
1970	139.3	135.3	274.6
1975	217.3	225.2	442.5
1980	486.3	410.2	896.5
1981	548.6	389.9	938.5
1982	608.2	420.7	1,028.9
1983	627.5	449.5	1,077.0
1984	656.0	444.4	1,100.0

SOURCE: Amols and Kaiser (1984); and ERS, USDA (1985).

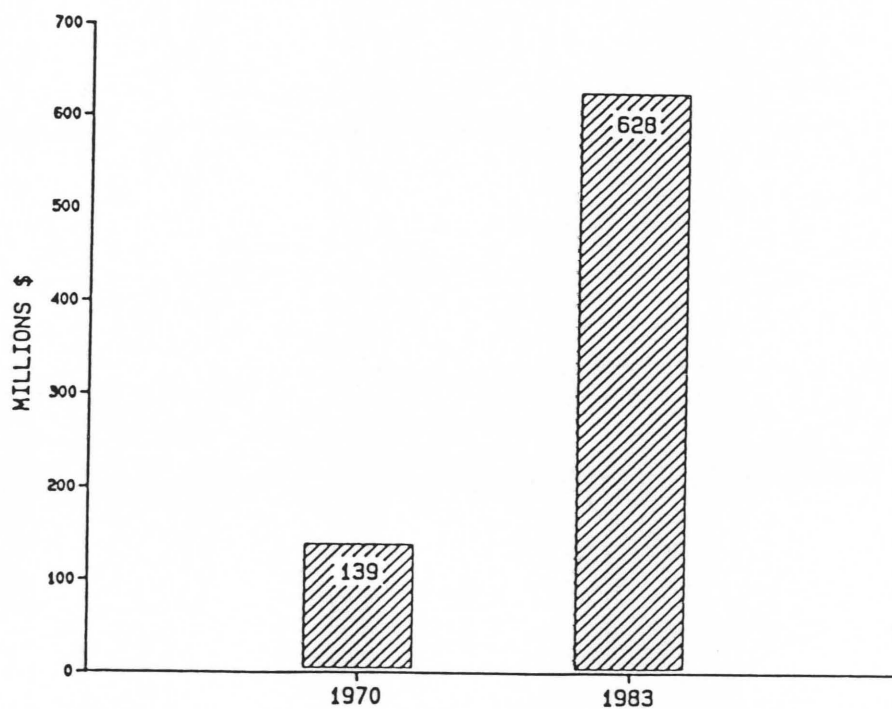


FIGURE 19. Utah farm real estate debt, 1970 and 1983.

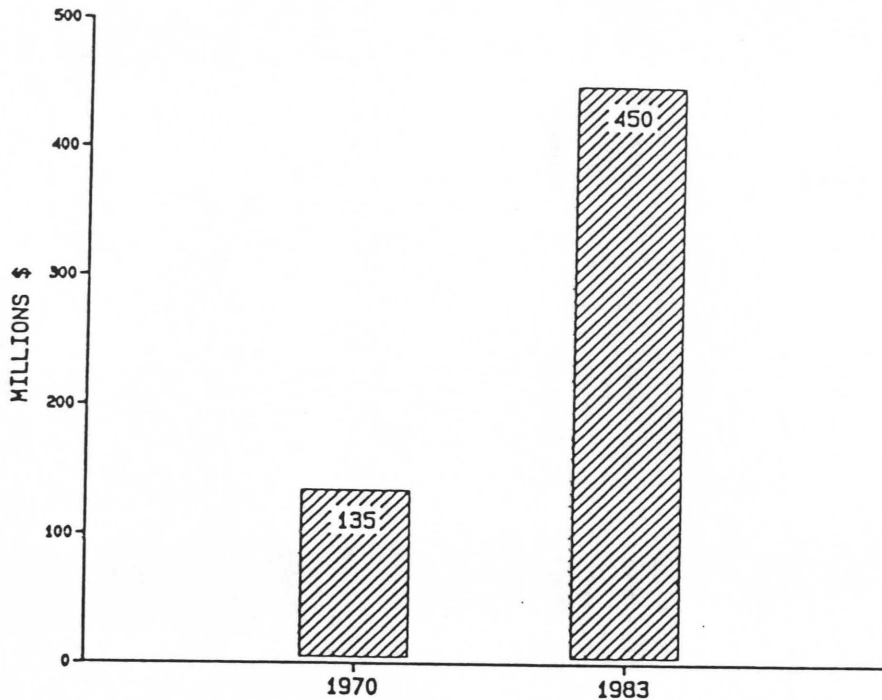


FIGURE 20. Utah farm nonreal estate debt, 1970 and 1983.

throughout the United States. Cash grain farmers accumulated larger debts in anticipation of a continued strong export market which was initiated in the mid-1970s, and they also anticipated inflated land values would service the debt. That strategy failed them when inflation was dramatically curbed, starting in 1982, and exports were cut off because of, among other forces, the strong dollar. Some dairy farmers expanded production and incurred increased debt to respond to what seemed to be pressure to increase milk support prices. That policy has now changed.

Quite clearly, the only hope for those farmers who are in serious financial condition is to create a realistic opportunity for them to remain in production and generate sufficient cash flow for debt repayment. However, most analysts do not expect an immediate improvement in net farm income. Even if farm income does improve, a large portion of the highly leveraged operators will continue to have serious cash flow problems. Most

farmers who have been accumulating both losses and debt need to restructure their balance sheets to return to long-term solvency.

Farmers facing the most serious problem (debt at above 50 percent of assets) are expected to turn increasingly to bankruptcy. If economic pressures persist, the liquidation option becomes increasingly more attractive for those whose debts are more than 50 percent of assets. Reorganization is not realistic since growth in net worth (equity) is expected, under any scenario, to be negative.

The major effects of bankruptcy filings would be felt in rural communities. Lenders, primarily commercial banks and production credit associations (PCAs) in these areas, would experience increases in nonperforming loans. Some small banks with large agriculture-based loan portfolios could face losses sufficient to raise questions of lender survival.

Another remedy for the problem is legislation to enact some form of moratorium on lender foreclosures. The moratorium remedy in Utah would provide debtor relief for those farms in the state which are in serious financial condition, which are considerably fewer in number compared to the number in serious condition in the Midwest and Great Plains. The moratorium alternative, however, is not without cost. The relief is at the expense of private creditors and prospective farmers. Prospective farmers would probably be precluded from securing credit to purchase farm real estate because of the increased cost to private creditors. Because of the burdens, creditors would likely respond by reducing exposure to borrowers in greatest need of assistance and who would invoke the moratorium.

Debt restructuring appears to be the remedy with less pain, but it is still not without cost. A stretchout in principal payment is vital to the survival of highly leveraged debtors. The farm credit initiative,

announced in September 1984, is a step in this direction. Among the many provisions, the program provides for five-year deferrals on collecting part of the loans to farmers from the Farmers Home Administration (FmHA), which typically carries the greatest share of high-risk loans. FmHA may set aside up to 25 percent (not to exceed \$200,000) of the borrowers debt to the lending agency. About \$630 million in loan guarantees are to be made available to private lenders to encourage them to restructure the debt of farmers in serious condition. The lender, however, must write off at least 10 percent of what the borrower owes. Very little positive response to this provision has been indicated. Depending on the extent of the guarantee, the write-off procedure could bring about future increased costs of agricultural loans. Some preliminary research indicates that the supply of agricultural loans by commercial bank lenders is sufficiently inelastic to cause loan costs to increase faster than loan amount supply with any given increase in the demand for agricultural loans. Debt restructuring initiatives do increase the demand for loans and would, thus, increase the costs borne by debtors for any given loan which is contracted from commercial banks.

Declining Land Values

Many factors have combined to change the optimistic trends in land values in the 1970s to lower values in the 1980s. The official USDA estimates show a decline from 1980 of about 8 percent. When inflation is removed, the decline is more than 20 percent as shown in Figures 21 and 22. Utah has a similar pattern to the one shown for the U. S. Asset value on commercial farms and ranches in Utah has declined on average by approximately 6.4 percent in real terms per year from 1980 to 1984 (USDA 1984). Equity is declining rather rapidly since asset value and farm income are

being used to service large debts. Declining land values exacerbate the problem.

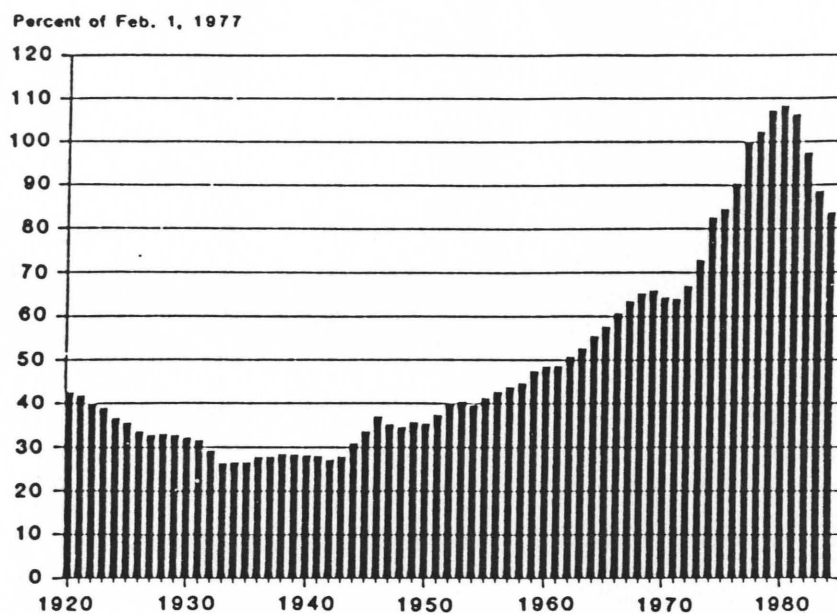
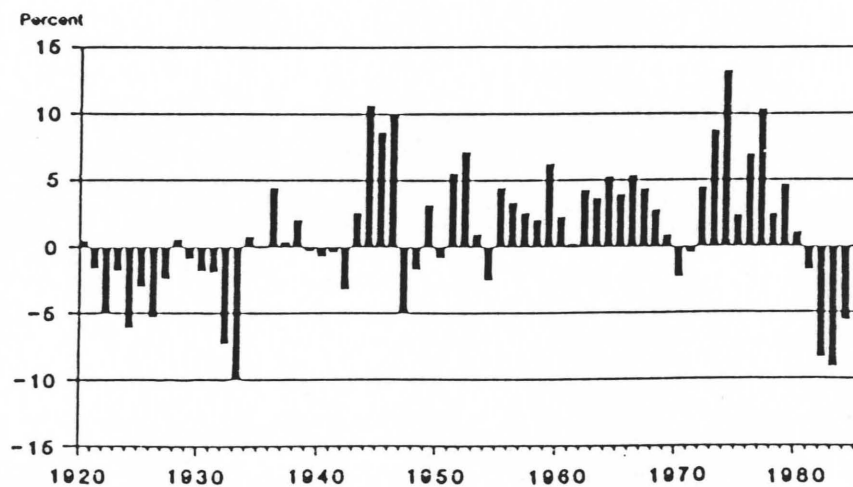


FIGURE 21. Index of real value per acre of U. S. farmland, 1920-84. (Source: U. S. Dept. of Agriculture (1984).)



Reported as of March 1, 1920-75, February 1, 1976-81, and April 1, 1982 to date. Excludes Alaska and Hawaii. The indexes of real farmland value have been computed by dividing the nominal land value indexes by the Consumer Price Index.

FIGURE 22. Change in real value per acre from previous year, 1920-84. (Source: U. S. Dept. of Agriculture (1984).)

However, conversations with bankers and farmers around the state of Utah indicate that farmland that has no development potential has fallen much further. A danger is that panic can produce such a rush to sell out that the price could fall even more rapidly. As some may see their equity eroding, they rush to sell out before all is lost.

Many influences have changed since the 1970s to change land prices. These are summarized in Figure 23. Expectations on production costs, world markets, future land values, and interest rates have been reversed. With prospects on all of these turned downward, it is not surprising that land values are down. Remember it is expectations on future earnings and values that determine the affordable price for an investor.

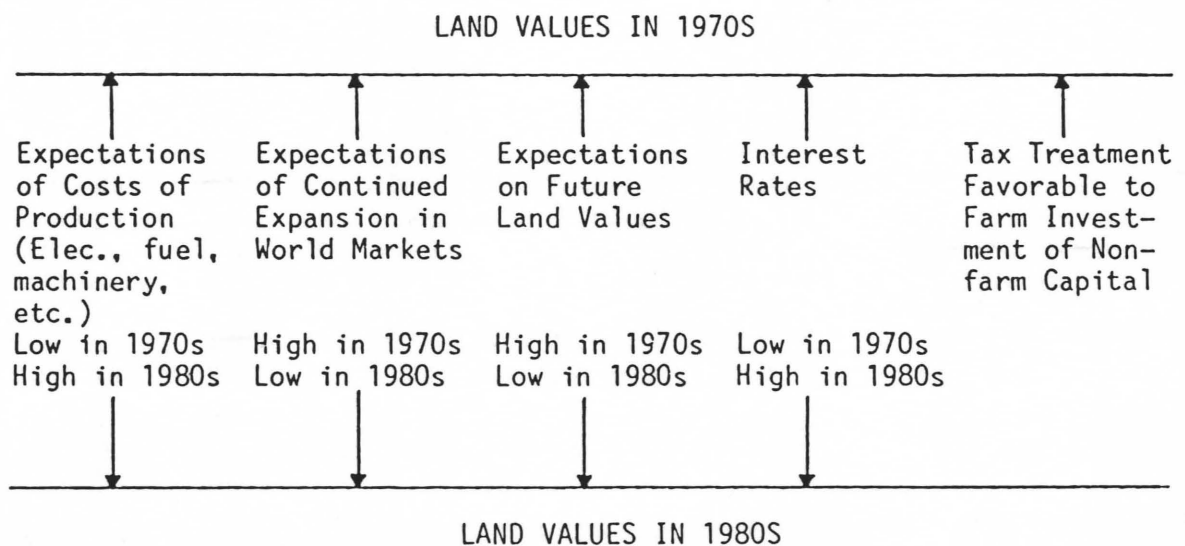


FIGURE 23. Land values.

The combined effect of increasing debt and declining land values has produced a situation where equity is nearly gone in many cases. Consider the case shown in Figure 24. The first bar in the graph shows a situation where 20 percent of the value is owner equity. The other 80 percent is

owned by a bank. With a fall of only 10 percent in the land value, the farmer's equity is cut in half. Only a slight further decrease renders the farmer bankrupt.

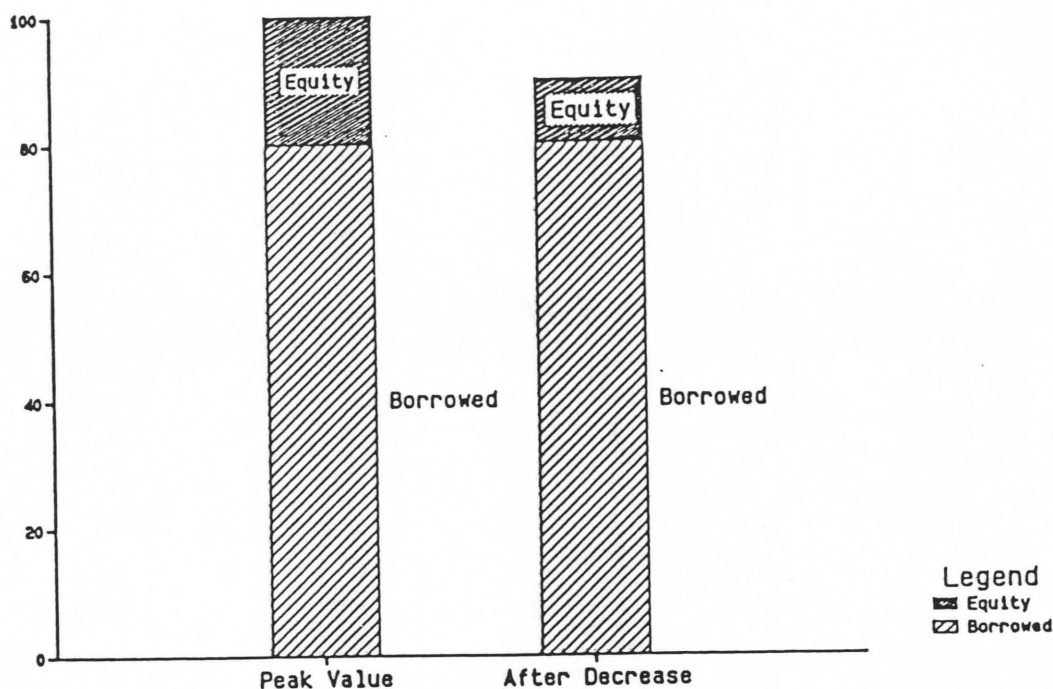


FIGURE 24. Fall in value leads to a large change in equity.

Land in Agriculture

In the past, there has been a great concern for the loss of agricultural land, especially prime agricultural land. Many proposals and methods for "preserving" agricultural land have been put forth. As can be seen in Figure 25, there has been a distinct decrease in Utah of total land in farms in the past twenty years. Much of this has been due to various forms of urbanization. Highways have been a major factor as the interstate roads have traversed the farm areas of the state. Of course, housing and other urban uses have become more prevalent.

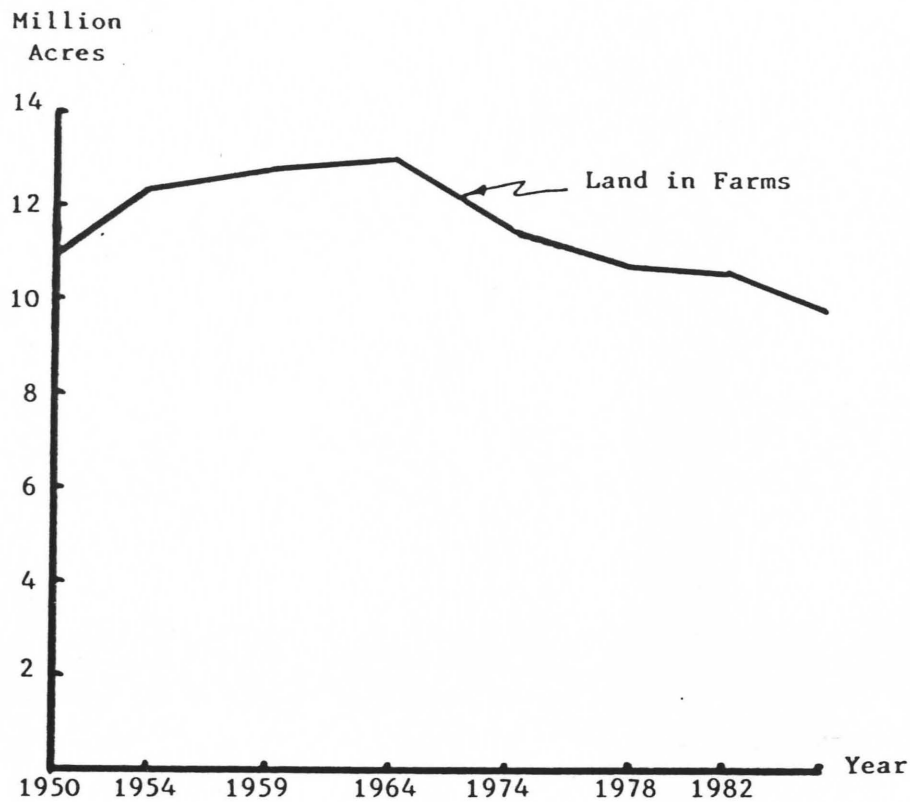


FIGURE 25. Total land in farms, Utah, 1950-82.
(Source: U. S. Department of Commerce (1984).)

Interestingly, the decline in land in farms (24 percent from 1964 to 1982) has not been matched by proportional declines in cropland or land irrigated. In Figure 26, the cropland is shown to have declined sharply from 1964 to 1974, but increased sharply by 1978. On net, the decline from 1964 to 1982 was 7 percent. For irrigated land there was a drop in the early 1970s (Figure 26) but an equivalent increase by 1978. There has been very little change from 1950 to 1982. The reason for these shifts is that urbanization was taking land out of production until the high grain prices and relatively low farm costs of 1973 through 1978 or 1979. At that time, a significant amount of irrigation was developed in the western desert parts of the state. Crops were still being displaced from the traditional Wasatch Front areas. But, the difference was more than made up on newly tilled and irrigated land. There were, however, differences in soils,

quality of water, climate, cost of irrigation water, size of farm, and other factors. Agriculture, in the aggregate, though, has not lost large acreages of cropland or production.

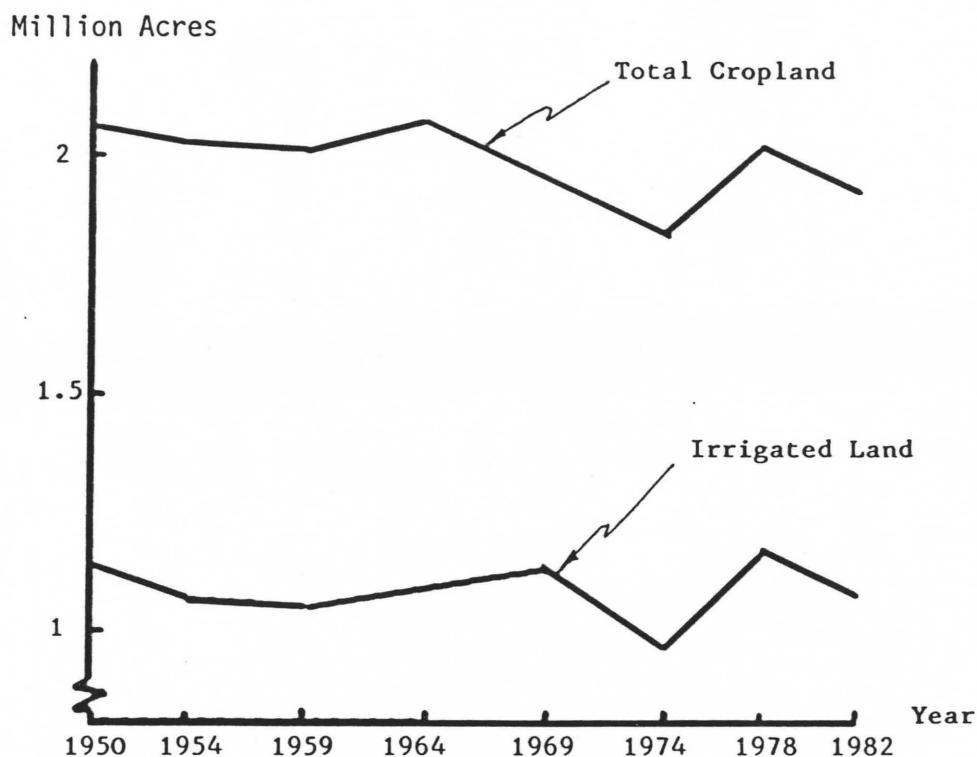


FIGURE 26. Total cropland and total irrigated land, Utah, 1950-82. (Source: U. S. Department of Commerce (1984).)

Summary

Agriculture in Utah remains a thriving industry in many respects. Production continues to increase and consumers are well-served. The value of production continues to increase even in real terms. Utah farmers, as part of the efficient agricultural system in the United States, continue to grow in capacity to feed the world. About one-third of the seventy-nine people fed per farmworker are from outside of the United States. Agriculture's capacity and efficiency in producing so much are becoming difficult problems in the sense of declining prices and returns. Consumers in the

United States spend only 13 percent of disposable income for food. This compares with over two-thirds in some developing countries and one-third to 40 percent in many of the industrializing nations.

Larger farms and fewer people are directly involved in production agriculture in Utah. But it would be difficult to overestimate the contribution of Utah's agriculture to citizens of the state. While only about 3 percent of the workers in Utah are employed directly in production agriculture, another 10 to 18 percent are employed somewhere in the food and fiber sector. Estimates vary on this, but the differences arise primarily because of the different approaches on whether the basic agricultural products are produced in Utah. Employment multipliers vary from about 2.0 up to about 5.0 for the various agricultural sectors, with the average being 3.8. Thus, even though direct agricultural employment has been declining, the forward- and backward-linked industries have been growing as enterprises have been set up to serve farms and to provide more fully processed and prepared items for the households.

Output multiplier relationships and income dependence are similarly favorable for consideration of agriculture as a development sector. Additionally, there are strong historical and cultural bases for seeking agricultural development opportunities.

In other measures, especially farm income, increasing debt, and declining farm values, Utah's farm sector is in rather serious trouble. Most farmers who purchased, enlarged, mechanized, or improved their farms using credit within the last six to eight years are caught in a serious problem of declining farm prices, increasing costs, and especially high interest rates.

Far more people than just the farmers are hurt as agriculture has hard times. Employment and production in many other industries is dependent on the basic agricultural sector. Especially in rural areas, community decline is serious and unemployment is high as farmers have less to spend.

As farm real estate values decline, a large number of producers face bankruptcy and loss of their accumulated life savings. Historically, in agriculture, farmers have low farm income and low returns from investment in farming. But, they have enjoyed significant accumulation of wealth as the farm has taken on additional value. At the present time, the reverse is true as farms are declining in value. Many farmers are unable to even leave agriculture with any assets which, until a few years ago, may have been worth even many hundreds of thousands of dollars. Farm debts have quadrupled since 1970 and many farmers are in financial stress.

Very careful management of investments, operating expenses, and optimal marketing of highest quality products will be necessary for survival of many Utah farmers. In many cases, disposition of unproductive assets may be needed where a payout is not forthcoming.

All of Utah, farmers, consumers, financial institutions, farm suppliers, farm product processors and distributors, and others have a stake in regaining strength in agriculture. Policies and programs to accomplish this are a major challenge in coming years.

References

- Amols, George, and Wilson Kaiser. 1984. Agricultural Finance Statistics, 1960-83. Statistical Bulletin No. 706. Washington, D.C.: USGPO.
- Barber, Brad. 1985. "Importance of Agricultural Economy to Utah's Future." The Western Planner 6(1, January/February):6-7.

- Dobson, William D. 1984. "Effects of the Macroeconomic Environment on 1985 Farm Legislation." In Annual Agricultural Outlook Proceedings. (Session #6, December 3). Washington, D.C.
- Economic Report of the President. 1984. February.
- Economic Research Service, U. S. Department of Agriculture. 1983. Economic Indicators of the Farm Sector: State Income and Balance Sheet Statistics, 1983. ECIFS 2-4. Washington, D.C.: USGPO.
- _____. 1984. Farmline (April).
- _____. 1984. Foreign Agricultural Trade of the United States (November-December):86.
- _____. 1985. Economic Indicators of the Farm Sector: Production and Efficiency Statistics, 1983. ECIFS 3-5. Washington, D.C.: USGPO.
- _____. 1985. Economic Indicators of the Farm Sector: State Income and Balance Sheet Statistics, 1983. ECIFS 3-4. Washington, D.C.: USGPO.
- Keith, John E., Charles Diamond, Jay C. Andersen, and Donald L. Snyder. 1985. "An Analysis of Agriculture's Impact on Utah's Economy Using an Input-Output Modeling Approach." (Draft report--for review purposes only). Study Paper #85-6. Logan, Utah: Economics Department, Utah State University, February.
- U. S. Department of Agriculture. 1983. Handbook of Agricultural Charts. Ag. Handbook 619. Washington, D.C.: USGPO.
- _____. 1984. Agricultural Prices: 1983 Summary. Pr 1-3(84). June.
- _____. 1984. Real Estate Market Developments: Outlook and Situation Report. CD-89. Washington, D.C., August.
- U. S. Department of Commerce. 1984. Census of Agriculture, 1982. Part 44--Utah State and County Data. AC 82-A-44. Washington, D.C.: USGPO, July.
- Utah Crop and Livestock Reporting Service. 1981. Utah Agricultural Statistics. Salt Lake City, Utah: Utah State Department of Agriculture.
- _____. 1984. Utah Agricultural Statistics. Salt Lake City, Utah: Utah State Department of Agriculture.