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THE FARM COST SITUATION

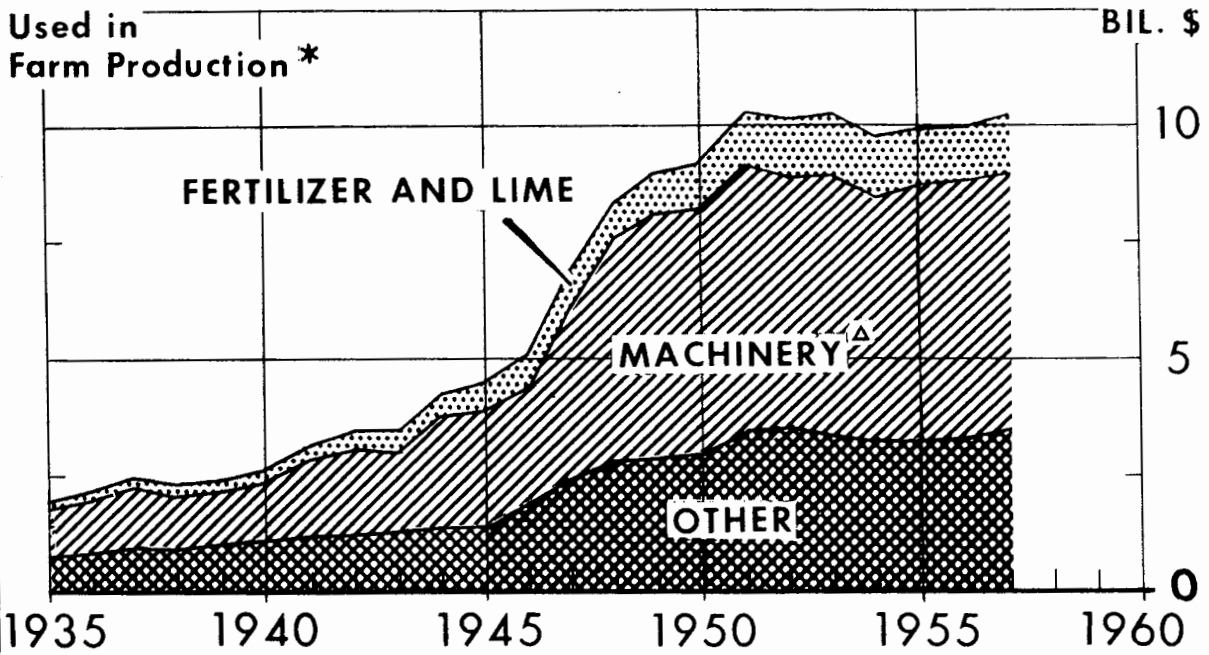
Agricultural Research Service
UNITED STATES DEPARTMENT OF AGRICULTURE

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MAY 1958

Farmers' Expenditures For

NON FARM GOODS AND SERVICES



* FEED, SEED, LIVESTOCK, LABOR, TAXES, RENT AND MORTGAGE INTEREST ARE NOT INCLUDED

△ INCLUDING MOTOR VEHICLES, REPAIRS, FUEL AND OTHER MOTOR SUPPLIES.

1957 DATA PRELIMINARY

U. S. DEPARTMENT OF AGRICULTURE

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AGRICULTURAL RESEARCH SERVICE

In recent years, farmers have spent about \$10 billion annually for production goods and services of nonfarm origin. This is more than 4 times as much as they spent annually for such goods and services in 1935-39. Price increases account for about half of the increase in these expenditures.

Goods and services used in production: Index numbers of cost rates and prices paid by farmers, United States

(1947-49=100)

Year or period	Commodities, interest, taxes, and wage rates	Commodities only	Feed	Livestock	Motor supplies	Motor vehicles	Farm machinery	Farm supplies	Building and fencing materials	Ferti- lizer	Seed	Wage rates
Average:												
1910-14-----	39	42	43	29	---	---	42	42	34	70	41	23
1915-19-----	59	63	68	44	---	---	54	70	48	101	62	34
1920-24-----	65	61	60	33	---	---	65	77	57	101	60	42
1925-29-----	65	61	58	44	94	49	64	73	54	92	60	43
1930-34-----	50	47	39	25	74	49	61	61	47	75	40	28
1935-39-----	49	52	45	36	74	56	64	60	49	71	49	28
1940-----	49	52	43	41	71	56	64	62	49	69	42	30
1941-----	53	55	47	46	74	59	65	66	53	69	40	35
1942-----	60	62	57	54	79	64	69	73	58	76	54	46
1943-----	68	69	68	61	81	67	71	82	60	81	68	61
1944-----	73	73	75	58	82	73	73	86	64	83	77	74
1945-----	77	74	74	63	82	75	74	87	66	84	79	83
1946-----	83	81	87	72	84	77	76	88	72	85	81	90
1947-----	95	95	102	90	92	90	86	95	93	93	93	97
1948-----	104	105	109	111	103	100	101	100	104	102	109	103
1949-----	101	100	89	99	105	110	113	105	103	105	98	100
1950-----	104	104	91	116	106	110	115	105	105	101	94	99
1951-----	115	115	102	141	111	118	124	112	117	106	96	109
1952-----	117	116	109	118	112	123	129	119	118	109	109	117
1953-----	112	106	98	83	114	122	130	120	118	110	100	119
1954-----	112	106	98	85	116	123	131	117	119	108	93	119
1955-----	112	105	92	84	117	126	132	114	122	107	102	120
1956-----	114	105	90	78	119	131	138	117	127	105	86	125
1957-----	118	109	88	89	123	140	146	122	131	106	89	130
Jan.-----	117	108	91	79	---	138	---	---	---	---	---	129
Feb.-----	118	108	91	80	---	---	---	---	---	---	91	---
Mar.-----	118	109	90	86	123	139	143	120	130	---	91	---
Apr.-----	119	110	90	90	---	---	---	121	---	105	89	131
May-----	119	109	90	89	---	---	---	---	---	---	89	---
June-----	118	108	87	88	121	139	146	122	131	---	---	---
July-----	118	108	87	89	---	139	---	---	---	---	---	128
Aug.-----	118	108	87	89	---	---	---	---	---	---	---	---
Sept.-----	118	109	86	89	122	139	149	122	132	106	86	---
Oct.-----	119	109	85	92	---	---	---	---	---	---	---	131
Nov.-----	119	110	84	93	---	143	---	---	---	---	---	---
Dec.-----	120	111	84	99	123	146	150	124	132	---	---	---
1958-----												
Jan.-----	121	112	84	102	---	145	---	---	---	---	---	132
Feb.-----	122	112	84	106	---	---	---	---	---	---	85	---
Mar.-----	123	114	86	110	121	145	151	125	132	---	88	---
Apr.-----	123	114	88	113	---	---	---	125	---	106	88	132

THE FARM COST SITUATION

Approved by the Outlook and Situation Board, May 8, 1958

CONTENTS

	<u>Page</u>		<u>Page</u>
General Situation.....	3	Farm Real Estate.....	17
Farm Labor.....	7	Interest, Taxes, and Insurance....	20
Farm Power and Machinery.....	9	Costs by Type of Farm.....	21
Feed.....	11	Contract Farming and Farm Costs...	28
Seed.....	11	How High are Farm Real Estate	
Fertilizer.....	14	Prices?.....	31
Building Materials and Farm		How High are Farm Property	
Supplies.....	16	Taxes?.....	36

GENERAL SITUATION

The cost-price squeeze in agriculture has eased somewhat since last spring. Although the index of prices paid by farmers for goods and services used in production (including interest, taxes, and wage rates) reached a record high in mid-April, prices of farm products rose enough to more than offset this increase. During the next several months prices received by farmers probably will decline somewhat from spring levels, as supplies increase seasonally, while prices paid for cost items are likely to remain high.

In April, the index of prices paid by farmers for goods and services used in production, including interest, taxes, and wage rates, was 4 percent above a year earlier. Increases during the year amounted to 25 percent for feeder livestock and to 4 percent or more for farm-mortgage interest payments, farm machinery, farm real estate taxes, motor vehicles, and farm supplies.

Cost rates and prices paid by farmers for major groups of production items this spring compared with a year earlier are as follows:

Feeder livestock (April 15).....	Up	25 percent
Farm mortgage interest payments per acre.....	Up	7 "
Farm machinery (March 15).....	Up	6 "
Farm real estate taxes per acre.....	Up	5 "
Motor vehicles (March 15).....	Up	4 "
Farm supplies (April 15).....	Up	4 "
Building and fencing materials (March 15).....	Up	2 "
Wage rates (April 15).....	Up	1 "
Fertilizer (April 15).....	Up	1 "
Motor supplies (March 15).....	Down	2 "
Seed (April 15).....	Down	2 "
Feed (April 15).....	Down	2 "

Most cost rates have continued to increase since last fall despite the business recession. However, some items such as hired wage rates and motor supplies have leveled off or declined slightly.

Percentage increases and decreases (-) in cost rates and prices paid by farmers from 1935-39 and 1947-49 to mid-April were as follows:

	From 1935-39	From 1947-49
Wage rates.....	369	32
Feeder livestock.....	216	13
Building and fencing materials.....	170	32
Motor vehicles.....	161	45
Real estate taxes.....	155	72
Farm machinery.....	136	51
Farm supplies.....	110	25
Feed.....	93	-12
Seed.....	80	-12
Motor supplies.....	63	21
Fertilizer.....	48	6
Mortgage interest payments per acre.....	47	122

Since 1935-39, the index of prices paid by farmers for goods and services used in production has increased by about 150 percent. Farm wage rates have increased by more than twice as much as the average, whereas prices paid for some items like fertilizer and petroleum products have increased by less than half as much as the average.

Most of the rise in the overall index since 1935-39 occurred before 1947-49. The increase since 1947-49 has been about 23 percent. However, if the items that originate on farms (feed, seed, and livestock) are excluded, the increase has been about 43 percent.

Mortgage interest payments per acre have risen substantially in recent years but during the early forties they declined somewhat. Since 1935-39, the net increase in this component has been less than the increase in the overall index. Changes in this component reflect changes in farm mortgage indebtedness as well as changes in average rates of interest paid by farmers on all outstanding farm mortgage loans.

Parity Ratio Up

In April, the parity ratio (prices received by farmers to prices paid) was 87 compared with 82 a year earlier. The increase stems from the fact that the index of prices received increased more than the index of prices paid. The index of prices received by farmers was 10 percent above the April 1957 level but 2 percent below the 1947-49 average and 15 percent below the all-time high reached in February 1951. Increases in prices of meat animals, eggs, potatoes, and fruits and vegetables accounted for most of the

overall rise in the year ended April 15. The index of prices paid by farmers for goods and services used in both production and family living (the parity index) advanced 3 percent during the year and was record high on April 15.

Farm Expenses Up

The total of all farm operating expenses ^{1/} was at an all-time high in 1957 (fig. 1). It was \$0.4 billion above the previous high (1951), even though expenditures for feed, seed, and livestock were about \$1.0 billion lower. The amount spent by farmers for production items that originate on farms was \$6.2 billion in 1957 compared with \$5.6 billion in 1947-49. Other farm operating expenses amounted to \$14.5 billion in 1957 as against \$10.4 billion in 1947-49. Consequently, most of the 29-percent increase in farm operating expenses from 1947-49 to 1957 resulted from a 39-percent increase in expenditures for goods and services of nonfarm origin.

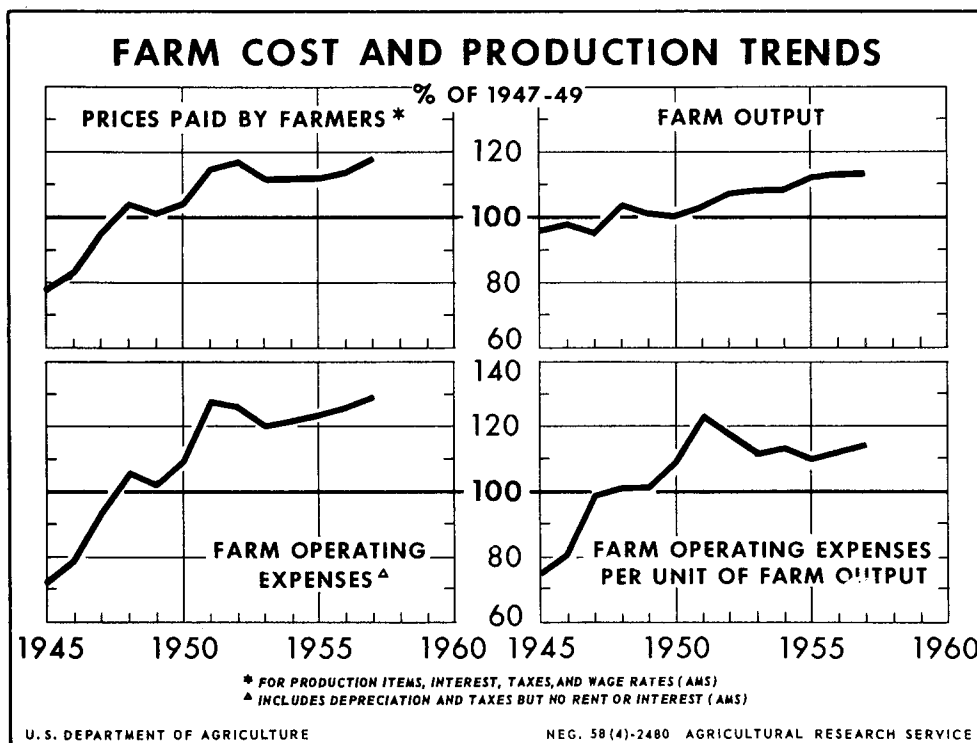


Figure 1

^{1/} Farm operating expenses as used here consist of total production expenses, as published annually by the Agricultural Marketing Service in the July issue of The Farm Income Situation, less short-term and mortgage interest, and net rent to nonfarm landlords. In concept, the residual income, after such costs are deducted from gross farm income, represents the sum of shares accruing to land, capital, management, and unpaid family labor.

However, farm output was 13 percent higher in 1957 than it was in 1947-49. When this is taken into account, the figures show that total farm operating expenses in 1957 were 14 percent higher per unit of farm output than they were in 1947-49, while operating expenses for goods and services of nonfarm origin were 24 percent higher.

Higher prices have been responsible for only part of the increase in farm operating expenses. For example, expenditures for fertilizer last year were 50 percent above the 1947-49 average but prices paid for fertilizer were only 6 percent higher. Also, because of the downward trend in hired labor used on farms, total wages paid to hired farmworkers were lower in 1957 than in 1947-49, despite the fact that farm wage rates were 30 percent higher. Much of the increase in expenditures for production goods and services of nonfarm origin has been offset by a reduction in the labor input.

Resource Combination Changing

Over the years farmers have continually changed the relative quantities of the different resources used in farm production. Although in 1957, farm output was a third larger than in 1940, it was produced on about the same acreage of cropland with fewer farmworkers and on fewer but larger farms. In relation to farm output, farmers now use more fertilizer and more machinery but fewer work animals and fewer man-hours of labor than they used in 1940 (fig. 2). These changes in the resource mix have kept per-unit costs from rising as fast as the index of prices paid or as fast as they would have risen otherwise.

Situation Varies

Farm operating expenses per unit of production (or output) were higher in 1955-57 than they were in 1947-49 in most areas and on most types of farms for which data are available. They were lower, however, on specialized dairy farms in the Northeast and on specialized poultry farms in New Jersey, where purchased feed is a major item of expense and where production per farm has increased rapidly in recent years. Part of this gain in productivity is a reflection of the fact that commercial farming operations have been discontinued on many small places since 1947-49.

Weather affects production costs per unit of output in any given year and more so locally than nationally. During the last 10 years, for example, the index of operating expenses per unit of production for winter wheat farms in the Southern Plains ranged from 84 (1947-49=100) in 1952 to 152 in 1956, whereas for all farms in the United States, it ranged from 101 in 1948 and 1949 to 123 in 1951. Year-to-year fluctuations have been especially wide for wheat farms in the Great Plains, for nonirrigated cotton farms in the High Plains area of Texas, and for livestock ranches in the Southwest and the Intermountain region.

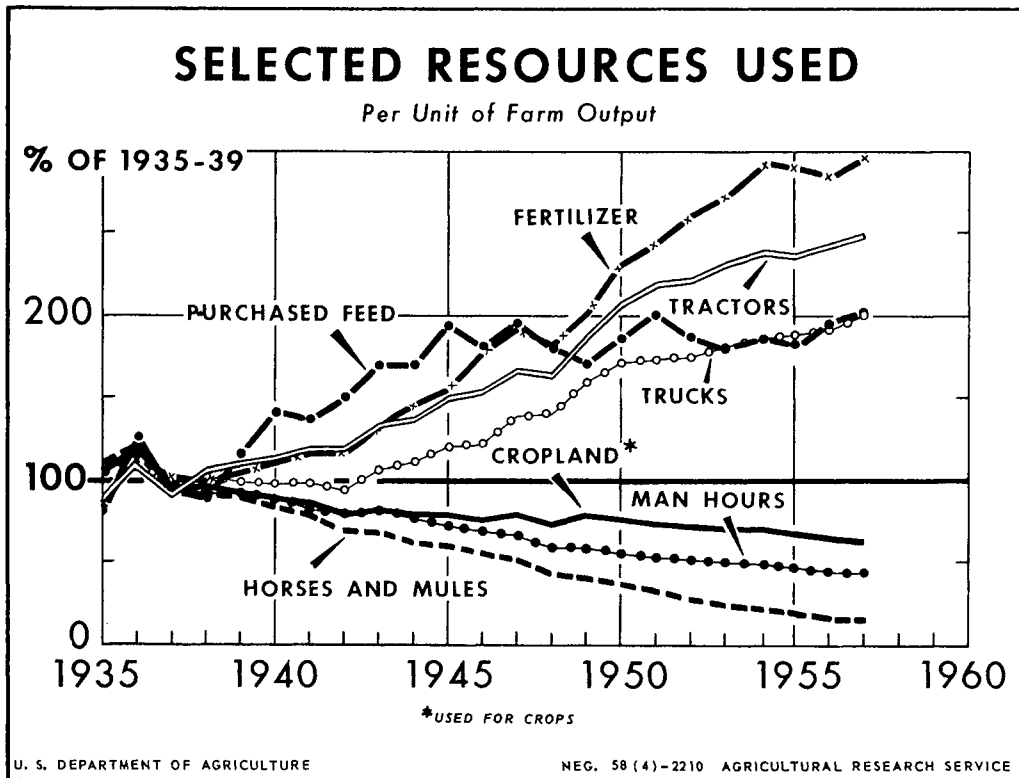


Figure 2

FARM LABOR

On the average, farmers were paying higher rates for hired workers on April 1, 1958, than they were a year earlier. However, in 7 scattered States, they were paying lower rates. In the Nation as a whole, the increase in farm wage rates for the year April 1, 1957, to April 1, 1958, amounted to 2.2 percent (table 1). All of the increase actually occurred during 1957; wage rates adjusted for seasonal variation did not change between January 1 and April 1, 1958. From April 1, 1956, to April 1, 1957, farm wage rates rose more than twice as much as during the last year.

Although wages for many jobs are paid on a piece-rate basis, information on cotton-picking rates only is available on a national basis. Up to November 1 an average of \$2.60 per hundredweight was paid for picking the 1957 crop. This was 5 cents less than the rate paid in the fall of 1956 and was about the same as the picking rate 10 years ago. Since 1952, when a peak of \$3.05 was reached, cotton-picking rates have moved downward. Nevertheless, as more cotton can be picked per day with current higher yields, the earnings of cotton pickers have been more favorable than is indicated by the picking rate. Data collected by the Department of Labor in areas where foreign workers are used indicate that piece rates for some jobs have decreased and for others have remained steady. In general, they have not kept pace with the increase in time rates.

Table 1.- Average farm wage rates, April 1, 1958, compared with rates on April 1, 1957, by regions

Region	Average wage rates, April 1, 1958 ^{1/}			Percentage change, 1957 to 1958 ^{2/}
	With board and room, per month	Without board or room		
		Per day	Per hour	
	Dollars	Dollars	Dollars	Percent
New England-----	148	9.30	1.14	+3.1
Middle Atlantic-----	136	8.50	1.07	+1.4
East North Central-----	132	8.10	1.04	-.3
West North Central-----	135	8.50	1.03	+3.0
South Atlantic-----	3/	5.50	.72	+1.8
East South Central-----	3/	4.30	.58	-.2
West South Central-----	3/	5.90	.73	+4.6
Mountain-----	164	8.30	1.00	+1.8
Pacific-----	198	3/	1.16	+1.1
United States-----	132	5.80	.94	+2.2

^{1/} Selected from 9 types of rates for which averages are reported.

^{2/} Based on composite rates per hour.

^{3/} Relatively unimportant in this region but used in computing national average.

From the monthly report, Farm Labor, prepared by the Agricultural Marketing Service, U. S. Department of Agriculture.

Farm wage rates tend to follow those paid in industry. Average hourly earnings of production workers in manufacturing were \$2.10 in March 1958, or 5 cents higher than at the same time in 1957. However, because of a reduction in hours worked, weekly earnings were 1.7 percent less than in March 1957. During the last decade, wage rates in manufacturing have risen considerably more than those paid on farms.

Current indications are that farmers are having less difficulty in obtaining workers this spring than in recent years. There are also indications that in terms of man-days, the need for farm labor will be less this year. Soil bank contracts have been signed that cover about 27 percent of the national cotton allotment of 17.6 million acres. This means that the acreage of cotton will be lower this year. Acreages of some other crops that take considerable labor, such as sugar beets, tobacco, and vegetables, are expected to be lower also.

Farm operators in areas that are expanding acreages of crops for which large numbers of workers are required may have difficulty in obtaining enough workers at the height of the season. Those responsible for recruitment of farmworkers are expanding and intensifying efforts to effect the fullest use of the farm labor supply and provide jobs for unemployed workers. However, workers from foreign sources will continue to be available for seasonal farm jobs in areas certified as having an insufficient supply of labor from domestic sources.

FARM POWER AND MACHINERY

Farm machinery and equipment are important items of farm costs. They accounted for more than 60 percent of all farm capital expenditures and for about 11 percent of all farm production expenses in 1956. In March, retail prices of farm machinery and motor vehicles were 4 to 5 percent higher than a year earlier and 50 percent higher than in 1947-49, although discounts and trade-in allowances have been more liberal in recent years. Prices paid by farmers for motor supplies decreased around 2 percent in the year ended March 15 to about 21 percent above the 1947-49 average. Wholesale prices of farm machinery and equipment rose 5 percent in 1957.

Current retail prices of machinery reflect, in part, the cost of additions and improvements such as live power take-off, torque converters, increased horsepower, and more easily controlled hydraulic systems on tractors as well as innovations that contribute to the versatility of other equipment. These new features often add to the utility of a machine and partly offset the increase in price.

Numbers of most of the principal machines on farms continue to increase, although at a much slower rate than from 1948 to 1952. However, domestic shipments of machinery and equipment were somewhat higher in 1957 than in 1956, mainly because large areas had good growing conditions and good returns for the first time in several years. The trend toward larger power units and tractors designed for lower cost fuels also continues.

Purchases of equipment by farmers were very high during the period 1948-52 and many of the machines now on farms are from 6 to 10 years old. For example, around 40 percent of the tractors, cornpickers, combines, pick-up balers, and field forage harvesters are in this age group. Also, an additional 30 percent of the tractors and combines on farms are more than 10 years old. Consequently, replacement requirements are expected to be a more important factor in demand for new equipment in the years ahead than they have been in the past.

The market for new machinery and equipment is found largely among operators of farms with sales of \$5,000 or more a year (economic classes I, II, and III) and operators of some smaller farms who have off-farm income. In 1954, operators of only about 27 percent of the farms enumerated by the Bureau of the Census had sales of \$5,000 or more and 28 percent of all farm

operators worked off the farm 100 or more days. Allowing for some overlap, it would appear that less than half of our farmers are likely to buy much new machinery when additions or replacements are needed. The alternative, of course, is to rely on lower cost equipment, which comes from the used market.

Since last spring prices of used machinery have increased perhaps more than have prices of new machinery. Whether this rise reflects a stronger demand, a smaller supply, or both, is not yet clear. The supply varies with the number of machines taken in trade by machinery dealers and with the number of farmers going out of business. Since 1950, nearly 900,000 farm operating units varying in size and degree of mechanization have been discontinued and much of the usable machinery owned by these farmers has been put on the market.

Operators of small farms will do well to compare the cost of owning equipment with the cost of hiring the work done. When information on custom rates and on the costs of owning and operating machines is available, the two can be compared for specific farm situations to determine the break-even point. A method for doing this is outlined in a bulletin of the New Hampshire Extension Service, Bulletin 136, "When to Hire and When to Own Farm Equipment on New Hampshire Farms," issued in September 1956.

There are still many opportunities for saving labor and reducing costs on farms by adopting new methods. For example, installations of milking parlors and pipeline milkers have made rapid gains in recent years, but many farms still lack these facilities. Shipments of individual clusters for pipeline milkers increased from 6,600 in 1954 to 17,000 in 1957. Milking parlors in which cows are arranged in herringbone fashion are arousing interest. In field operations, improved planting equipment designed for seed and fertilizer placement along with minimum tillage operations also help to reduce costs per unit of production. Preemergence and postemergence herbicides are important items in minimum tillage practices. Farmers are also preparing more crops for market or storage as a part of the field harvesting operation - for example, chopping silage, baling hay, shelling corn, and combining peanuts. Along with some of these developments, the need for drying equipment has increased also.

FEED

The high production of feed grains in the last several years, combined with increasingly large carryovers, has had a depressing effect on feed prices (table 2). Prices received by farmers for the four feed grains are from 7 to 13 percent lower than they were a year ago. The price of corn has declined 7 percent and prices of oats, barley, and sorghum grains have declined 13 percent each. Baled hay per ton is about 14 percent lower than a year ago.

Prices of formula feeds purchased by farmers are approximately the same as a year ago. Prices of bran and middlings are down about 5 percent. Prices of cottonseed meal, soybean meal, and meat scraps are up 3, 10, and 25 percent respectively. The price of baled alfalfa hay per ton is about 8 percent lower than a year ago.

The supply of feed for the 1958-59 feeding year is expected to be very little if any smaller than the record supply of 219 million tons in the current 1957-58 year. Protein feeds will be in equally high supply. Nearly 106 million tons of feed grains were in stock on April 1, 16 percent more than a year earlier. The feed grain carryover at the end of the 1957-58 feeding year is estimated to be about 60 million tons.

The total number of grain-consuming animal units during the feeding year 1957-58 is estimated to be about 163 million with a probable increase to 168 million in 1958-59, with the increase coming mainly from hogs. Roughage-consuming animal units are expected to total about 93 million in each of these feeding years.

Except for broilers and turkeys, gross returns from livestock enterprises per \$1.00 of feed cost have increased markedly (table 3). Sheep raising and milk production show moderate increases of 5 and 9 percent, respectively, while butterfat, hogs, and beef raising show increases of 15, 24, and 49 percent, respectively.

SEED

Retail prices of field seeds in mid-April were slightly lower than they were a year earlier. The overall index of prices paid by farmers for seed was down about 2 percent. Of the 28 kinds of seed for which comparable data are available, only 4 - seed potatoes (up 43 percent), cowpeas (up 38 percent), cottonseed (up 35 percent), and hybrid seed corn (up 4 percent) - were more expensive this year. All of the principal grasses and legumes were among those declining in price. Reductions amounted to more than 50 percent for crested wheatgrass and smooth brome grass; to more than 30 percent for timothy, redtop, and white clover; and to more than 20 percent for sudan grass, orchard grass, and alsike clover.

Table 2.- Average prices of feed in the United States, April 15, 1958, with comparisons

Item and unit	April 15, 1958			
	April 15, 1956	April 15, 1957	Actual	As a per- centage of April 15, 1957
	Dollars	Dollars	Dollars	Percent
Prices received by farmers:				
Corn, per bu.-----	1.32	1.21	1.12	93
Oats, per bu.-----	.62	.71	.62	87
Barley, per bu.-----	.95	.98	.85	87
Sorghum grain, per 100 lbs.--	1.93	2.04	1.77	87
Hay, baled, per ton-----	21.10	21.10	18.20	86
Prices paid by farmers:				
Mixed dairy feed, 16 pct. protein, per 100 lbs.-----	3.62	3.78	3.65	97
Laying mash, per 100 lbs.----	4.42	4.48	4.48	100
Broiler mash, per 100 lbs.----	4.91	4.95	4.97	100
Cottonseed meal, per 100 lbs.-----	3.65	3.82	3.95	103
Soybean meal, per 100 lbs.----	3.92	3.77	4.15	110
Linseed meal, per 100 lbs.----	4.16	4.12	3.98	97
Meat scrap, per 100 lbs.-----	4.45	4.66	5.82	125
Bran, per 100 lbs.-----	3.02	3.08	2.93	95
Middlings, per 100 lbs.-----	3.10	3.12	2.99	96
Alfalfa hay, baled, per ton--	32.50	33.40	30.70	92
Average value of concentrate ration fed to poultry and milk: cows: 1/				
Fed to poultry, per 100 lbs.--	3.51	3.54	3.47	98
Fed to milk cows, in milk- selling areas, per 100 lbs.--	3.02	3.11	2.99	96
Fed to milk cows, in cream- selling areas, per 100 lbs.--	2.63	2.68	2.47	92

1/ Value of corn, oats, oilmeal, millfeed, commercial mixed feed, etc., that make up 100 pounds of "grain" ration.

Table 3.- Gross returns from livestock enterprises per \$1.00 of feed cost, based on prices April 15, United States ^{1/}

Livestock enterprise or product	Gross return per \$1.00 of feed cost				Percentage increase, 1957 to 1958
	Average, April 15, 1937-51	April 15, 1956	April 15, 1957	April 15, 1958	
	Dollars	Dollars	Dollars	Dollars	Percent
Eggs-----	1.48	1.57	1.24	1.54	24
Broilers-----	1.63	1.39	1.37	1.39	1
Turkeys-----	1.75	1.85	1.60	1.61	1
Milk-----	1.83	1.83	1.87	2.03	9
Butterfat-----	1.49	1.36	1.31	1.51	15
Hogs-----	1.57	1.34	1.77	2.19	24
Sheep raising---	1.60	1.28	1.53	1.60	5
Beef raising---	1.76	1.46	1.70	2.52	49
Index numbers (1937-51=100)					
Eggs-----	100	106	84	104	---
Broilers-----	100	85	84	85	---
Turkeys-----	100	106	91	92	---
Milk-----	100	100	102	111	---
Butterfat-----	100	91	88	101	---
Hogs-----	100	85	113	139	---
Sheep raising---	100	80	96	100	---
Beef raising---	100	83	97	143	---

^{1/} The following quantities of feed were used in calculating the cost of feed:

Eggs (per dozen)-----7 lbs. poultry ration
 Broilers (per lb.)-----2.8 lbs. broiler mash
 Turkeys (per lb.)-----4.75 lbs. poultry ration
 Milk (per cwt.)-----31 lbs. concentrates and 110 lbs. hay
 Butterfat (per lb.)-----7.75 lbs. concentrates and 27 lbs. hay
 Hogs (per cwt.)-----7.5 bu. corn and 20 lbs. soybean meal
 Sheep and lambs (per cwt.)-----2 bu. corn and 1,500 lbs. hay
 Beef raising (per cwt.)-----3 bu. corn and 600 lbs. hay

In general, supplies of grass seed increased markedly during the last year but supplies of legume seed remained about the same. There is some indication that farmer demand for legume seed has slackened in some areas, as prices of a number of legume seeds have declined while the quantity available for sale has remained at approximately the previous years' level.

FERTILIZER

Retail prices of fertilizer were slightly higher in mid-April than they were a year earlier. Increases in average prices per ton paid by farmers amounted to \$3.60 for ammonium nitrate, \$2.60 for 45-percent superphosphate, and \$0.50 for muriate of potash. However, prices of anhydrous ammonia and some mixed fertilizers were down slightly. The price of agricultural limestone was the same as last year.

The total consumption of plant nutrients in commercial fertilizers was record high in the year ended June 30, 1957. It was 3 percent above the previous high (1954-55) and more than 3 times the 1935-39 average. Farmers used 8 percent more nitrogen (N) and 3 percent more potash (K_2O) in 1956-57 than ever before. However, they used 2 percent less phosphoric oxide (P_2O_5) than they had used 2 years earlier.

Present indications are that consumption of fertilizer this year may exceed slightly that of a year ago. The Department of Commerce reports that in the last half of 1957 production of anhydrous ammonia was 15 percent higher and production of superphosphate 7 percent higher than a year earlier. However, potash deliveries were 10 percent lower.

Since 1950, nitrogen has accounted for about half of the overall increase of nearly 2 million tons of plant nutrients. Gains of 89 percent for nitrogen, 8 percent for phosphoric oxide, and 59 percent for potash were made from 1950 to 1957 (fig. 3). Economies in nitrogen manufacture, together with strong yield response to that element, have been mainly responsible for its increasing use relative to other nutrients. Since 1950, prices of nitrogen and potash materials have declined by 10 percent or more if shifts to new and cheaper sources of nitrogen are taken into account. Prices of phosphate materials, however, have increased by about 10 percent since 1950.

Changes in relative costs of plant nutrients have been even more significant over a longer period of time. Twenty years ago (1935-39) sulphate of ammonia was the cheapest source of commercial nitrogen. At that time, farmers paid about 9 cents a pound for nitrogen in that particular form. Now they can buy nitrogen in the form of anhydrous ammonia for about 9 cents a pound. Thus, the cost of commercial nitrogen in its cheapest form is little if any higher today than it was 20 years ago, but the index of prices received by farmers is more than twice as high as it was then and the per unit costs of phosphoric oxide and potash are 55 and 30 percent higher, respectively.

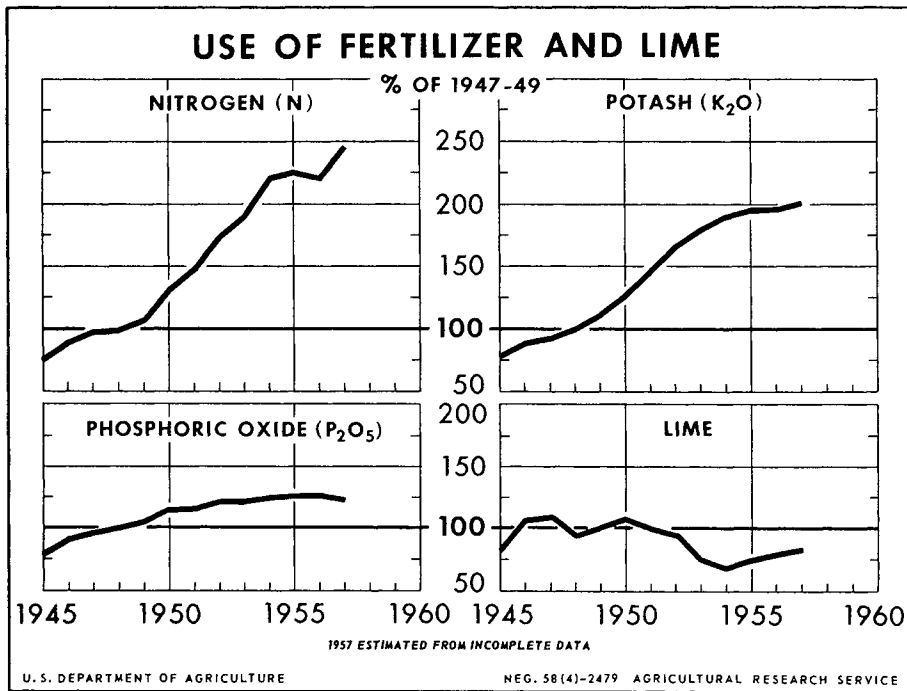


Figure 3

More fertilizer is used on corn than on any other crop and the proportion chargeable to corn is increasing. In 1954, the latest year for which estimates are available, farmers used 34 percent of their purchased plant nutrients on corn compared with 26 percent in 1947. In the Corn Belt and Lake States, the use of commercial nitrogen on corn increased tenfold from 1947 to 1954.

Changes in fertilizer-corn price ratios help to explain why farmers have used more fertilizer on corn in recent years. A substantial reduction in the real cost of commercial nitrogen has been a significant development. It takes less than 8 bushels of corn to pay for 100 pounds of nitrogen in its cheapest form today compared with 10 bushels in 1947-49 and more than 12 bushels in 1935-39. Although the cost of phosphoric oxide is higher in terms of corn than it was 10 years ago, it is lower than it was 20 years ago. This is true also of potash.

Advances in nitrogen fertilizer technology benefit some farmers more than others. In general, they help to reduce unit costs in farming more in humid than in semiarid regions and more on irrigated than on nonirrigated farms.

The potential benefit to individual farmers of a reduction in prices of nitrogenous fertilizers varies with the opportunity for maintaining yields without using rotations that involve legumes. This is possible on some soils but not on others. Whether a farmer can afford to grow legumes also depends on whether he can use his land and other resources to better advantage by growing other crops. In the Corn Belt, for example, the "opportunity" cost of growing clover varies with the price of corn.

Because returns from fertilizer, particularly nitrogen, are realized on the immediate crop, farmers often overlook the question of lime when planning crop production expenses. In contrast to fertilizer, use of lime on cropland and pasture has been about three-fourths of the 1947-49 average during recent years. Farmers could use considerably more lime profitably.

BUILDING MATERIALS AND FARM SUPPLIES

Building Materials

The index of prices paid by farmers for building and fencing materials rose by nearly 2 percent in the year ended March 15. On that date, retail prices of lumber were somewhat lower than they were a year earlier but prices of fencing materials were about 5 percent higher. A 7-percent increase in prices of woven wire fencing was reported by retail stores. Prices of most building materials other than lumber are higher this spring: Composition roofing is up 5 percent; nails 4 percent; paint 3 percent; and cement 2 percent. The index of prices paid by farmers for all building and fencing materials used in production is about a third higher than it was 10 years ago.

Farm Supplies

Prices of farm supplies including pesticides averaged about 4 percent higher in mid-April than a year earlier. These prices are now about 25 percent above 1947-49 and 110 percent above 1935-39 levels. Increases from a year ago have averaged about 6 percent for hand tools and about 5 percent for dairy supplies.

Pesticides

United States consumption of some of the major pesticides was appreciably smaller in 1957 than in 1956. Production of benzene hexachloride was down 47 percent and presumably use also was down somewhat. At the same time, use of some of the newer materials was larger. Total production of pesticidal chemicals in this country was about 1 billion pounds, including about 300 million pounds of ground sulphur. Synthetic organic chemicals comprised more than half of the total production.

Carryover of pesticides on September 30, 1957, was about the same as a year earlier. Stocks held by manufacturers were higher, but those held by mixers and formulators were lower.

Prices of most of the major pesticides are about the same as they were last spring. Prices of lindane, benzene hexachloride, and 2,4-D, are slightly higher, whereas prices of DDT and copper sulphate are from 10 to 15 percent lower.

FARM REAL ESTATE

The value of farm real estate continued to increase during 1957. By March 1, 1958, it had reached a new record high level that was 6 percent above the level of a year earlier. The national average value of farmland and buildings per acre was estimated to be \$100.39, compared with \$94.52 per acre on March 1, 1957. Values increased by 4 percent or less in 7 States scattered across the country from Maine to Idaho. In 28 States, increases ranged from 5 to 7 percent, while in the Northern Plains, several Northeastern and Southeastern States, and Arizona increases amounted to 8 percent or more.

The national index of average value was 156 percent of the 1947-49 base period. This was an increase of approximately 1 percent during the 4 months ended March 1, 1958. Sharpest increases in value during the winter occurred in Florida, Louisiana, and the Northern Plains States, where the increase was 4 percent or more. In 20 scattered States, the increase amounted to 2 or 3 percent, while in the rest, 23 States, little change occurred. This most recent change in the national index represents a continuation of the slowdown in the rate of increase that started last fall, when values increased 2 percent between July 1 and November 1, 1957. In each of the two previous 4-month periods, those ending March 1 and July 1, 1957, it was 3 percent.

Average per acre values of farm real estate continue to be highest in New Jersey with a value of \$521 per acre, followed by Rhode Island and Connecticut with \$420 and \$364. In each of these States, the proximity to large population centers adds nonagricultural site value to much of the strictly agricultural land.

Among the major agricultural States, values in California are highest at \$282 per acre. This is due also to pressure from nonfarm uses, although to a lesser extent than in some of the northeastern States. Illinois land continues to rate second at \$273 per acre, followed by Ohio, \$234, and Indiana, \$233. Values average lowest in the Mountain States because of extensive areas of arid grazing and nonirrigated cropland. Irrigated land in these States is valued as high as comparable nonirrigated cropland in many Corn Belt States. The value of irrigated land has been about 4.8 times the value of dry farming land for several years. In Nebraska, irrigation of cropland from wells has expanded rapidly in recent years. The spread in

values between irrigated and nonirrigated cropland is not as wide as in the more arid States to the west. Information available for the first time this year indicates that the price of irrigated cropland in Nebraska is about double that of nonirrigated cropland.

Several factors contributed to the rise in farm real estate values during the last 4 years. Among these were inflationary pressures, demand for land for nonfarm uses, Government programs for agriculture, and the cost reductions possible from larger operating units. Many of these were present in the winter of 1957-58 and contributed to the rise in land values. However, the high level of nonfarm business activity of the last several years, which helped to sustain nonfarm demand for land, reached a peak in August 1957 and then began to decline. This reduction has weakened the demand for many things, but the major impact has been on durable goods, both producer and consumer.

Apparently, this recession in business activity has affected the farm real estate market very little thus far. Historically, the land market has been slow to react to the ups and downs of the general economy. The current situation may be no exception. It is possible that the recession has not been underway long enough for any effect to show up in the land market.

Cash Rents

Cash rents to be paid for pastureland for the 1958 season were reported to be higher than in the 1957 season in most of the North Central States. Exceptions were in the two easternmost States - Ohio and Michigan - and in Kansas (table 4). Rents ranged from \$7 to \$8 an acre in the eastern Corn Belt, where land values are higher and much of the pastureland can be cropped, to \$1.50 to \$2.00 in the Dakotas. Regardless of the rate per acre, the annual cash rental shows a rather constant relationship to the market value of pastureland. The average ratio of rent to value has ranged between 5 and 7 for the last several years in most of these States.

Although most farms are rented for a share of the production, some continue to be rented for cash. The cash rental to be paid on these farms for the 1958 season was higher than in the previous season in all of the Northern Plains and Lake States, and in Illinois and Iowa (table 5). Rents were reported to be lower in the three other Corn Belt States. Highest rates were again reported for Illinois, Iowa and Indiana, where market values for land are highest. As with pasture rents, cash rents for entire farms bear a relatively constant relationship to market values. The ratio of cash rent to value averages a little higher for whole farms than for pastureland alone, because of the additional expenses for maintenance of buildings and higher taxes paid by the landlord.

Table 4.- Cash rent per acre for pastureland and ratio of gross rent to value, Corn Belt, Lake, and Northern Plains States, 1955-58 ^{1/}

State	Cash rent per acre				Ratio of gross rent to value			
	1955	1956	1957	1958	1955	1956	1957	1958
	Dollars	Dollars	Dollars	Dollars	Percent	Percent	Percent	Percent
Ohio-----	6.60	7.00	7.00	6.65	5.2	5.7	5.4	5.2
Indiana-----	6.90	7.40	7.40	7.60	4.3	4.4	4.7	4.4
Illinois-----	7.60	7.85	8.15	8.50	3.6	3.8	3.7	3.7
Iowa-----	8.25	8.70	8.65	8.95	5.1	5.7	5.3	5.3
Missouri-----	4.35	5.10	5.00	5.30	5.7	7.3	6.4	6.4
Michigan-----	3.45	4.20	4.15	4.05	5.6	5.6	5.8	5.6
Wisconsin-----	5.40	5.20	5.00	5.15	9.1	8.9	8.7	8.5
Minnesota-----	5.05	5.45	5.65	5.95	6.6	7.4	6.8	6.8
North Dakota--	1.15	1.25	1.40	1.45	5.5	5.8	5.9	5.6
South Dakota--	1.90	1.85	1.90	1.95	5.6	5.7	5.7	5.4
Nebraska-----	3.90	3.85	3.90	4.10	5.8	5.9	6.1	6.1
Kansas-----	3.45	3.55	3.55	3.45	5.8	5.9	5.7	5.4

^{1/} Estimates supplied by crop reporters, as of April 1, for calendar years indicated.

Table 5.- Cash rent per acre for farms rented wholly for cash, and ratio of gross cash rent to value, Corn Belt, Lake, and Northern Plains States, 1955-58 ^{1/}

State	Cash rent per acre				Ratio of gross rent to value			
	1955	1956	1957	1958	1955	1956	1957	1958
	Dollars	Dollars	Dollars	Dollars	Percent	Percent	Percent	Percent
Ohio-----	10.45	10.70	12.95	12.30	5.4	5.5	5.9	5.8
Indiana-----	12.95	14.70	16.50	15.75	5.8	6.6	7.2	6.5
Illinois-----	16.50	17.25	18.75	20.05	5.6	5.7	5.7	6.1
Iowa-----	14.05	14.85	15.40	16.10	6.0	6.2	6.2	6.3
Missouri-----	7.10	7.50	9.55	8.10	6.8	6.9	8.4	6.9
Michigan-----	9.00	10.25	10.65	11.10	6.4	6.3	6.3	6.2
Wisconsin-----	11.30	11.75	11.80	12.25	8.1	8.5	8.7	8.3
Minnesota-----	9.90	10.90	11.35	12.05	6.8	7.1	6.7	6.9
North Dakota--	2.70	3.30	3.55	3.85	7.6	8.4	8.3	8.6
South Dakota--	4.30	4.65	4.45	4.80	7.5	8.1	7.4	7.3
Nebraska-----	6.50	6.15	6.95	7.53	6.4	6.0	6.4	6.7
Kansas-----	5.65	6.05	6.35	6.45	6.1	6.4	6.6	6.4

^{1/} Estimates supplied by crop reporters, as of April 1, for calendar years indicated.

INTEREST, TAXES, AND INSURANCE

Interest

Interest rates on short-term securities and commercial paper offered in the open market have decreased more than 2 percentage points in the last few months. Interest rates turned down in response to the slowdown in business activity and the relaxation of monetary restraints. The decline in most interest rates in the 3 months from mid-November to mid-February exceeded the previous significant 6-month decline that occurred in 1953.

Interest rates charged farmers on new farm-mortgage loans increased by one-half of one to one percentage point during 1957. However, between January 1 and May 1, 1958, eleven of the Federal land banks reduced their interest rates by one-half of one percentage point. As of May 1, 1958, only 4 of the land banks, compared with 8 in October 1957, had rates of $5\frac{1}{2}$ percent. Eight had rates of 5 percent or less compared with 4 banks in October 1957. The recent decreases in land-bank rates reflect the lower cost of loan funds obtained from the issuance of Federal farm loan bonds; in February 1958, representative issues of these bonds yielded 3.50 percent compared with 4.50 percent in October 1957.

Interest rates charged by production credit associations also increased during 1957. As of January 1, 1958, only 17 of the 497 production credit associations were charging less than 6 percent for loans. About 307 associations were charging from 6.0 to 6.9 percent and 173 associations were charging 7 percent or more for loans. The increases in interest rates charged by the production credit associations resulted from increases in the discount rates of the Federal intermediate credit banks, which, in turn, were caused by the higher cost of raising funds through the sale of Federal intermediate credit bank debentures. As of April 1, 1958, 24 of the 497 production credit associations were charging less than 6 percent for loans. About 320 associations were charging from 6.0 to 6.9 percent, and 153 associations were charging 7 percent or more for loans. These reductions in rates have resulted from a decline in the rates on Federal intermediate credit bank debentures, which were only 2.10 percent at the end of March 1958 compared with 4.98 percent in November 1957.

Many country banks raised their interest rates on loans to farmers in 1957, as rates on alternative investments increased and higher rates were paid on time deposits. Data are not available for the early months of 1958, but it is anticipated that the rates charged by banks will be reduced as rates charged by other lending institutions decline.

Property Taxes

A rise of about 5 percent in farm property tax payments is likely for 1958, according to preliminary reports on amounts levied by State and local governments in 1957. In most States, the taxes levied in one calendar year

are payable the following year. Levies in 1957 are estimated to have reached a record, \$1,265 million, compared with \$1,203 million levied in 1956. This was the 17th consecutive yearly increase.

Levies on farm land and buildings, which account for four-fifths of all farm property taxes, are estimated to have gained 6 percent, amounting to \$1,032 million. This would bring real estate taxes to \$0.96 per acre, another record. Taxes on farm personal property, such as livestock, farm machinery, automobiles, trucks, and household goods, appear to have registered an increase of about 3 percent in 1957. At \$233 million, these levies would be up more than 80 percent over the average of 1947-49.

Insurance

The total cost of insuring farm property continued to increase in 1957 as farmers carried more insurance at about the same premium rates.

The increase in the amount of hail insurance on growing crops in 1957 over the preceding year was the largest on record, and the net cost to farmers for this insurance was also at a record high level.

COSTS BY TYPE OF FARM

For the year 1957, the overall index of prices paid by United States farmers for goods and services used in production (1947-49 = 100) was 118, the highest on record. However, among 29 types of farms for which data are available, the index ranged from a low of 91 to a high of 130 (table 6). The location of these types of farms is indicated in figure 4.

There are several reasons for this wide variation in the index of prices paid by operators of different types of farms. Certain items of expenditure are relatively more important on some types of farms than on others, and prices paid for production items have changed at different rates over the last decade. Some prices have increased, whereas others have either changed little or declined. Expenditures for production items of nonfarm origin on all types of farms have increased but the increase has been greater on some types than on others.

Farmers are becoming more dependent on industry for production items. On 21 of the 29 types of farms studied, more than two-thirds of the total cash expenditures in 1957 were for nonfarm goods and services. This was true on only 16 of these 29 types of farms as recently as 1955. Cash outlays for nonfarm goods and services exceeded 50 percent of total cash expenditures on 24 types of farms in 1955 and 27 types in 1957.

This increased use of industrial items is a reflection of farmers' efforts to reduce costs and increase earnings by expanding volume of production, production per hour of labor, and production per unit of input (tables 7 and 8). In this process, various labor-saving machines that

Table 6.- Prices paid by farmers for goods and services used in production, and related data, specified types of commercial farms, 1957 relative to 1947-49

Type and location of farm	Prices or rates paid				Relative importance 1/		
	Goods and services	Hired labor 2/	Feed, seed, and livestock	Nonfarm goods and services	Hired labor 2/	Feed, seed, and livestock	Nonfarm goods and services
	Index numbers 1947-49 = 100				Percent	Percent	Percent
Dairy farms:							
Central Northeast-----	111	152	89	129	8	39	53
Eastern Wisconsin-----	119	132	91	130	5	22	73
Western Wisconsin-----	124	139	92	135	7	15	78
Dairy-hog farms:							
Southeastern Minnesota-----	120	128	89	131	5	19	76
Corn Belt farms:							
Hog-dairy-----	119	132	90	130	9	23	68
Hog-beef raising-----	117	136	88	132	6	25	69
Hog-beef fattening-----	108	130	97	129	4	67	29
Cash grain-----	129	141	95	137	6	14	80
Tobacco farms:							
Tobacco-livestock, Kentucky-----	121	116	86	129	22	9	69
Tobacco-cotton, North Carolina-----	122	124	94	125	35	6	59
Cotton farms:							
Southern Piedmont-----	114	127	91	115	18	10	72
Black Prairie, Texas-----	112	95	96	121	18	11	71
High Plains, Texas (nonirrigated)---	112	86	103	122	12	8	80
High Plains, Texas (irrigated)-----	107	92	93	116	19	4	77
Mississippi Delta (small)-----	107	98	82	112	10	9	81
Mississippi Delta (large-scale)-----	113	113	83	117	35	7	58
Peanut-cotton farms:							
Southern Coastal Plains-----	114	108	97	118	3	16	81
Spring wheat farms, Northern Plains:							
Wheat-small grain-livestock-----	123	103	84	129	7	4	89
Wheat-corn-livestock-----	120	111	89	134	8	11	81
Wheat-roughage-livestock-----	119	103	81	127	4	11	85
Winter wheat farms, Southern Plains:							
Wheat-----	121	124	91	128	5	14	81
Wheat-grain sorghum-----	122	124	94	127	6	12	82
Wheat-pea farms:							
Washington and Idaho-----	129	148	91	13	13	5	82
Cattle ranches:							
Northern Plains-----	125	131	109	127	9	13	78
Intermountain region-----	130	158	115	127	17	14	69
Southwest-----	110	117	89	139	7	43	50
Sheep ranches:							
Northern Plains-----	121	131	92	131	25	20	55
Southwest-----	104	112	76	138	12	37	51
Poultry farms:							
New Jersey (egg producing)-----	91	135	84	125	3	82	15

1/ Based on 1957 expenditures.

2/ Includes payments to croppers.

LOCATION OF TYPES OF FARMS STUDIED

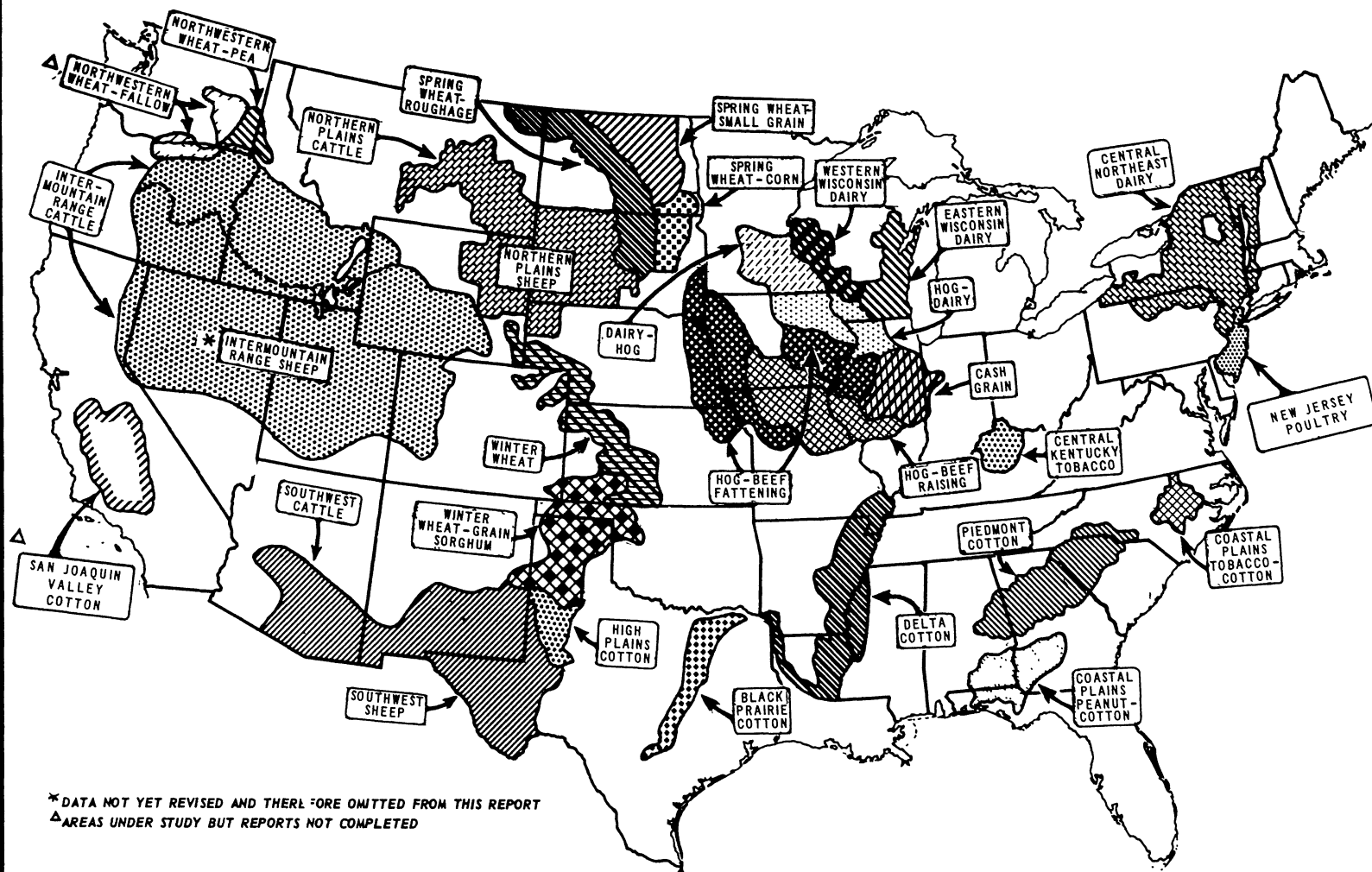


Table 7.- Cost per unit of production and related data, specified types of commercial farms, 1957 relative to 1947-49 ^{1/}

(1947-49=100)							
Type and location of farm	Per unit of production		Prices and rates	Crop yields	Net farm produc- tion	Production	
	Total cost	Operating expenses	paid			Per hour of labor	Per unit of input
	2/ :	3/ :	4/ :			:	:
Dairy farms:	:	:	:	:	:	:	:
Central Northeast-----	104	94	111	126	139	167	121
Eastern Wisconsin-----	109	116	119	126	125	152	116
Western Wisconsin-----	96	100	124	142	142	172	133
Dairy-hog farms:	:	:	:	:	:	:	:
Southeastern Minnesota-----	99	102	120	124	140	166	131
Corn Belt farms:	:	:	:	:	:	:	:
Hog-dairy-----	106	100	119	127	138	141	122
Hog-beef raising-----	105	97	117	125	143	138	122
Hog-beef fattening-----	110	109	108	121	118	130	107
Cash grain-----	129	119	129	124	124	130	112
Tobacco farms:	:	:	:	:	:	:	:
Tobacco-livestock, Kentucky-----	147	138	121	115	95	102	90
Tobacco-cotton, North Carolina-----	137	131	122	114	84	115	93
Cotton farms:	:	:	:	:	:	:	:
Southern Piedmont-----	115	104	114	113	111	139	112
Black Prairie, Texas-----	128	118	112	102	96	149	98
High Plains, Texas (nonirrigated)---	92	85	112	129	122	173	124
High Plains, Texas (irrigated)-----	107	97	107	131	132	150	111
Mississippi Delta (small)-----	144	147	107	124	99	129	84
Mississippi Delta (large-scale)-----	119	104	113	113	82	139	103
Peanut-cotton farms:	:	:	:	:	:	:	:
Southern Coastal Plains-----	109	116	114	124	129	146	109
Spring wheat farms, Northern Plains:	:	:	:	:	:	:	:
Wheat-small grain-livestock-----	122	113	123	105	103	116	99
Wheat-corn-livestock-----	102	101	120	139	137	137	119
Wheat-roughage-livestock-----	113	114	119	120	129	113	103
Winter wheat farms, Southern Plains:	:	:	:	:	:	:	:
Wheat-----	185	166	121	69	66	86	69
Wheat-grain sorghum-----	180	148	122	51	63	82	74
Wheat-pea farms:	:	:	:	:	:	:	:
Washington and Idaho-----	116	106	129	152	154	144	125
Cattle ranches:	:	:	:	:	:	:	:
Northern Plains-----	112	119	125	104	107	117	103
Intermountain region-----	108	128	130	104	140	133	118
Southwest-----	126	103	110	131	103	121	96
Sheep ranches:	:	:	:	:	:	:	:
Northern Plains-----	99	95	121	104	143	135	124
Southwest-----	142	112	104	139	88	100	84
Poultry farms:	:	:	:	:	:	:	:
New Jersey (egg producing)-----	90	85	91	---	153	153	111

^{1/} Preliminary.^{2/} Includes charges for capital and unpaid labor.^{3/} Includes property taxes but no interest.^{4/} From table 6.

Table 8.- Cost per unit of production and related data, specified types of commercial farms, 1956 relative to 1947-49 ^{1/}

Type and location of farm	(1947-49=100)						
	Per unit of production		Prices and rates paid	Crop yields	Net farm production	Production	
	Total cost ^{2/}	Operating expenses ^{3/}				Per hour of labor	Per unit of input
Dairy farms:							
Central Northeast-----	101	95	108	121	132	156	116
Eastern Wisconsin-----	104	113	115	128	119	148	113
Western Wisconsin-----	94	102	116	133	133	161	125
Dairy-hog farms:							
Southeastern Minnesota-----	91	99	116	128	139	165	132
Corn Belt farms:							
Hog-dairy-----	101	100	116	122	131	135	118
Hog-beef raising-----	101	97	114	116	137	132	119
Hog-beef fattening-----	107	108	98	103	109	120	100
Cash grain-----	106	106	125	136	135	142	122
Tobacco farms:							
Tobacco-livestock, Kentucky-----	128	130	120	121	99	107	94
Tobacco-cotton, North Carolina-----	109	109	123	134	116	131	114
Cotton farms:							
Southern Piedmont-----	111	106	111	109	116	132	109
Black Prairie, Texas-----	156	147	112	72	69	108	75
High Plains, Texas (nonirrigated)-----	156	141	109	70	61	86	69
High Plains, Texas (irrigated)-----	114	113	103	111	131	110	95
Mississippi Delta (small)-----	116	127	106	143	117	156	98
Mississippi Delta (large-scale)-----	101	92	109	128	96	189	114
Peanut-cotton farms:							
Southern Coastal Plains-----	97	108	111	145	150	151	119
Spring wheat farms, Northern Plains:							
Wheat-small grain-livestock-----	79	78	116	133	146	163	138
Wheat-corn-livestock-----	114	119	114	99	109	110	97
Wheat-roughage-livestock-----	114	121	114	99	114	105	94
Winter wheat farms, Southern Plains:							
Wheat-----	159	152	118	58	70	89	73
Wheat-grain sorghum-----	184	158	118	45	54	73	65
Wheat-pea farms:							
Washington and Idaho-----	114	109	126	135	138	130	117
Cattle ranches:							
Northern Plains-----	126	125	125	82	97	106	96
Intermountain region-----	107	130	123	104	128	121	109
Southwest-----	160	146	104	80	61	68	68
Sheep ranches:							
Northern Plains-----	118	124	114	83	104	101	96
Southwest-----	149	137	96	89	60	67	69
Poultry farms:							
New Jersey (egg producing)-----	92	88	93	---	144	139	109

^{1/} Revised.^{2/} Includes charges for capital and unpaid labor.^{3/} Includes property taxes but no interest.

utilize mechanical or electrical power have been substituted for man-labor and farm-produced animal power. Increased use of fertilizer and irrigation also have added substantially to farm production capacity.

These changes were partly responsible for the fact that net farm production in 1957 was higher than in 1947-49 on 21 of 29 types of commercial family-operated farms studied. Lower production in 1957 than in 1947-49 in some areas may be accounted for by less favorable weather, acreage controls, or both. Production was lower on tobacco and cotton farms in some areas even though crop yields were higher. For example, on tobacco-cotton farms in the Coastal Plain of North Carolina, net farm production averaged about 16 percent lower in 1957 than in 1947-49, despite the fact that crop yields averaged 14 percent higher. In general, efficiency has not improved enough to offset increases in cost rates and prices paid. Therefore, despite increases of net farm production on most types of farms since 1947-49, operating expenses per unit of production also averaged higher in 1957. This was true on 23 of 29 types of farms.

Production per hour of labor continues to increase. In 1957, production per hour of labor on 18 of the 29 farms studied was at record levels. All types except winter wheat farms in the Southern Plains showed an increase from 1947-49 in labor productivity. Relatively low wheat yields and reduced production in 1957 were the chief causes of lower labor productivity on these wheat farms.

Total costs per unit of production including charges for capital and unpaid labor were higher in 1957 than in 1956 on 18 of 29 types of farms. Farm real estate values and interest rates rose sharply in most areas. However, changes in weather were also important. In general, farmers who have been successful in keeping their per unit costs down in recent years are those who have been able to expand their output. Changes in costs per unit of production from 1947-49 to 1957 ranged from a decrease of 10 percent on poultry farms in New Jersey to an increase of 85 percent on wheat farms in the Southern Plains.

Cost rates and production change from year to year, and these factors affect unit costs of production. For example, the index of total cost per unit of production on southwestern cattle ranches was nearly 34 percent lower in 1957 than in 1956, mainly because of a 42-percent increase in net farm production. Range conditions were much improved in 1957. Thus production per unit of input was 28 percent higher and production per hour of labor was about 50 percent higher in 1957 than in 1956. These changes more than offset the 6-percent increase in the index of prices paid by these cattle ranchers from 1956 to 1957.

Preliminary estimates of costs and returns by type of farm in 1957 are presented in table 9. Additional information is available for recent years in *Agriculture Information Bulletin No. 176*, an annual publication.

Table 9.- Costs and returns per farm, specified types of commercial farms, 1957 1/

Type and location of farm 2/	Total land in farms	Cropland harvested	Total labor used	Total farm capital January 1:	Gross farm income 3/	Operating expenses 4/	Net farm income 5/
	Acres	Acres	Hours	Dollars	Dollars	Dollars	Dollars
Dairy farms:							
Central Northeast-----	212	79	4,350	32,000	11,178	6,082	5,096
Eastern Wisconsin-----	131	70	4,380	36,070	9,008	5,202	3,806
Western Wisconsin-----	152	63	3,910	24,030	7,250	3,877	3,373
Dairy-hog farms:							
Southeastern Minnesota-----	155	93	3,910	38,660	8,871	4,842	4,029
Corn Belt farms:							
Hog-dairy-----	165	103	4,430	46,780	12,442	6,244	6,198
Hog-beef raising-----	234	106	3,490	38,990	8,066	3,973	4,093
Hog-beef fattening-----	206	145	4,010	62,570	20,588	12,472	8,116
Cash grain-----	233	193	3,320	100,110	14,022	6,986	7,036
Tobacco farms:							
Tobacco-livestock, Kentucky-----	117	29	3,890	25,850	5,670	2,797	2,873
Tobacco-cotton, North Carolina-----	100	36	5,470	22,650	6,570	4,280	2,290
Cotton farms:							
Southern Piedmont-----	181	52	3,570	17,820	4,077	2,343	1,734
Black Prairie, Texas-----	183	104	3,260	29,340	5,311	3,411	1,900
High Plains, Texas (nonirrigated)---	392	287	3,350	41,510	12,918	5,812	7,106
High Plains, Texas (irrigated)-----	342	288	6,110	88,240	25,194	13,193	12,001
Mississippi Delta (small)-----	58	34	2,850	12,450	3,176	1,971	1,205
Mississippi Delta (large-scale)-----	1,000	599	35,090	193,370	53,127	40,840	12,287
Peanut-cotton farms:							
Southern Coastal Plains-----	140	56	3,570	10,530	4,861	2,295	2,566
Spring wheat farms, Northern Plains:							
Wheat-small grain-livestock-----	713	410	2,910	48,430	9,152	5,376	3,776
Wheat-corn-livestock-----	502	349	3,890	46,590	10,105	5,039	5,066
Wheat-roughage-livestock-----	800	423	3,620	43,030	9,892	5,488	4,404
Winter wheat farms, Southern Plains:							
Wheat-----	726	290	2,340	78,360	10,535	4,927	5,608
Wheat-grain sorghum-----	732	354	2,970	75,260	9,589	4,075	5,514
Wheat-pea farms:							
Washington and Idaho-----	550	374	3,370	161,100	25,976	10,610	15,366
Cattle ranches:							
Northern Plains-----	4,225	282	3,980	69,230	10,383	6,219	4,164
Intermountain region-----	1,715	182	5,030	64,070	14,152	5,633	8,519
Southwest-----	11,010	20	3,370	128,910	12,419	7,548	4,871
Sheep ranches:							
Northern Plains-----	6,272	239	7,910	84,770	22,203	11,254	10,949
Southwest-----	13,340	22	5,190	177,770	17,319	11,257	6,062
Poultry farms:							
New Jersey (egg producing)-----	10	0	5,900	51,750	27,503	26,074	1,429

1/ Preliminary.

2/ All except large-scale cotton farms are family operated.

3/ Includes income from farming and government payments.

4/ Includes property taxes but no rent or interest.

5/ Returns to capital and unpaid labor.

CONTRACT FARMING AND FARM COSTS

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Seldom has any departure from customary methods of farm management stirred as much interest as has contract farming. Individual family farms have been called the "radiant points of competitive energy that make the plans, focus the decisions, and carry on the work of agriculture." Yet here is a new kind of multiple firm that appears to take over some or all of these functions.

The general concept of contract farming is not new. Some contract farming has existed for a long time. But the dramatic results associated with the coordination of commercial broiler production by this means, and the current efforts to apply similar methods to other farm commodities have aroused both hope and concern.

Definition

For purposes of this discussion, contract farming means effective control through a contract or agreement over some of the production decisions and activities of a farmer on the part of another whose primary business is concerned with a specific farm commodity, at some earlier or later stage in the vertical line of production.

Management decisions are shared by advance agreement and frequently resources are joined in the common venture. Each party gives up some freedom of action and each gains something in return. The feed dealer who contracts with the broiler producer, the beet sugar factory with the sugar beet farmer, the chain store with the cattle feeder, the pea canner and processor with the pea grower, are examples.

The contract itself may be written or verbal, and it may take a variety of forms. The essential thing is that both parties must have an interest in the farm production process and a share in the production decisions. Thus, a mere financing arrangement does not constitute contract farming, nor does a sales or marketing contract that is concerned solely with the purchase of supplies or the disposal of a commodity already produced. Also excluded are government programs, rental agreements, share-cropping, and other customary tenure arrangements.

What Farm Products?

Contract farming has its longest record in production of fruits and vegetables for processing, sugar beets, seed crops, hatching eggs, and a number of highly specialized minor crops. These products are grown on relatively few farms and under circumstances in which both farmer and processor or marketing agency have a special interest in reaching agreement

before production is undertaken. Pea canneries need to be assured of a minimum volume of high-quality peas of certain varieties, available at regularly spaced intervals of time. So it is with hatcherymen. On their part, producers must be sure of an outlet before they undergo the special production expenses involved.

The recent evolution of commercial broiler production may represent a special type of case in which the application of newly discovered technology in breeding, hatching, feeding, and disease control calls for a comparable development on the part of management. Contract production is well suited to this kind of situation. It makes possible the spreading of risk, the mobilization of capital funds to supplement the scanty resources of underemployed farmers, and the use of specialized fieldmen to teach the new methods and techniques.

The model furnished by the broiler experience is being applied with important modifications in commercial egg production and hog growing. Some of the trials look promising but the outcome is still uncertain. A number of barriers remain before full success can be claimed.

A different kind of contract arrangement is available to producers of cattle and lambs in some areas. Operators of large commercial feed lots contract with owners of livestock to feed their animals on a fee basis. Apparently, in California and certain other Western States, these ventures have had some success in increasing efficiency in feeding operations and in providing improved market facilities.

Are Costs Reduced?

In the successful instances of contract farming, overall costs are usually either reduced, or a product of higher quality is produced for less cost per unit of value. The improved coordination between stages in the production of the commodity means that each stage can be organized more nearly at the optimum scale and level of efficiency. On the part of the farmer this usually means larger scale operations. It assures the contracting supplier or processor, a larger volume of product for his plant, and one with a more even seasonal distribution. Reduction in risk also makes possible more efficient use of resources and lower costs.

Technical assistance provided by the processor or supplier frequently results in significant savings through better seed, better control of disease, and improved quality of product.

Costs of many supply items can be lowered when a supplier-contractor is able to build up his scale of operations through assurance of a definite outlet for the volume he can handle most efficiently. But the extent to which these advantages are passed on to growers may depend on the growers' bargaining power and on the state of competition between contractors.

Contract farming may have advantages apart from cost changes. For example, if a higher quality product can be produced so that a higher value outlet can be tapped, the arrangement may be profitable even though costs are higher. Thus, a shift to contract production of commercial eggs that meet high-quality specifications may result in higher costs of production, but even so the larger volume of higher priced eggs produced may be more profitable.

Problems In Contract Farming

The tradition of the family farm in the United States causes some people to question any modification of this basic institution. So far, there is little evidence that contract farming has altered significantly the spirit of independence of the farmers who have engaged in it. Even where highly specialized contract broiler production has developed, the dynamic expanding changes of the last 20 years have kept the competitive situation fluid. In most broiler areas, farmers appear to have improved their income positions. But the marked changes that have occurred in mechanisms of pricing and associated marketing facilities may leave contracting farmers at a disadvantage in the future.

Many believe that some form of countervailing power will be needed to protect farmers in their arrangements with businessmen. This may take the form of cooperative bargaining associations to work out contractual deals. The marketing agreement mechanism may find a larger place. Some farmers may enlarge their operations and dispense with contracts. They may practice what D. Howard Doane calls vertical diversification and take on additional marketing or supply functions themselves.

The possible effects of contract farming on the aggregate level of production of a commodity is a problem that concerns many observers. Some believe that it has resulted in a tendency toward overexpansion in the broiler industry. Those who take this view think that the growth of contracting in hog production would have the same tendency with more serious results because market outlets may be less elastic. Others point to sugar beets and processing crops as examples in which aggregate production appears to be stabilized in the presence of contracts.

The implications of contract farming on farmers' costs, production, prices, and returns remain to be seen, but they are certain to be explored widely in the next few years. Also to be explored in this connection are such problems as bargaining and the status of family farms.

HOW HIGH ARE FARM REAL ESTATE PRICES?

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Nationally, the average value of farm real estate per acre in the spring of 1958 is a little more than 3 times the 1940 level and 17 percent above the previous peak in 1952. Annual increases of 4 to 7 percent occurred in the last 3 years without corresponding increases in net income from agriculture. Net income in 1957 was down 19 percent from 1951 and was only a little above that of 1943-45, when land values averaged less than half their present level. These divergent trends in farm income and land values since 1953 are unique in nearly 50 years of record. No other period of equal length can be found in which land values continued to rise while farm income declined. An examination of this seeming paradox may help to determine whether land prices have increased more than is justified by the present level of farm income. It will be of help also in an appraisal of possible future trends.

The price of land has increased substantially more than have prices of other groups of commodities since 1940. Land values have risen 54 percent more than consumers' prices and 40 percent more than prices paid for the goods and services farmers buy for production purposes. Except for farm wage rates, land shows the largest increase since 1940 of any major items bought by farmers for production purposes.

Part of this increase in the price of land relative to other goods and services is due to the additional capital that has been invested in farms. Part of it reflects the increase in output that has resulted from technological advances. But in some sections of the country, actual and anticipated uses of farmland for nonfarm purposes have been more important in contributing to the upward trend in market prices. Much of the agricultural land adjacent to large centers of population has additional value because of its location with respect to the anticipated growth of cities, existing and proposed highways and present or proposed industrial plants. Although sales prices of only a small fraction of all land sold reflect such site values, their influence can extend beyond the immediate areas in which changes in land use are occurring.

In most areas, the price of land has increased more than has the gross return in the last 15 years from the major crops grown in the area. The relationship between land prices and the gross value of corn production per acre in central Illinois and central Iowa is about the same now as it was in 1935-39.

The present market value of farm real estate is about 9 times the current annual net farm income. The earnings-capital ratio has risen steadily since the low level of the 1940's; it is now about the same as it was in 1910-15. It is a little higher now than it was in 1924-29 and 1935-39, two

periods in which a relatively stable relationship existed between the value of farm real estate and net farm income.

Net income from agriculture available as a return on the market value of farm real estate, after all other costs were paid, amounted only to 3.0 percent in 1957. Although it was slightly higher than in 1956, this was the lowest rate of return since 1934 and about the same as the average for 1910-15. Returns per hour of labor used in farm production would have averaged 69 instead of 88 cents, the actual cash wage rate, if the prevailing interest rate on farm mortgages had been paid on the 1957 value of farm real estate.

Although the present price of land in relation to farm earnings is the highest in 20 years, it still may not be too high for certain classes of buyers. By far the largest group is the established farmer who is frequently free of mortgage debt, and who can increase his net income by using his available equipment and labor on a larger acreage. Because many commercial farms are too small to use efficiently the equipment and labor available, demand for land for farm enlargement has increased sharply in recent years. Farmers may be willing to pay more for additional land than the land would be worth as a separate farm if it will reduce overhead costs per unit of output and increase total net income.

The purchase of land to enlarge existing farms is the dominant type of land transfer in several major commercial farming areas. Prices paid for such transfers help to establish the level of market values for all land in a community. Sales data for the year ended March 1957, indicated that more than 40 percent of all land transfers in the Corn Belt were for farm enlargement, and the proportion exceeded 60 percent in the wheat areas.

The beginning farmer who must depend upon farm earnings to pay for a farm is in an unusually difficult situation. A larger initial acreage is needed than formerly and more capital is required for livestock and equipment. Unless he has a substantial part of the total capital needed, either from savings or from family assistance, the retirement of debt from current earnings will often require sharp reductions in expenditures for family living. More liberal extension and use of credit would accentuate, rather than alleviate, this problem. Competent management and efficient production is of even greater importance in becoming established in farming now than in previous decades.

Expected rates of return on land from farm earnings are of minor importance to several classes of nonfarmer buyers. A city worker who is seeking country living tends to view a small farm as insurance against future unemployment and a form of savings that yields more satisfactions than bank deposits or bonds. Capital appreciation, or at least protection of funds from loss of purchasing power may be his primary objective. These farms and parcels of land are bought with nonfarm income and demand depends more upon general business prosperity than on earnings from agriculture.

The purchase of a farm for eventual retirement is a strong motivation for many nonfarmer buyers. The assurance of social security payments or other retirement income to supplement farm earnings enters into such purchases, as well as the improvement in country living that results from modern farmhouse conveniences, good highways, and expanding nearby urban centers. The income-producing capacity of the farm is often of minor importance.

The nonfarmer investor is more likely to compare farmland with alternative investments and to appraise longer term income prospects. But he may be willing to accept a relatively low rate of return from land because of the diversification and the tax advantages it offers. Protection of funds against loss of purchasing power and the desire to possess a tangible asset to pass on to children are frequently additional considerations.

Purchasing Power of Land

Because most prices have risen sharply since 1940, the increase in land prices must be compared with increases in prices of other commodities to determine the real gain. If prices of goods bought in retail stores (the index of retail prices, U. S. Department of Commerce) are used as a deflator, the sale value of an acre of land in 1957 would have bought 44 percent more such items than in 1940. In terms of the BLS consumer price index (which includes rents and services), market prices of land show a real increase of 54 percent.

Although these comparisons show that land has provided a hedge against inflation, the gain in purchasing power of land is appreciably less than for common stocks. The average price of a representative group of common stocks increased about 300 percent between 1940 and 1957. If this gross appreciation is adjusted for changes in price level, the real increase (in terms of the Department of Commerce index) is 88 percent, or double that shown for land.

Using changes in prices of other groups of commodities to determine the real increase in land prices does not allow for the improvements that have been made to farms. Some of these improvements have contributed to the sharp rise in farm output, especially since 1940. Substantial investments have been made in soil-and-water conserving structures, drainage, irrigation, and soil fertility. Modernization of farm dwellings has added to the market value of farms. Thus, some increase in market values of farm real estate would have occurred even if the general price level had remained unchanged. If it is assumed that all of the increase in farm output has been reflected in market values of land, an adjustment can be made in current values to make them comparable as to quality with earlier periods. Farm output in 1957 was 13 percent higher than in 1947-49 and 36 percent above 1940. Thus, the current index of the price of an acre of land capable of the same output as in 1940 would be 115 instead of 156 ($1947-49=100$). This is an increase of only 135 percent since 1940 instead of 208 percent as shown by the unadjusted index. If the adjusted change in land values is compared with other prices, the real increase in land values was only slightly more than the increases in the two price indexes.

Gross Product-Land Price Relationship

The number of years it takes for the annual gross return per acre from the major crop of an area to equal the price of land provides another measure of the relative price of land. When this number of years is below the long-term average, land is underpriced and tends to rise. Averages for 5-year periods are used to minimize fluctuations in yields because of weather. Although this is a measure of gross rather than net returns, and is most applicable to areas in which a single crop provides the major basis for land values, any increase in yields is taken into account.

Two areas were selected to illustrate this relationship between the price of land and the gross value of product. One is the cash-grain area of central Illinois, and the other is central Iowa. In both areas, about a third of the land in farms is in corn, and soybeans are second in importance. The number of years needed for the gross value of corn to equal the price of land in the Illinois area has ranged from a low of 8.5 years in 1945-49 to a high of 22.1 years in 1930-34 (table 10). The average for 1955-57 was 14.7 years, or slightly higher than in 1935-39. In the Iowa area, the most favorable relationship between corn and land prices occurred in 1945-49 when the ratio was 7.2 years. Recently, the relationship (1955-57) was 12.7 years - somewhat higher than in 1935-39.

Table 10.- Gross product-land values relationship, west-central Illinois and central Iowa, 1930-57

Period	:Average value of land: : and buildings : per acre		:Gross value of corn : per acre <u>1/</u>		:Number of years needed : for value of product : to equal value of land	
	Iowa	Illinois	Iowa	Illinois	Iowa	Illinois
	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Years</u>	<u>Years</u>
1930-34----	111	118	5.97	5.33	18.6	22.1
1935-39----	100	119	9.29	9.15	10.8	13.0
1940-44----	119	151	16.01	14.70	7.4	10.3
1945-49----	196	242	27.41	28.53	7.2	8.5
1950-54----	277	364	29.63	31.17	9.3	11.7
1955-57----	304	429	23.85	29.17	12.7	14.7
Average,						
1930-57----	---	---	---	---	10.9	13.3

1/ Based on average yield per acre and average prices, adjusted for the proportion of land in farms devoted to corn.

Net Farm Income-Land Value Relationships

The number of years needed for the annual net farm income of farm operators to equal the market value of farm real estate is also a useful measure of the relative price of land. Although only a part of net farm income is a return to real estate, such a measure of capital turnover in agriculture is roughly similar to expressing the price of a corporate stock in terms of its earnings. Whether prices of land or of stocks are high or low at any particular time can be judged by comparing their current earnings-capital ratio with a longer term average.

As an industry, agriculture is characterized by a low rate of capital turnover and wide fluctuations in the earnings-capital ratio. Only 3 periods can be observed in nearly 50 years of record in which a stable relationship existed between farm income and land values. The first was 1910-15, when annual net income would have equaled the market value of land in 9.5 years. The second was 1924-29, when the ratio was 8.5 years, and the third was 1935-39 at 7.3 years. Two peaks occurred, one in 1922 when the ratio rose to 13.3 years; the other in 1932 (14.0 years) when market values of land were excessive in relation to current farm income. The all-time low occurred in 1943 (3.8 years), but the ratio remained at about 4 years until 1949. A steady rise has occurred since 1949 and the ratio of 9.2 years for 1957 was about the same as that of 1910-15.

When the number of years is high, the rate of capital turnover is low and the rate of capital accumulation in agriculture is slower than when the reverse is the case. Strong incentives exist for reducing the capital value of real estate. A rising ratio indicates that land values are rising faster than farm income, and one would expect a new point of balance to be reached. The upward trend in the ratio since 1947 as yet shows no evidence of having reached a stable relationship. If it were to become stabilized at the 1957 level, it would be appreciably above the ratios of 1924-29 and 1935-39.

HOW HIGH ARE FARM PROPERTY TAXES?

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In 1957, taxes levied on farm property rose to a record high of more than \$1.25 billion, continuing an upward trend that has been unbroken since 1940. More than \$1 billion in taxes was levied on farm real estate, and the rest on such personal property as livestock, farm machinery, automobiles, and household goods. The index of farm real estate taxes has risen 72 percent since 1947-49, more than any other component of the parity index except interest charges. In recent years, real estate taxes have gained an average of 5 percent annually. Personal property taxes have also increased, though not quite so rapidly.

This rise, significant in itself, takes on added meaning from the fact that property taxes are a fixed cost of agricultural production. The owner's tax bill does not vary with output or with the price of farm products. Even if he allows his land to lie idle, his taxes are not affected, in the short run at least. Moreover, the farmer is likely to feel particularly helpless in the face of rising property taxes because, unlike other costs that are subject to his personal control, property taxes are governed largely by the will of the community. Finally, opportunities for "shifting" the property tax are limited. Because the farmer typically sells his product in a market in which his individual influence is negligible, he cannot pass the tax on to the consumer in the form of higher prices.

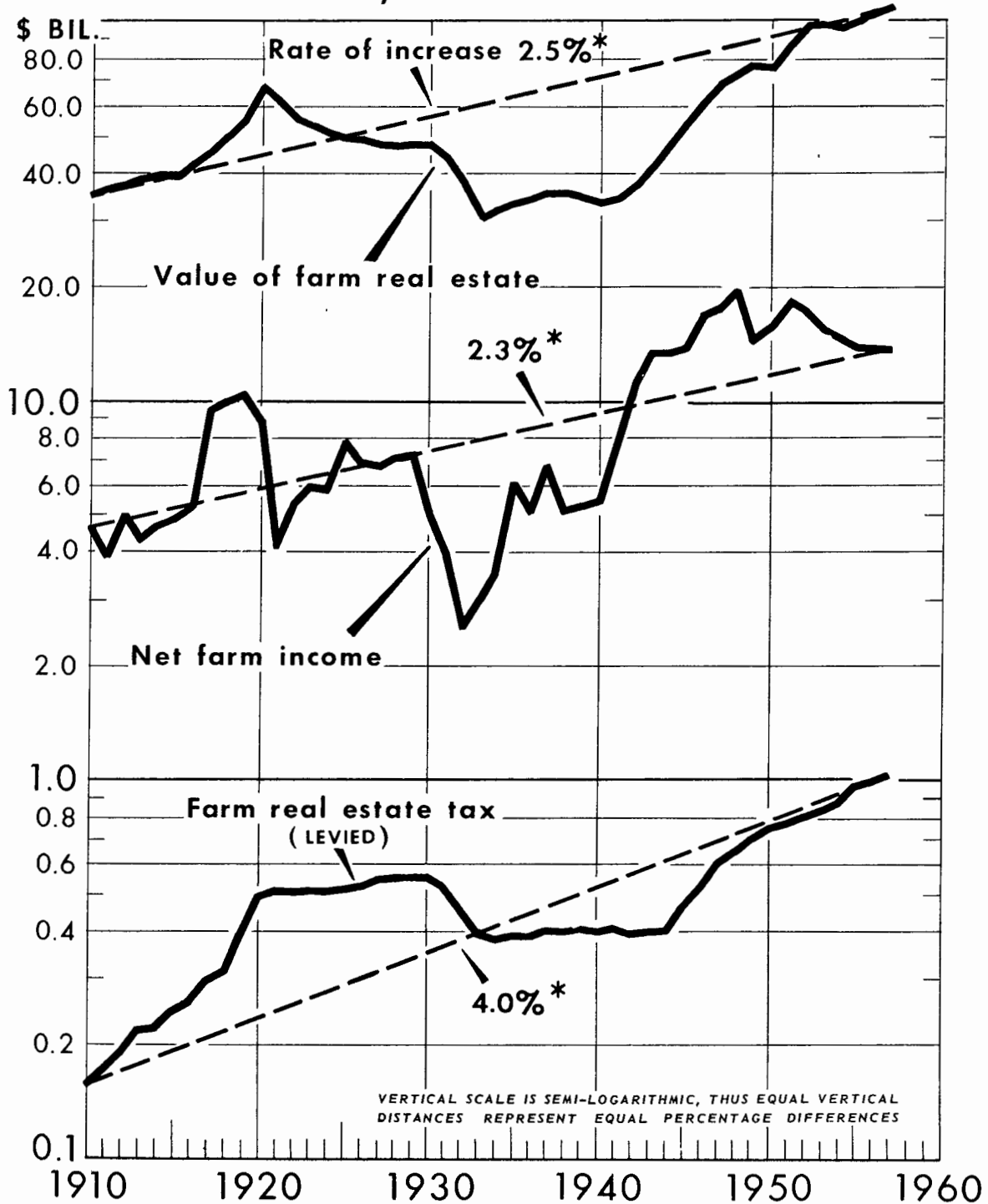
With these characteristics in mind, let us turn to the question asked in the title of this article, How high are farm property taxes? The answer may perhaps be expressed in the form of comparisons. Much of what follows concerns taxes on real property, for which more complete data are available, but the general conclusions arrived at apply also to personal property taxes.

Farm Taxes Show Long-Run Uptrend

During the last half century, farm real estate taxes have shown a tendency to increase relative to both farm income and the value of farm real property (fig. 5). Since 1910, farm real estate taxes have increased at an average annual rate of 4.0 percent, while farm income has shown an average yearly gain of only 2.3 percent and farm real estate values a gain of 2.5 percent. ^{1/} From an average of \$0.47 per \$100 of real estate value in 1910, taxes increased to \$0.90 per \$100 in 1956. In 1910, levies on farm real

^{1/} For this purpose, net farm income is expressed before deduction of real estate taxes and includes also net rent paid to nonfarm landlords. See Leonard, Lawrence A., Cyclical and Regional Variations in Farm Property Tax Burdens, U. S. Dept. Agr., Agr. Res. Serv., Agr. Finance Review, Volume 20, April 1958.

FARM TAXES, INCOME AND VALUE



NET FARM INCOME EQUALS TOTAL NET INCOME OF FARM OPERATORS FROM AGRICULTURE BEFORE REAL ESTATE TAXES, PLUS TOTAL NET RENT TO NONFARM LANDLORDS.

*THE LINES OF AVERAGE ANNUAL COMPOUND RATES OF INCREASE ARE BASED SOLELY ON THE DATA FOR 1910 AND 1957 AND DO NOT REPRESENT FITTED TRENDS.

Figure 5

estate absorbed 3.6 percent of the net farm income. In 1956, this proportion was 7.1 percent.

Thus the long-run trend of real estate taxes is clearly upward, and the rate of increase appears to be substantially greater than the rise in either income or values. But how do the taxes of today compare with those of the period immediately following World War II and those of the late thirties? Several indications are available.

Taxes Higher Than in 1947-49 but Lower Than in 1937-41

Tax levies per acre of farm real estate in 1957 were at an all-time high. But the 1957 average of about \$0.90 per \$100 of full value of farm real estate was well below the record of \$1.52 set in 1932. In the period 1954-56, taxes averaged slightly more than \$0.90 per \$100 of value for the United States as a whole. This compares with an average of \$0.88 in the postwar years 1947-49 and \$1.17 in 1937-41. These figures suggest that farm real estate taxes have become a little heavier since 1947-49, but that they are still below the average of the years immediately preceding World War II. Of course, this comparison is affected by the extraordinary increase in farm real estate values in recent years.

A second indicator of the level of farm real estate taxes comes from a comparison of taxes on cash-rented farms with the gross cash rent. In 1954-56 for the 12 North Central States in which cash renting is most common, about one-sixth of the landlord's gross return went for taxes (table 11). The range was from 12 percent in Missouri to 22 percent in Illinois. According

Table 11.- Farm real estate taxes as a percentage of gross cash rent, Corn Belt, Lake, and Northern Plains States, 1937-41, 1947-49, and 1954-56

State	1937-41	1947-49	1954-56
	Percent	Percent	Percent
Ohio-----	15.7	12.0	14.4
Iowa-----	18.5	17.7	18.2
Minnesota-----	21.3	22.8	20.1
Indiana-----	15.8	13.3	12.8
North Dakota-----	22.7	14.9	15.0
Kansas-----	20.5	15.3	17.4
Illinois-----	19.6	18.8	21.7
Michigan-----	13.8	11.1	12.6
Wisconsin-----	23.5	20.4	20.8
South Dakota-----	25.9	11.5	17.0
Missouri-----	14.2	12.4	11.5
Nebraska-----	19.3	14.8	19.8

to this measure, taxes were higher in 1954-56 in 9 of these States than they had been in 1947-49. But in 10 of the States, they remained below the 1937-41 level.

A third comparison for 19 selected types of farms shows property taxes (both real and personal) as a proportion of total cash expenditure (table 12). The importance of taxes in the farmer's operating budget varied in 1952-54 from an average of 3.3 percent for the Black-Prairie Texas cotton farm to 19.5 percent for the Intermountain cattle ranch. More significant than the level of taxation, however, is the fact that on 18 of the 19 farms taxes were larger in 1954-56, in relation to total cash expenditures, than in 1947-49, but that only 5 farms showed a higher proportion than in 1937-41.

A final comparison shows that farm real estate taxes absorbed an average of 6.6 percent of total net farm income (adjusted as explained in footnote 1) in 1954-56. In 1947-49, the proportion was 3.9 percent. In only 4 States - North Carolina, Georgia, North Dakota, and Montana - did farm real estate taxes represent a smaller share of net farm income in 1956 than in 1949. Data are not available to permit a comparison of this kind by States for the 1937-41 period, but for the United States as a whole, the average in this prewar period was 6.8 percent of net farm income - slightly greater than the 1954-56 average.

These data taken together indicate that farm real estate taxes have increased markedly since 1947-49, but that by 1954-56, they were not quite as high as they were in 1937-41 in relation to the farm income, land values, rentals, and returns to land of that period. In the meanwhile, the variety and quality of local governmental services available to farmers have improved. Farmers now have all-weather roads, better fire protection, and improved consolidated schools, to mention only a few.

However, 1954-56 was itself a period of rapid tax changes. While taxes were pushing higher, farm income and returns were drifting lower. Farm income appears to have stabilized in 1957 and early 1958, but taxes have continued to rise. Farmers' concern, therefore, may be based less on the actual current level of taxation than on the direction of current trends of taxation.

Causes of Higher Taxes Still Exist

The cause of the rise in farm real estate taxes since World War II lies in the sharply increased cost of local government. The depression of the 1930's and the war years that followed left local governments with a backlog of capital requirements. Efforts to meet these requirements in the decade following the close of World War II encountered shortages of materials, rising wages and prices, and increased demands for public services. A growing population and the accelerated movement toward the suburban and rural fringe were other factors that added to the financial requirements of local governments.

As a result, total direct expenditures of local governments shot up from \$9.1 billion in 1946 to 28.0 billion in 1956 - a gain of more than 200

Table 12.- Farm property taxes as a percentage of total cash expenditures, selected types of farms, 1937-41, 1947-49, and 1954-56

Type and location of farm	1937-41	1947-49	1954-56
	Percent	Percent	Percent
Dairy farms:			
Central Northeast-----	8.6	5.1	7.1
Eastern Wisconsin-----	8.2	5.6	7.4
Western Wisconsin-----	9.7	7.1	9.2
Corn Belt farms:			
Hog-dairy-----	8.6	6.5	8.4
Hog-beef raising-----	10.6	7.3	10.3
Hog-beef fattening-----	6.9	4.4	5.5
Cash grain-----	14.4	12.4	15.5
Cotton farms:			
Southern Piedmont-----	5.1	2.7	2.8
Black Prairie, Texas-----	6.7	2.7	3.3
High Plains, Texas (nonirrigated)-----	4.2	2.5	5.3
Spring wheat farms, Northern Plains:			
Wheat-small grain-livestock-----	10.0	7.2	9.8
Wheat-corn-livestock-----	13.6	8.1	11.4
Wheat-roughage-livestock-----	11.9	7.7	9.3
Winter wheat farms, Southern Plains:			
Wheat-----	10.9	8.1	12.8
Wheat-grain sorghum-----	9.9	8.5	13.8
Wheat-pea farms:			
Washington and Idaho-----	9.0	8.7	8.8
Cattle ranches:			
Northern Plains-----	13.9	11.6	14.3
Intermountain region-----	23.0	22.9	19.5
Sheep ranches, Northern Plains-----	11.2	8.3	9.8

percent. Revenues showed almost as great an increase, and much of the load fell on property. Despite a long-run decline in the relative importance of the property tax, this source still supplies the bulk of all locally raised revenue, especially in rural areas.

Recent years have given no indication that the uptrend in local revenue requirements is abating. In 1956, the latest year for which complete data are available, local tax revenues increased by 9.3 percent compared with increases of 8.3 percent in 1955 and 6.0 percent in 1954. If cities are excluded, these increases are even greater.

Evidence that the rise continued in 1957 is found in the 9.1 percent gain in State and local government purchases of goods and services. Expenditures for public education - the largest single category of local outlays - have increased at a rate of more than 10 percent annually, and emphasis on adequate support for public schools appears to be growing. Throughout the country, but in rural areas especially, school authorities are faced with the necessity of increasing salary scales substantially if competent teachers are to be attracted and retained. The continued press of population outward from cities into suburban and rural areas is also likely to cause further rises in farm taxes to support construction of new schools and an increasing level and variety of public services.

Farmers are affected by the way in which public funds are raised - that is, by the structure of State and local revenues. In some regions, notably the Lake States and the Northern Plains, the property tax supplies a large share of combined State and local revenue. In others, for example, the Southeast and Delta regions, primary reliance is placed on other revenue sources, with the result that a smaller burden rests on farmers and other property owners. 2/ Use of the personal property tax also varies greatly from State to State. Several States do not tax personal property. Others tax little or no farm personal property. But in a few States, personal property taxes make up a large part of the farmer's total tax bill. 3/

Also, some States place the main financial responsibility for public schools, roads, and other services on local subdivisions; others pay a large share of these costs from the State treasury, either directly or in the form of grants to local units. The share of the financial burden shouldered by the States is generally financed from sales or income tax revenues, thus relieving local property taxpayers.

2/ Regional patterns in State-local finance are described by Lawrence A. Leonard, in *State and Local Governmental Revenue Structures - A National and Regional Analysis*, National Tax Journal, Vol. 11, No. 1, pp. 67-77, March 1958.

3/ Bird, Ronald, *Taxation of Personal Property Owned by Farmers in the United States*, U. S. Dept. Agr., Agr. Res. Serv., Agr. Finance Review, Volume 15, November 1952.

The arrangements by which State and local governments are financed develop slowly over periods of many years. Changes occur constantly as States and their localities attempt to adjust their fiscal systems to growing demands caused by increasing population, suburbanization, and improved methods of transportation and communication. Farmers should recognize that the structure of State-local finances is one of the chief factors governing the level of farm taxes.

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