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*Organizing the farmer membership*

**The Relations of Economic, Social  
And Educational Advancement of  
Farmers to Their Membership  
in Organizations.**

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### NOTE.

The following material was collected and compiled by L. D. Howell while he was a member of the staff of the Oklahoma Agricultural Experiment Station. He resigned before it was put into final bulletin form, but the information is of such value that it is published with a summary of the relations shown, as a contribution to the available data of rural life, without attempting to make the final analysis for a complete research project.

THE RELATIONS OF ECONOMIC, SOCIAL AND EDUCATIONAL  
ADVANCEMENT OF FARMERS TO THEIR MEMBERSHIP  
IN ORGANIZATIONS (\*)

By L. D. HOWELL

SUMMARY.

PART II.

1. Members of the Oklahoma Cotton Growers' Association were older, on the average, than non-members of this Association.

2. A larger proportion of members than non-members of the Association were owner operators.

3. Members of the Association did not move as often as non-members.

4. The average amount of total capital operated, the average amount of net wealth less inheritance accumulated, and the average annual accumulation of net wealth less inheritance, was greater for members than for non-members of the Association.

5. A larger proportion of members than of non-members of the Association were members of churches, lodges, and the Farmers' Union; and for farmers who had boys and girls of club age, a larger proportion of members than of non-members of the Association had boys and girls in club work.

6. Members of the Association lived nearer, on the average, to grade school and to high school than did non-members of the Association.

7. The educational advancement of farm operators, their wives, and children, both those in school and those who had quit school, was greater for members than for non-members of the Association.

8. The standard of living, as indicated by the cost of family living and by the equipment, comforts and conveniences for the family, was somewhat higher for members than for non-members of the Association.

PART III.

9. Farmers who were members of the church were older, on the average, than those who were not members of the church.

10. A larger per cent of church members than of non-church members owned the farms they operated.

11. The average number of years between moves and the average number of years between changing from attending one church to that of another was greater for church members than for non-church members.

12. The average amount of capital operated and the average amount of net wealth less inheritance accumulated were greater for members than for non-members of the church, both for owner operators and tenants. The average annual accumulation of net wealth less inheritance was a little greater for farmers who were church members than for those who were not church members, for all farmers combined; but when owner operators and tenants were considered separately, very little, if any, relationship was shown between church membership and rate of accumulation of wealth.

13. A larger per cent of church members than of non-church members were members of lodges and the Farmers' Union.

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(\*) The United States Department of Agriculture cooperated in gathering the data on which this study is based. The Division of Country Life and Population and of Cooperative Marketing, of the Bureau of Agricultural Economics, both cooperating.

14. Very little, if any, relationship was shown between church membership of farm operators and the educational advancement of the operators, their wives, and grown children; but some positive relationship was found between church membership of the farm operators and the educational advancement of their children who were still in school.

15. The standard of living, as indicated by the cost of family living and by the equipment, comforts and conveniences enjoyed by farmers was slightly higher for farmers who were members than for those who were not members of the church.

#### PART IV.

16. With the increase in educational advancement of farmers the average age decreased, and the proportion who were owner operators, and the average number of years between moves, increased.

17. The average amount of capital operated, the average amount of net wealth less inheritance accumulated, and average annual accumulation of net wealth less inheritance, increased with the increase in educational advancement of the farm operators.

18. On the whole a very slight, positive relationship was shown between the educational advancement of farm operators and their membership in churches and lodges.

19. A very high positive relationship was shown between educational advancement of farm operators and the educational advancement of their children.

20. A very decided, positive relationship was shown between the educational advancement of farm operators and the standard of living maintained by the farm families.

#### PART V.

21. The stability of farmers and the proportion of farmers who were owner operators increased with the increase in rate of accumulation of net wealth less inheritance.

22. The proportion of farmers who were members of the Oklahoma Cotton Growers' Association, churches, lodges, and the Farmers' Union increased with the increase in rate of accumulation of net wealth less inheritance.

### PART I.—INTRODUCTION

The object of this study was to determine the relation of the economic, social and educational advancement of farmers in the cotton belt of Oklahoma to their membership in economic, social and religious organizations.

If an organization has as members people who are more progressive on the average than the people in the same community who are not members, that fact is evidence that the organization commends itself to a group whose judgment is worthy of respect. If an organization commands the allegiance of people who have demonstrated a superior ability to make intelligent decisions, that fact is evidence that the organization at least merits serious consideration, regardless of whether or not we assign a cause and effect relationship between membership in the organization and the progress of its members.

#### Method and Scope.

The data for this study were taken of farmers in the cotton belt of Oklahoma, by the field survey method, during December, 1925 and the first half of 1926. Surveys were made in crop reporting districts VII, VIII and VI, as representative areas for the southwest, south central, and eastern parts, respectively, of the cotton belt of Oklahoma. In crop reporting district VII records were taken in Greer, Kiowa, and Tillman counties. In crop reporting district VIII records were taken in Stephens, Jefferson, Carter and Love counties. The records

aken in crop reporting district VI were confined to McIntosh county. The location of these areas is shown in Figure I.

There are some differences in the physical and climatic conditions of these districts. The topography in district VII is generally level to gently rolling, except for the Wichita Mountains, which rises abruptly from the plains in the central part of the district in Kiowa and Comanche counties. District VIII is somewhat more broken than district VII, but is not so broken as district VI. The elevation of district VII is from 1500 to 2000 feet above sea level, while that in district VIII and VI is about 1000 feet above sea level. The average annual rainfall is from 25 to 30 inches in district VII, about 35 inches in district VIII, and about 40 inches in district VI. The average length of the growing season is 200 to 210 days in district VII, about 210 days in district VIII, and 210 to 220 days in district VI.

Although cotton is the main crop in each of these districts, the prevailing type of farming is not the same. In district VII, the principal crops grown, in order of their importance as measured by number of acres planted in 1924 to each crop, are: cotton, wheat, sorghum, corn and oats, and in districts VIII and VI the principal crops, in order of importance are: cotton, corn, oats and hay. (\*)

The average size of the farm in 1924 was 79 acres in the eastern; 135 acres in the southern; and 171 acres in the western districts. As the size of the farm business increased there was found a corresponding increase in the use of improved farm machinery. With the level land and improved machinery the people in the western districts farmed on a much larger scale than did the farmers in the districts further east.

People who are native of 24 different states in the United States and of 4 different countries in Europe were found among those interviewed. Only 11 per cent are natives of Oklahoma while 22 per cent are natives of Texas, and 19 per cent, of Arkansas. Sixty-two per cent of the farmers are natives of Oklahoma and the adjacent states and 83 per cent are natives of the southern states. Districts VII and VIII had a greater proportion of farmers from Texas than from any other state, and district VI had a greater proportion of people from Arkansas than from any other state.

Data for two groups of farmers as samples were taken by interviewing each farmer found at home on improved highways and on unimproved country roads until an adequate sized sample was secured. The data for one sample were taken of farmers who were members of the Oklahoma Cotton Growers' Association, and the data for the other sample were taken of farmers who were not members of this Association.

The Oklahoma Cotton Growers' Association was selected to represent a farmers' economic organization because it had the largest membership of any farmers' economic organization in the cotton belt of Oklahoma. This Association was organized in 1921, and it was estimated that approximately one-fourth of the farmers in the sections surveyed were members of this Association in 1925-26. Membership was open to all farmers who grew cotton and who would sign the contract and pay an initial membership fee of ten dollars.

The Farmers' Educational and Cooperative Union was used as an organization which is concerned with the economic, social and educational advancement of farm people. The proportion of the farmers who were members of the Farmers' Union was so small that it was thought advisable not to sort the data on the basis of membership in this organization.

The church, including all creeds and denominations without distinction, was used as an organization concerned primarily with the religious development of farmers. Differences in requirements for membership in various de-

\* From unpublished data collected by Dr. J. O. Ellsworth, in Department of Agricultural Economics, Oklahoma A. and M. College.



between different lodges, and no attempt was made to secure data on the names of lodges of which the individual farmer was a member. The proportion of the farmers who were members of lodges was so small that a division of the data on the basis of lodge membership was not made.

The data were divided on the basis of educational advancement and economic progress of operators because of the importance of these two factors as measures of advancement. Educational advancement was measured by the grade attained in school, and did not take account of any training received out of school.

Three measures of economic progress were used. The first measure was total capital operated, including both owned capital and borrowed capital, or the size of the business unit; but did not include owned capital not operated. The second measure was net wealth less inheritance. Net wealth equals the total assets less the amount of the liabilities. From this net wealth was subtracted the amount of the inheritance, at the time of inheritance, to get the net wealth less inheritance. No account was taken of the accumulations from the inherited wealth. The third measure used was the average annual accumulation of wealth less inheritance. This amount was found by dividing the average amount of net wealth less inheritance by the average number of years the farmers had been earning for themselves.

These data are based on statements and estimates of farmers in response to questions asked by the enumerators. No attempt was made to verify these data from official records. It was assumed that the overestimates of some farmers would be balanced by underestimates of others in accordance with the principle of compensating errors.

## **PART II.—RELATION OF MEMBERSHIP IN THE OKLAHOMA COTTON GROWERS' ASSOCIATION TO ECONOMIC PROGRESS, MEMBERSHIP IN OTHER ORGANIZATIONS, EDUCATIONAL ADVANCEMENT AND STANDARD OF LIVING**

The data for Part II of this study were divided on the basis of membership in the Oklahoma Cotton Growers' Association, crop reporting districts, and tenure of operators. The number of records taken and the average age of the operators in each district by tenure, the per cent of farmers who were operating as owners and as tenants, and the average number of years between moves made by farmers in each district are shown in table I.

Members of the Oklahoma Cotton Growers' Association were older on the average than non-members of this Association in each district surveyed and for each tenure class, except that in district VIII the average age of the owner-farmers who were members of the Association was somewhat less than that of the non-members in the same district and tenure class. The fact that members of the Association were, on the average, older than non-members should be kept in mind when considering the relative amounts of progress made by each group.

Owner operators were greater supporters of the Oklahoma Cotton Growers' Association than were tenants, as indicated by membership. Taking all districts together, out of 100 average members of the Association, 48 were owner operators and 52 were tenants; while out of 100 average farmers who were not members of the Association 26 were owner operators and 74 were tenants. In other words within a group of 100 average members of the Oklahoma Cotton Growers' Association, there were almost twice as many owner operators as among a similar sized group of average farmers who were not members of this Association.

Similar comparisons for the different districts surveyed show that among the members of the Association in the southwestern and southern parts of the

state there were about 75 per cent more farm owners among a similar number of farmers in the same areas who were not members of the Association; while in the eastern part of the state, in district VI, among the members of the Association there were more than twice as many farm owners as among a similar number of farmers in that district who were not members of the Association.

The stability, as indicated by the average number of years between moves made by farm operators, was greater for members than for non-members of the Association. The average length of time spent on each farm, taking all farmers together, was about 26 per cent greater for members than for non-members of the Association. For both owner operators and tenants in each district surveyed, the time between moves was consistently greater for members than for non-members of the Association. The fact that members were older on the average than non-members, and the further fact that young farmers, in general, move more often than older farmers, tend to lessen the importance of the difference indicated above; but, even after giving an adequate discount for age differences, there is still a reasonable basis for the statement that the relative frequency of moving is greater for non-members than for members of the Association.

**Table 1.—Age, frequency of moving, and economic advancement of Oklahoma, classified by tenure and by membership in O. C. G. A.\* in 1925-26.**

Items used as bases for comparison	TENURE AND MEMBERSHIP IN O. C. G. A.					
	All Farmers		Owners		Tenants	
	Mem.	Non-Mem.	Mem.	Non-Mem.	Mem.	Non-Mem.
Number of Records** -----	518	334	251	85	267	249
Percent Distribution -----	100.0	100.0	48.5	25.4	51.5	74.6
Average Age of Operators ----	46.5	42.1	50.0	46.6	43.7	40.6
Average Number of Years Between Moves -----	4.3	3.4	6.0	4.7	3.4	3.0
Average Total Capital Operated -----	\$9283	\$6707	\$11406	\$8505	\$7264	\$6057
Average Net Wealth Less Inheritance -----	\$6056	\$2794	\$10565	\$7474	\$1587	\$1177
Average Annual Accumulation of Net Wealth Less Inheri- tance -----	\$233	\$133	\$375	\$299	\$69	\$59

\* O. C. G. A.—Oklahoma Cotton Growers' Association.

\*\* A few of the records used did not have data for every item on the schedule, due to oversights of the enumerators; and, consequently, in some cases the simple arithmetic mean used was based on a somewhat smaller number of individual records than is shown above.

### 1. Economic Progress\*

Members of the Oklahoma Cotton Growers' Association operated, on an average, larger business than farmers who were not members of the Association. (See Table I.) The average amount of capital operated by members of the Association was \$9,283.00, while the average amount operated by farmers who were not members of the Association was \$6,707.00. In other words, the average amount of capital operated by farmers who were members of the Association was 38 per cent greater than the average amount of capital operated by farmers who were not members of the Association.

\* For a more detailed treatment of the relationship between membership in O. C. G. A. and economic progress see bulletin on this subject by Dr. W. W. Fetrow. (Bulletin not published Feb., 1929.)

In each district surveyed, and for both owner operators and tenant farmers, without exception the average amount of capital operated was greater for members than for non-members of the Association. The average amount of capital operated by farmers who were members of the Association was 22 per cent greater in district VII, 27 per cent greater in district VI, and 55 per cent greater in district VIII than for non-members of the Association who were farming in the same districts.

By using net wealth less inheritance accumulated as a basis for comparing these two groups of farmers, it was found that members of the Association had accumulated more net wealth on the average than had the non-members. The average net wealth less inheritance accumulated by members of the Association was \$6,056, while the average net wealth less inheritance accumulated by non-members was \$2,794. Expressed in another way, the average amount of net wealth less inheritance accumulated by members of the Association was more than twice as great as the average amount of net wealth less inheritance accumulated by farmers who were not members of the Association.

The average amount of net wealth less inheritance accumulated by members of the Oklahoma Cotton Growers' Association in each crop reporting district surveyed and for both owners and tenants, without exception, was considerably greater than that accumulated by farmers who were not members of the Association. (See table I.) The amount of net wealth less inheritance accumulated by members of the Association was 11 per cent greater in district VII, 87 per cent greater in district VIII, and 106 per cent greater in district VI than that for farmers who were not members of the Association and who were farming in the same districts.

The amount of net wealth less inheritance accumulated, as given above, did not show the rate of economic progress, since it did not take into account the length of the period of time during which this accumulation had been going on. It was found that the members of the Association were, on the average, older than the non-members, and, consequently, had been accumulating during a longer period of time. The average amount of net wealth less inheritance accumulated annually was used to measure the rate of economic progress. This amount was obtained by dividing the average amount of net wealth less inheritance accumulated by the average number of years the farmers had been earning for themselves.

The results show that the average amount of net wealth less inheritance accumulated annually by members of the Oklahoma Cotton Growers' Association was \$233, while the average amount of net wealth less inheritance accumulated annually by farmers who were not members of this Association was \$133. In other words, the average amount of net wealth less inheritance accumulated annually by the members of the Association was 75 per cent greater than that for non-members of the Association.

Figures show that members of the Association in each crop reporting district surveyed, both for owner farmers and for tenants, had accumulated wealth at a greater rate than had non-members of the Association who were farming in the same section of the state with a single exception that in district VI the farm owners who were members of the Association had a lower rate of accumulation than the owners who were not members of the Association. The average rate of accumulation of wealth, as measured above, by farmers who were members of the Association was 60 per cent greater in district VII, 56 per cent greater in district VIII and 67 per cent greater in district VI than for farmers in the same districts who were not members of the Association.

## 2. Membership in Other Organizations

Members of the Oklahoma Cotton Growers' Association, their wives and children, were found to be greater "joiners" of other organizations than were

farmers, their wives and children, who were not members of the Association (See table 2.)

Fifty-seven per cent of the members of the Oklahoma Cotton Growers Association were also members of the church, while only 42 per cent of the farmers who were not members of this Association were church members. Seventy-nine per cent of the wives of members of the Association were members of the church, while sixty-eight per cent of the wives of non-members were church members. In other words, the church membership of the members of the Association was about 36 per cent greater than church membership of the farmers who were not members of the Association, and the church membership of the wives of members of the Association was about 16 per cent greater than the church membership of the wives of farmers who were not members of the Association.

About 11 per cent of the members of the Association were also members of the Farmers' Union; and 26 per cent had membership in one or more lodges; while only about 4 per cent of the non-members of the Association were members of the Farmers' Union, and only 18 per cent had membership in one or more lodges. From the above figures, it was found that a member of the Oklahoma Cotton Growers' Association was about two and one-half times as likely to be a member of the Farmers' Union, and almost one and one-half times as likely to be a member of a lodge, as was a farmer who was not a member of this Association.

**Table 2. Membership in Organizations of Oklahoma farmers, their wives and children, classified by tenure of operators and by membership in O. C. G. A., 1925-26.**

Items used as bases for comparison	TENURE AND MEMBERSHIP IN O. C. G. A					
	All Farmers		Owners		Tenants	
	Mem.	Non-Mem.	Mem.	Non-Mem.	Mem.	Non-Mem.
Church Membership	%	%	%	%	%	%
Farm Operators -----	57	42	63	51	52	39
Wives of Operators -----	79	68	84	78	70	65
Lodge Membership -----	26	18	28	28	24	15
Membership in Farmers' Union -----	11	4	12	4	9	5
Club Membership						
Boys Clubs -----	15	9	18	8	12	16
Girls Clubs -----	16	8	16	7	10	8

This greater tendency to join other organizations was also reflected in the children of members of the Association. Of the members of the Association who had boys and girls of club age, about 15 per cent had boys and girls in club work, while of the non-members of the Association who had boys and girls of club age, only about 9 per cent had boys in club work, and less than 8 per cent had girls in club work.

In each section surveyed, members of the Oklahoma Cotton Growers' Association, their wives and children, had a larger per cent of membership in each organization considered than had the non-members of the Association, their wives and children, except that in district VI non-members of the Association had a slightly greater per cent of membership in the Farmers' Union than had the members of the Association. This exception is relatively insignificant, since the results were based on very small numbers.

The per cent of membership in the organizations studied varied irregu-

larly from district to district. Membership in the Farmers' Union and in churches was greatest in the southwestern part of the state and least in the eastern part of the state, while membership in lodges varied in the reverse order. Membership in boys' and girls' clubs was greatest in the eastern and least in the south central parts of the state.

Although it was found that farm owners, their wives and children, were relatively greater supporters of the organizations considered, when all sections were taken together, and with minor exceptions, when each district was considered separately, the relative support given by members and non-members of the Association in each tenure class was, on the whole and with few exceptions, for each district considered separately, similar to that outlined above for all farmers.

### 3. Educational Advancement

Taking all districts together, members of the Oklahoma Cotton Growers' Association, lived somewhat nearer, on the average, than non-members of the Association, to both the grade school and the high schools. The differences found are not great enough to make much difference in the educational opportunities of the two groups as far as location is concerned. A smaller per cent of the owners who were members of the Association than those who were not members of the Association lived within shorter distances to the grade schools, while for the tenants the larger per cent of the members than of non-members of the Association lived within shorter distances of the grade schools. A greater proportion of both tenants and owners who were members of the Association than those who were not members of the Association lived within shorter distances to the high school.

Districts VI and VII showed a fairly consistent tendency for members of the Association, for both owner farmers and tenants, to live nearer to both grade school and high school than non-members of the Association of the same tenure status, and living in the same district. There were no very great outstanding differences noted, however. District VIII showed much irregularities in the proportional differences in distances of members and non-members of the Association from both the grade school and the high school. These irregularities may be explained in part, at least, by the small numbers included in some of the groups.

Figures from this survey show that members of the Oklahoma Cotton Growers' Association, their wives and children, were further advanced educationally than were farmers who were not members of the Association, their wives and children. (See table 3.) Twenty-four per cent of the farmers who were members of the Association had not gone beyond the fourth grade in school, 13 per cent went to high school, and 2 per cent attended college or university; while 29 per cent of the farmers who were not members of the Association had not gone beyond the fourth grade in school, 11 per cent went to high school, and only 2 per cent attended a college or university.

Figures for the wives of the farmers who were members of the Association show that 13 per cent of them had less than a fifth grade education, 20 per cent attended high school, and 2 per cent had gone to college or to a university; while similar figures for the wives of farmers who were not members of this Association show that 16 per cent of them had less than a fifth grade education, 16 per cent attended high school and 3.5 per cent had gone to college or university.

Although the grown children of farmers interviewed were, on the average, much further advanced educationally than their parents, the children whose fathers were members of the Association were more advanced, on the average, than the children whose fathers were not members of the Association. Figures for children who had quit school and whose fathers were members of

**Table 3. Educational advancement of Oklahoma farmers, their wives and children, classified by tenure of operators and by membership in O. C. G. A., 1925-26.**

Items used as bases for comparison	TENURE AND MEMBERSHIP IN O. C. G. A.					
	All Farmers		Owners		Tenants	
	Mem.	Non-Mem.	Mem.	Non-Mem.	Mem.	Non-Mem.
Below 5th Grade-School						
Per cent of Operators	24	29	19	20	28	32
Per cent of Wives	13	16	11	15	16	16
Per cent of Children who had Quit School	4	13	4	0	4	19
Ninth Grade and Above-School						
Per cent of Operators	13	11	16	19	10	8
Per cent of Wives	20	16	23	22	16	24
Per cent of Children Who Had Quit School	26	24	42	30	30	20
Children in School, 1925-26, Below 15 years of age						
Per cent retarded	53	70	42	51	64	74
Av. years Retarded 15 years of age and above	.9	1.4	.7	.7	1.1	1.5
Per cent Retarded	41	50	35	25	49	60

the Association show that 4 per cent had not advanced beyond the fourth grade, 26 per cent had gone to high school, and 5.3 per cent had attended college or university; while similar figures for the children who had quit school and whose fathers were not members of the Association show that 13 per cent had not advanced beyond the fourth grade in school, 24 per cent had attended high school, and 3.5 per cent had gone to college or university.

Children who were still in school at the time of this survey and whose fathers were members of the Oklahoma Cotton Growers' Association were not retarded\* educationally as much as the children who were still in school and whose fathers were not members of this Association. The children who were still in school were separated into two age groups. The first group included all those children of less than high school age (less than 15 years of age,) and the second group included all those children of high school age and above. (15 years and over.) Of children less than high school age and whose fathers were members of the Association, 53 per cent were retarded an average of .9 years, while of the children of the same age group whose fathers were not members of the Association, 70 per cent were retarded an average of 1.4 years.

Of the children of high school age whose fathers were members of the Association, 41 per cent had not entered high school, while for children of the same age group whose fathers were not members of the Association 50 per cent had not entered high school. If the retarded high school children of the

\* As a basis for determining the amount a child was retarded, it was assumed that the normal child should enter the first grade in school at 6 years of age and progress one grade each year so that at the age of 15 years the child would be ready to enter high school. On this basis, if a child 15 years of age was in the eighth grade, it would be considered retarded one year; if in the seventh grade, it would be considered retarded two years, etc. The fact that rural schools in the cotton belt of Oklahoma are not well standardized would have to be taken into account if rural children were being compared with urban children, but since both groups compared were living in the same community and attending the same schools, this lack of standardization does not invalidate the comparisons made.

same age group, whose fathers were not members of this Association, were counted, the per cent of children 15 years of age and over who were retarded would be greater than the per cent who had not entered high school, as shown above.

Figures on the relation of membership in Oklahoma Cotton Growers' Association to Educational advancement by crop reporting districts showed some irregularities. In the southwestern part of the state, in crop reporting district number VII, it was found that farmers who were members of the Association, and also their wives, had a relatively larger number who had not advanced beyond the fourth grade in school and also a relatively smaller number who had gone to high school and college than was found for farmers who were not members of the Association, and their wives. The educational advancement, as measured by the relative number who have less than a fourth grade education, and also the per cent who have gone to high school or college, for all farm operators and their wives, was greater, on the average, in district VII than in either of the other two districts surveyed.

Moving eastward into crop reporting district VIII where the educational advancement, measured as indicated above, of farmers and their wives was not so great on the whole as that in district VII, it was found that farmers who were members of the Oklahoma Cotton Growers' Association and their wives had a slightly smaller per cent with fourth grade education or less and a slightly larger per cent who had gone to high school and college than for the farmers who were not members of the Association, and their wives.

Still further east in crop reporting district number VI, where the educational advancement of the farm operators and their wives was less than in either of the districts mentioned above, it was found that farmers who were members of the Association and their wives had a considerably smaller per cent who had not gone beyond the fourth grade in school and a somewhat larger per cent who had gone to high school and college than for the farmers who were not members of the Association and their wives.

The educational advancement of children whose fathers were members of the Oklahoma Cotton Growers' Association was on the average consistently greater in each district than that of the children whose fathers were not members of the Association. The children in district VII, including those who had quit school and those who were in school at the time of the survey, had made the greatest educational advancement as indicated by each measure used, and those in district VI had made the least educational progress found in the three districts surveyed.

There appears to be a very distinct increase in educational advancement for all farm operators, their wives and children, from the eastern to the western districts surveyed. With this general increase in educational advancement from district to district, the educational advancement of members of the Oklahoma Cotton Growers' Association and their wives was relatively less than that for non-members of the Association and their wives. These facts appear to indicate that the Oklahoma Cotton Growers' Association attracted as members relatively more of the middle group than of either the highly educated group or of those that had made relatively little educational advancement.

#### 4. Standard of Living

Members of the Oklahoma Cotton Growers' Association had, on the average, a higher standard of living as indicated by the total expenditure for family living and by the proportional distribution of the total family living costs than had non-members of the Association. The average total cost of family living, per family, for members of the Association in 1925 was \$1187 while that for non-members of the Association was \$1052.

The cost per family or per household is not a good basis for comparison unless the families or households are of the same size. It was found that on the average the household for the members of the Association had 5.40 persons while that of the non-members had on the average 4.78 persons. By dividing the total expenditure per household by the number of persons per household, it was found that the amount of expenditure per person for members and non-members of the Association was just about the same.

The average amount of expenditure for each person in the household does not take into account the difference in individual demands due to sex and age. To eliminate these differences the "Ammain" unit was used as a basis for comparing the expenditures of members and non-members of the Association for family living. The "Ammain" scale was developed by W. I. King and Edgar Sydenstricker for the United States Public Health Service, and bases the total expenditure for goods used by the separate individuals composing the family on the total cost of goods used by the male 19 to 35 years of age at the maximum of consumption as unity. (U. S. D. A. bulletin 1382.) The Ammain unit does not take account of the relative demands made by the third, fourth, or other additional members of the family, and to the extent that it does not do this, it is inadequate as a basis for comparing cost of living of households of varying sizes.

The expenditure for each Ammain unit by members of the Oklahoma Cotton Growers' Association was greater for all items combined than for each separate item, except for clothing and personal expenses, than that for non-members of the Association. (See table 4.) The differences in expenditure for advancement, including books, school, entertainment, papers and

**Table 4. Amount and distribution of family living expenditures in 1925 for Oklahoma Farmers, Classified by tenure and by membership in O. C. G. A., 1925-26.**

Items used as bases for comparison	TENURE AND MEMBERSHIP IN O. C. G. A.					
	All Farmers		Owners		Tenants	
	Mem.	Non-Mem.	Mem.	Non-Mem.	Mem.	Non-Mem.
<b>Average amount of Living Expenditures per unit</b>						
Total -----	370	351	425	402	313	325
Food -----	196	192	202	205	150	131
Clothing -----	60	61	72	68	42	56
Rent -----	27	24	35	33	17	21
Health -----	23	21	25	22	21	20
Advancement -----	29	18	40	26	17	14
Personal -----	4	6	4	5	4	6
Miscellaneous -----	31	30	37	44	24	29
<b>Per cent Distribution</b>						
Total -----	100.0	100.0	100.0	100.0	100.0	100.0
Food -----	53.0	54.6	48.2	50.9	57.7	55.4
Clothing -----	16.2	17.4	17.1	16.8	15.5	17.2
Rent -----	7.3	8.8	9.5	8.2	5.4	6.1
Health -----	6.2	6.0	5.9	5.4	6.8	6.2
Advancement -----	7.8	5.1	9.5	6.5	5.4	4.3
Personal -----	1.1	1.7	1.0	1.2	1.3	1.8
Miscellaneous -----	8.4	8.5	8.7	11.0	7.9	8.9

magazines, vacation and travel, and church and charity, was 61 per cent greater for members than for non-members of the Association.

Members of the Association used almost 11 per cent more home grown food, per Ammain unit, than non-members used; while non-members bought almost 6 per cent more food, per Ammain unit, than did the members of the Association.

The average cost of family living increased from the eastern part to the southwestern parts of the state; and as this cost increased, the differences in the total cost of family living for members and for non-members of the Association decreased. The average cost of family living for each Ammain unit, for all items taken together and for each item taken separately, except for food, clothing, personal, and miscellaneous expenses, in district VII, and personal in district VIII, was greater for members than for non-members of the Association in each district surveyed. The total living costs for each Ammain unit for members of the Association was less than 1 per cent greater in district VII, 7 per cent greater in district VIII and 9 per cent greater in district VI than that for non-members. The average amount spent for advancement by members of the Association was 71 per cent greater in district VII, 87 per cent greater in district VIII, and 21 per cent greater in district VI than that spent by non-members of the Association.

The average total cost and the average cost of each item of family living, except food, personal, and miscellaneous, for each Ammain unit for the owner farmers who were members of the Association was greater than that for owner farmers who were not members of the Association; while these costs, except for health and advancement, for tenants who were not members of the Association were less, on the average, than that for tenants who were members of the Association. Members of the Association, both owner operators and tenants, spent considerably more on the average for advancement than was spent by non-members. This fact is very significant, since under advancement are included the most important items which measure the social progress of the individuals.

For farm owners the average total cost of family living was greater in districts VII and VIII and less in district VI for members than for non-members of the Association; while for tenants this cost was greater in district VI and less in districts VII and VIII for members than for non-members of the Association. For both farm owners and tenants in each district the average amount spent for advancement was greater for ~~the~~ members than for non-members of the Association.

For all farmers taken together in each district, with few exceptions, the proportion of total family living costs that went for food, clothing, and personal expenses was less, and that for rent, health, and advancement, was greater for members than for non-members of the Association. (See table 4.) The greatest difference was found in that going for advancement; which, as indicated above, is a good measure of social progress.

For farm owners in each and all districts surveyed, the proportion of the total family living cost that went for food was less, and that spent for advancement was considerably greater, for members than for non-members of the Association; while for tenants, in each and all districts, the proportion of the total family living cost that went for food and for advancement was greater for members than for non-members of the Association. Farm owners who were members of the Association spent proportionally more, on the average, for clothing, rent, and health, and proportionally less for personal and miscellaneous items, than owners who were not members of the Association; although these proportions varied from district to district. Tenants who were members of the Association spent relatively less for clothing, rent, personal, and miscellaneous items, and more for health, than tenants who were not

members of the Association; although those relative amounts also varied from district to district.

The average estimated value of the dwellings occupied by members of the Association, taking all farmers together, was greater in each and all districts than the estimated value of the dwellings occupied by non-members of the Association. (See table 5.) For owner operators the average value of the dwelling was considerably greater for members than for non-members of the Association, while for tenants the average value of the dwellings was less for members than for non-members of the Association. The average value of the dwellings for all families taken together was considerably greater in district VII than in either of the other two districts surveyed.

Taking all farmers together, the per cent of the dwellings that were ceiled, plastered or papered, was slightly greater for those occupied by non-members than for those occupied by members of the Association. For the houses occupied by owner operators, the per cent ceiled, plastered or papered was the same in district VII, slightly greater in district VIII, and slightly less in district VI, for the members than for non-members of the Association; while for those occupied by tenants, the per cent ceiled, plastered or papered was slightly greater in each district for non-members than for members of the Association. The per cent of all the houses that were ceiled, plastered or papered increased from about 60 in district VI to almost 100 per cent in district VII.

Taking all districts together, the per cent of operators who reported the condition of their dwellings as good was considerably greater for members than for non-members of the Association. Better conditions, plus the fact that the average number of rooms in each dwelling was greater for those occupied by members than for those occupied by non-members of the Association, account for the greater value of the houses occupied by members than those occupied by non-members of the Association. The per cent of the dwellings that were reported in good condition was more than three times as great for members as for non-members of the Association in district VII, but this difference decreased from west to east so that in district VI a larger per cent of

Table 5. Conveniences and comforts enjoyed by Oklahoma farmers, Classified by tenure and by membership in O. C. G. A., 1925-26.

Items used as bases for comparison	TENURE AND MEMBERSHIP IN O. C. G. A					
	All Farmers		Owners		Tenants	
	Mem.	Non-Mem.	Mem.	Non-Mem.	Mem.	Non-Mem.
Dwelling Houses Occupied						
Average Value	\$922	\$712	\$1,266	\$976	\$591	\$622
Per cent Ceiled, Papered or Plastered	81	83	92	91	75	80
Per cent Reported in Good Condition	34	23	52	38	17	12
Per cent with Screens	80	78	85	83	76	78
Conveniences	%	%	%	%	%	%
Automobiles	64.0	52.5	70.0	64.7	60.2	48.2
Telephone	42.3	26.6	57.0	47.5	27.7	21.5
Radio	7.3	5.1	12.1	10.7	2.8	2.7
Washing Machine	18.6	9.0	25.5	11.7	12.2	6.8
Sewing Machine	92.4	77.9	93.5	86.2	91.1	76.1
Running Water in Home	5.6	.9	10.0	1.1	1.0	.5

the non-members than of the members of the Association reported their houses in good condition.

A slightly greater per cent of members than of non-members of the Association, taking all farmers in all districts together, had screens for the doors and windows of their dwellings. For the owner operators, the per cent who had screens was more than 2 per cent greater for members than for non-members of the Association; while for tenants the per cent that had screens was more than 2 per cent greater for non-members than for members of the Association. There was considerable irregularity in the relative proportion of members and of non-members of the Association who had screens in each district surveyed, and for each tenure group within each of these districts.

A larger per cent of members than non-members of the Association had modern equipment and conveniences for lightening the burdens of farm life and for making life on the farm more satisfying to intelligent, progressive people. (See table 5.) Twenty-two per cent more of the members than of the non-members of the Association had automobiles, 59 per cent more had telephones, 43 per cent more had radios, 107 per cent more had washing machines, 19 per cent more had sewing machines, and more than 5 times as many had running water in the home.

Members of the Association for both owner operators and tenants, and for each district surveyed, with a few minor exceptions, had more of the modern equipment and conveniences mentioned above than non-members who were of the same tenure status and who were living in the same districts. A larger per cent of members than non-members of the Association had improved lighting systems in all three districts, and a larger per cent of members than of non-members had graphophones, pianos, and organs in districts VI and VIII; while in district VII a larger per cent of non-members than of members had three musical instruments.

Data on the amount and kind of current reading material in the farm homes show that a greater per cent of all members than of non-members of the Association were taking one or more daily papers, weekly papers, monthly magazines, farm journals, women's journals, religious publications, and other general publications. In each district surveyed the per cent who were taking one or more of the above named publications, without exception, was greater for members than for non-members of the Association. For both owner operators and tenants in each district, with a few exceptions, the per cent taking each of these publications was greater for members than for non-members of the Association. (See table 6.)

**Table 6. Current reading material in homes of Oklahoma farmers. Classified by tenure and by membership in O. C. G. A., 1925-26.**

Items used as bases for comparison	TENURE AND MEMBERSHIP IN O. C. G. A					
	All Farmers		Owners		Tenants	
	Mem.	Non-Mem.	Mem.	Non-Mem.	Mem.	Non-Mem.
Papers and Magazines	%	%	%	%	%	%
Daily Papers	51	49	62	59	40	37
Weekly Papers	72	60	78	71	66	55
Monthly Magazines	84	69	88	82	80	65
Farm Journals	84	65	86	78	81	61
Women's Journals	30	26	30	32	30	24
Religious Papers	9	6	10	11	6	4
General Magazines	82	72	88	84	77	68

Although the per cent who took papers and magazines was on the average greater for members than for non-members of the Association, the average amount spent in 1925 for newspapers and magazines was \$4.98 for members and \$4.81 for non-members of the Association. For owner operators, the average amount spent in 1925 for papers and magazines was \$6.15 for members and \$7.45 for non-members of the Association; while for tenants the average amount spent for papers and magazines in 1925 was \$4.15 for members and \$4.08 for non-members of the Association. Apparently the farmers who were not members of the Association and who had subscribed for papers and magazines, especially for owner operators, took on the average a larger number of higher priced publications than were taken by farmers who were members of the Association.

In interpreting the significance of the relations indicated above it is well to realize that a correlation\* found between two variables does not necessarily mean that a causal connection exists between the two variables. There may be a causal relation or "the two may be associated as kindred effects of some single third factor; or they may display like movements because affected by similar though distinct underlying influences; or they may show one-to-one correspondence because within the variables as reported may be unrecorded elements which are causally connected."\*\* The data presented above merely indicate correlations and leave the problem of interpreting the significance of the observed relationships unsolved. Information supplementary to that indicating a correlation is necessary to explain the relationships found. The supplementary material for the correlations indicated above is so fragmentary that only partial explanation of the relationship can be indicated.

Members of the Oklahoma Cotton Growers' Association were found to be older on an average than were the farmers who were not members of the Association. The Association advances about 60 per cent of the value of the cotton to members at the time of delivery. The remainder is paid in small amounts throughout the succeeding four or six months. Many of the farmers depend upon credit to "run" them to make a crop. The notes usually come due in October or November. If 60 per cent of the value of the cotton advanced at the time of delivery is not sufficient to meet the obligations of the farmer, he has to borrow money to meet his obligation or extend his note and pay an additional interest charge. The lack of harmony between the prevailing credit system in the cotton areas surveyed and the method of payment by the Association makes membership in the Association more burdensome for those farmers who are more dependent financially. The fact that the older farmers have had time to accumulate more wealth and become financially more independent tends to lighten the burdens of membership in the association and may help to explain why members are older, on the average, than non-members.

It may be that the older farmers have had more opportunities to test out or to see tested the principles of cooperation in Agriculture, and have a more definite basis for appreciating the advantages of being members of such a farmers' organization. This factor would be of more significance for an organization older than the Oklahoma Cotton Growers' Association, but experiences with the Farmers' Union and other older cooperative farmers' organizations may have influenced membership in the Association.

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\* "When two quantities are so related that the fluctuations in one are in sympathy with the fluctuations of the other, so that an increase or decrease in the one is found in connection with an increase or decrease (or inversely) of the other, and the greater the magnitude of the changes in the one, the greater the magnitude of the changes in the other, the quantities are said to be correlated."—Day, *Statistical Analysis*, p. 189.

\*\* *Ibid.*

The fact that a larger proportion of owner farmers than of tenants were members of the Oklahoma Cotton Growers' Association may be explained in part by the fact that tenants, on the average, have accumulated less property and depend more on credit than do owner farmers, and, consequently, find the burdens of membership fees and slow payment greater than do owner operators. In some cases it was found that landlords objected to their tenants joining the Association. Tenants move more frequently than do owner farmers and this frequency of moving may tend to cause them not to affiliate with organizations.

Since the Oklahoma Cotton Growers' Association is primarily an economic organization, the fact that the economic advancement made was greater for members than for non-members of this Association appears to be evidence of a cause and effect relationship between membership in this Association and economic advancement of farmers. Before any cause and effect relationship is assigned, it should be remembered that it is questionable whether any actual savings have been made by the individual farmer as a result of his being a member of this Association. Members of the Association may help raise the price paid for cotton, but the non-members of the Association are also benefited. Even if it is assumed that savings to its members are made by the Association, this Association has been in existence too short a time to account for all the differences in economic advancement found above between members and non-members of the Association. Consequently, membership in the Oklahoma Cotton Growers' Association may not be as much a cause as an indication of advancement.

If the Association was responsible for higher prices paid to all farmers for cotton, to that extent, it was a factor contributing to the economic advancement of farmers even though it may not be indicated in the data presented above. This fact should not be forgotten or minimized.

Members of the Association were more likely to be members of a church, lodges, and the Farmers' Union, than were non-members of this Association; but there appears no good reason to suppose that being a member of this Association was the cause of the farmer joining any other organization or that membership in the Association was the result of membership in other organizations. It is more reasonable to suppose that the individual's characteristics which induced him to join the Association as a means of helping to solve his economic problems were also responsible for his joining other organizations. In so far as membership in organizations, such as the church whose membership may be the result of activities of the parents or children, and lodges, which bid or elect members, is not dependent upon the choice of the mature individual, the disposition to join the organization would not be reflected to the same extent by membership in the church or lodges as by membership in the Association.

It is reasonable to believe that educational advancement of farmers or at least the factors responsible for educational advancement may be, in part, responsible for the relationship indicated above between membership in the Association and educational advancement. Farmers with more education are more likely to understand and to appreciate the advantages to be had from cooperation than are farmers with less education. Dr. W. W. Fetrow in unpublished data found that a considerable number of farmers did not join the Association because of a lack of understanding of and an interest in the Association. The qualities of the individuals that were responsible for more educational advancement probably were the most important factors and were also largely responsible for the individual becoming a member of the Association.

The fact that the educational advancement of farmers was greater, on the average, for the older than for the younger farmers, as indicated more in detail in part IV of this study, coupled with the fact that members of the

Association were, on the average, older than non-members of the Association, make the relationship between membership in the Association and educational advancement of farmers more significant because it means that if age differences were eliminated a still higher correlation would be shown between these two factors.

It is not very probable that the somewhat higher standard of living maintained by members than by non-members of the Association was the direct result of membership in the Association or that this higher standard of living was responsible for the individual's becoming a member of the Association. It is much more probable that the higher standard of living maintained and also the disposition to join the Association were both the result of the same group of factors. To the extent that membership in the Association resulted in saving to the individual farmers, this membership may have been an indirect cause for a higher standard of living. (See U. S. D. A. Bulletin 1382.)

### **PART III. RELATION OF CHURCH MEMBERSHIP TO ECONOMIC PROGRESS, MEMBERSHIP IN OTHER ORGANIZATIONS, EDUCATIONAL ADVANCEMENT, AND STANDARD OF LIVING.**

The divisions of the data on the basis of crop reporting districts, tenure, and membership in the Oklahoma Cotton Growers' Association made for part II of this study, were retained in part III, and, in addition, the members and non-members of the Association were each sub-divided on the basis of church membership. By making these divisions the influence of membership in the Oklahoma Cotton Growers' Association and of tenure were eliminated in the considerations of the relationship between church membership and the kinds of advancement considered.

Church members were found to be about 5 years older, on the average, than non-church members, both for those who were members and those who were non-members of the Oklahoma Cotton Growers' Association. (See table 7.) Tenants who were church members, were, on the average, more than 5 years older than tenants who were not members of a church; while owner farmers who were church members were, on the average, about 3 years older than owner operators who were not members of a church. For both members and non-members of the Oklahoma Cotton Growers' Association, for both tenants and owners, in each district surveyed, with minor exceptions, farmers who were church members were older, on the average, than the farmers who were not members of any church.

Owner operators, for both members and non-members of the Oklahoma Cotton Growers' Association, were greater supporters of the church, as indicated by membership, than were farm tenants. (See table 7.) Taking all districts together, for each 100 farmers who were members of the Association and also members of the church, 51 were owner farmers and 49 were tenants; for each 100 farmers who were members of the Association but not members of any church, 39 were owners and 61 were tenants; for each 100 farmers who were not members of the Association but were members of the church, 33 were owner farmers and 67 were tenants; and for each 100 farmers who were neither members of the Association nor members of the church, only 19 were owner farmers and 81 were tenants. These figures show that the proportion of the total number of farmers who were owner operators decreased from slightly more than one-half, for those farmers who were members of both the Oklahoma Cotton Growers' Association and the church, to less than one-fifth for those farmers who were neither members of the Association nor members of the church.

From the above figures it was found that the proportion of owner oper-

ators was 31 per cent greater for those farmers who belonged to both the Association and the church than for the farmers who were members of the Association but not members of the church; 18 per cent greater for farmers who were members of the Association but not members of the church than for those who were members of the church but not members of the Association; 63 per cent greater for those who were members of the church but not members of the Association than for those who were neither members of the church nor members of the Association; and 163 per cent greater for farmers who were members of both the Association and the church than for those who were members neither of the Association nor of the church.

**Table 7. Age and frequency of moving for Oklahoma farmers, classified by tenure, by membership in O. C. G. A. and by church membership, 1925-26.**

Items used as bases for comparison and membership in O. C. G. A.	TENURE AND CHURCH MEMBERSHIP					
	All Farmers		Owners		Tenants	
	C. M.*	Non-C. M.**	C. M.	Non-C. M.	C. M.	Non-C. M.
<b>Number of Records</b>						
Members .....	274	207	139	50	135	127
Non-Members .....	139	192	46	37	93	155
<b>Per cent Distribution</b>						
Members .....	100	100	51	39	49	61
Non-Members .....	100	100	33	19	67	81
<b>Average Age in Years</b>						
Members .....	48.6	43.6	51.0	47.8	46.1	41.2
Non-Members .....	5.1	39.6	47.4	44.7	43.9	38.4
<b>Av. No. Yrs. Between Moves</b>						
Members .....	4.7	4.1	6.3	5.5	3.7	3.5
Non-Members .....	4.0	2.8	5.9	4.1	3.5	2.6
<b>Ave No. Years between chang- ing Churches</b>						
Members .....	6.8	6.2	7.9	7.6	6.1	5.4
Non-Members .....	5.5	3.8	5.5	6.0	5.5	3.5

\*C. M.—Church Members. \*\*Non-C. M.—Non Church Member.

In addition to the increase in proportion of tenants from the group of farmers who were members of both the Association and the church to the group of those who were neither members of the Association nor members of the church, a very decided increase in proportion of tenants was found for both members and non-members of the church in going from district VII in the southwestern part to district VI in the eastern part of the state.

In each district surveyed and for both members and non-members of the Oklahoma Cotton Growers' Association, the proportion of the operators who were owners was considerably and consistently greater for church members than for non-church members. For members of the Association, the proportion of owner operators among church members exceeded that among non-church members by 61 per cent in district VII, 7 per cent in district VIII, and 9 per cent in district VI; while for non-members of the Association the proportion of owner operators among church members exceeded that among non-church members by 64 per cent in district VII, 100 per cent in district VIII, and 50 per cent in district VI.

The stability of the farmers, as indicated by the average number of years between moves and the average length of time between changes from one church to another, was greater for church members than for non-church members, both for members and non-members of the Oklahoma Cotton

Growers' Association. (See table 7.) For members of the Association the time between moves from farm to farm was 15 per cent greater and the time between changes from attending one church to attending another church, was 10 per cent greater for church members than for non-church members; while for non-members of the Association the time between moves from farm to farm was 43 per cent greater, and the time between changing churches was 47 per cent greater for church members than for non-church members. The same relation was found for both owner operators and tenants for all districts combined, except that for the owner operators who were not members of the Association, the time between changing churches was somewhat shorter, on the average, for church members than for non-church members.

In each district surveyed and for both members and non-members of the Association, taking all farmers together, the average length of time between moves and between changing churches was greater for church members than for non-church members, except that in district VI, for members of the Association the average time between changing churches was the same for both church members and non-church members. Some irregularities in these relationships were found from district to district, when owners and tenants were considered separately. These irregularities may be explained in part, at least, by the fact that these averages were based on relatively small numbers.

### 1. Economic Progress

The average amount of capital operated was greater, on the whole, and for both members and non-members of the Association, for the farmers who were church members than for those who were not church members. (See table 8.) The average amount of capital operated decreased from 11,613.00 for farmers who were members of both the Association and the church to \$6,531.00 for farmers who were neither members of the Association nor of the church. The amount of capital operated was more than 12 per cent greater for farmers who were members of both the Association and the church than for those who were not members of the Association but were members of the church; almost 7 per cent greater for farmers who were members of the Association but not members of the church than for those who were not members of the Association but were members of the church; almost 48 per cent greater for farmers who were not members of the Association but were members of the

**Table No. 8. Economic advancement of Oklahoma farmers, classified by tenure, by membership in O. C. G. A. and by church membership, 1925-26.**

Items used as bases for comparison and membership in O. C. G. A.	TENURE AND CHURCH MEMBERSHIP					
	All Farmers		Owners		Tenants	
	C. M.	Non- C. M.	C. M.	Non- C. M.	C. M.	Non- C. M.
<b>Av. Total Capital Operated</b>						
Members .....	\$11,613	\$10,314	\$14,537	\$13,922	\$8,602	\$7,927
Non-Members .....	9,687	6,531	13,079	10,656	7,962	5,587
<b>Av. Net Wealth Less Inheritance</b>						
Members .....	6,453	5,120	10,833	10,530	1,802	1,529
Non-Members .....	4,075	2,304	8,800	7,665	1,577	1,027
<b>Av. Annual Accumulation of Net Wealth Less Inheritance</b>						
Members .....	239	223	361	405	72	73
Non-Members .....	170	121	338	319	68	57

church than for those who were neither members of the Association nor members of the church; and almost 78 per cent greater for farmers who were members of both the Association and the church than for those who were members neither of the Association nor of the church.

The average amount of capital operated, both by owner operators and by tenants, and for members and for non-members of the Oklahoma Cotton Growers' Association, was greater for church members than for non-church members. The amount of capital operated by owners decreased from \$14,537.00 for those who were members of both the Association and the church to \$10,653.00 for those that were members neither of the Association nor of the church; while the amount of capital operated by tenants decreased from \$8,602.00 for those who were members of both the Association and the church to \$5,587.00 for those who were neither members of the Association nor members of the church.

In each district surveyed the average amount of capital operated was greater, on the whole, and for both members and non-members of the Association, for farmers who were church members than for those who were not church members, except that in district VIII, for members of the Association the amount of capital operated was slightly greater for non-church members than for church members. In each of the districts surveyed irregularities were found in the relationship of church membership to average amount of capital operated when owner operators and tenants were considered separately; but these irregularities may be explained, in part, at least, by the fact that these averages were based on relatively small numbers.

The average amount of net wealth less inheritance accumulated was greater for farmers who were church members than for those who were not church members, for both members and non-members of the Association. (See table 8.) The amount of net wealth less inheritance accumulated by framers decreased from \$6,453 for those who were members of both the Association and the church to \$2,304 for those who were members neither of the Association nor of the church. The amount of net wealth less inheritance accumulated was almost 7 per cent greater for farmers who were members of both the Association and the church than for those who were members of the Association but not members of the church; almost 26 per cent greater for those who were members of the Association but not members of the church than for those who were not members of the Association but were members of the church; about 77 per cent greater for those who were not members of the Association but were members of the church than for those who were neither members of the Association nor members of the church; and 180 per cent greater for those who were members of both the Association and the church and for those who were members neither of the Association nor of the church.

On the whole, a very decided, positive relationship was found between church membership and the average amount of net wealth less inheritance accumulated, for both owner farmers and tenants and for both members and non-members of the Association. The amount of net wealth less inheritance accumulated by owner operators decreased from \$10,833.00 for those who were members of both the Association and the church to \$7,665.00 for those who were neither members of the Association nor members of the church; while the amount of net wealth less inheritance accumulated by tenants decreased from \$1,802 for those who were members of both the Association and the church to \$1,027 for those who were members neither of the Association nor of the church.

Although there was considerable fluctuation in the amount of net wealth less inheritance accumulated by farmers from district to district, a very decided, positive relationship was found between church membership and the average amount of net wealth less inheritance accumulated by farmers on

the whole, in each district surveyed and for both members and non-members of the Association; except that in district VIII the amount of net wealth less inheritance accumulated was not a great for farmers who were members of both the Association and the church as that for those who were members of the Association but not members of the church. In district VIII, the amount of net wealth less inheritance accumulated by farmers who were not members of the Association but were church members was enough greater than that for those who were members neither of the Association nor of the church to overbalance the exception mentioned above and leave a net positive relationship between net wealth less inheritance accumulated and church membership.

Farmers who were members of both the Association and the church exceeded those that were neither members of the Association nor members of the church in the average amount of net wealth less inheritance accumulated by 162 per cent in district VII, 241 per cent in district VIII, and 120 per cent in district VI.

Some irregularities were found in the relationship between church membership and amount of net wealth less inheritance accumulated, when owner operators and tenants were considered separately, in each district surveyed and for both members and non-members of the Association. These irregularities may be explained, in part, by the fact that the averages were based on small numbers. When members and non-members of the Oklahoma Cotton Growers' Association were combined, it was found that the average amount of net wealth less inheritance accumulated was greater for church members than for non-church members in each district surveyed and for both owner operators and tenants, except that in district VII the average amount of net wealth less inheritance accumulated by owner farmers was somewhat less for church members than for non-church members.

For all farmers and for all districts surveyed taken together there appeared to be some positive relationship between church membership and the rate of accumulation of wealth, as indicated by the average amount of net wealth less inheritance accumulated annually, for both members and non-members of the Oklahoma Cotton Growers' Association. (See table 9.) The amount of net wealth less inheritance annually accumulated by farmers decreased from \$239 for those who were members of both the Association and the church to \$121 for those who were neither members of the Association nor members of the church.

The average amount of net wealth less inheritance annually accumulated was 7 per cent greater for farmers who were members of both the Association and the church than for those who were members of the Association but not members of the church; 31 per cent greater for farmers who were members of the Association but not members of the church than for those who were not members of the Association but were members of the church; 40 per cent greater for farmers who were not members of the Association, but were members of the church than for those who were members neither of the Association nor of the church; and 98 per cent greater for farmers who were members of both the Association and the church than for those who were members neither of the Association nor of the church.

When owner operators and tenants for all districts were considered separately, it was found that for members of the Association there appeared to be a slight negative relationship, and for non-members of the Association a slight positive relationship, between church membership and the rate of annual accumulation of net wealth less inheritance. Taken on the whole, there appeared to be very little, if any, relationship between church membership and the rate of accumulation of net wealth less inheritance within each tenure group.

Many irregularities were found in the average amount of net wealth less

inheritance annually accumulated by church members and non-church members from one district to another, for the tenure groups within each district and for both members and non-members of the Association. The irregularities justify the conclusion that for each tenure group considered separately there was little, if any, relationship between church membership and the rate of accumulation of wealth as measured above.

The larger average amount of net wealth less inheritance accumulated by members than that accumulated by non-members of the church, as shown above, for both owner operators and for tenants, largely may be explained by the fact that the average age, and, consequently, the number of years during which accumulation had been going on, was wreater, on the average, for church members than for non-church members. The greater rate of accumulation of net wealth less inheritance for church members than for non-church members, for all farmers combined, may be explained largely by the fact that the proportion of owner operators, who were more rapid accumulators of net wealth, on the average, than were tenants, was greater for the church members than for the non-church members.

## 2. Membership in Other Organizations

Farmers who were members of the church were more likely, on the average, to be members of a lodge or lodges and the Farmers' Union than were farmers who were not members of the church. (See table 9.)

Although the number of farmers who were members of lodges or of the Farmers' Union was relatively small, the proportion of lodge members was 50 per cent greater for farmers who were members of both the Oklahoma Cotton Growers' Association and also members of the church than for those who were members of the Association but were not members of any church; and 93 per cent greater for farmers who were not members of the Association, but were members of the church, than for those who were members neither of the Association nor of the church.

In each district surveyed the proportion of the farmers who were members of lodges was decidedly greater, without exception, for members than for non-members of the church, for both tenants and owner operators in each of the districts, and for both members and non-members of the Oklahoma Cotton Growers' Association. For members of the Association the proportion of the church members who were members of lodges exceeded that of the non-church members by 26 per cent in district VII, 80 per cent in district VIII, and 71 per cent in district VI; and for non-members of the Association the proportion of the church members that were members of a lodge, or lodges, exceeded that of the non-church members by 54 per cent in district VII, 225 per cent in district VIII, and 100 per cent in district VI.

The number of farmers who were members of the Farmers' Union was relatively small, especially for non-members of the Association, in all districts surveyed and for both members and non-members of the Association in district VI. In districts VII and VIII, for members of the Association, where a considerable number of members of the Farmers' Union was found, a very decided, positive relationship was found between church membership and membership in the Farmers' Union, for both owner operators and for tenants.

## 3. Educational Advancement

No very consistent relationship was found between church membership of farmers and their educational advancement, as indicated by the grade attained in school. (See table 9.) The proportion of all operators taken together, and of all owner operators and all tenants taken separately, who did not go beyond the fourth grade in school, for members of the Association, was greater for members than for non-members of the church; while in each

group for non-members of the Association this proportion was somewhat less for church members than for non-church members.

**Table 9. Membership in organizations and educational advancement of Oklahoma farmers, classified by tenure, by membership in O. C. G. A., and by church membership in 1925-26.**

Items used as bases for comparison and membership in O. C. G. A.	TENURE AND CHURCH MEMBERSHIP					
	All Farmers		Owners		Tenants	
	C. M.	Non- C. M.	C. M.	Non- C. M.	C. M.	Non- C. M.
Lodge Membership	%	%	%	%	%	%
Members -----	33	22	34	28	31	17
Non-Members -----	25	13	33	24	22	10
Membership Farmers' Union						
Members -----	15	12	18	15	11	10
Non-Members -----	4	4	5	3	3	5
Education of Operators, Less than 5th Grade-School	%	%	%	%	%	%
Members -----	25	22	21	18	31	25
Non-Members -----	27	32	18	28	32	33
9th Grade or Above-School						
Members -----	14	12	16	18	11	9
Non-Members -----	12	9	20	11	8	8

The proportion of all farmers who did not go beyond the fourth grade in school, consistently increased, with few exceptions, from district VII to district VIII, and to district VI; but the per cent of increase was not so great for church members as for those who were not church members. In district VII, for members of the Association, the proportion of farmers who did not go beyond the fourth grade in school was greater for church members than for non-church members or non-members of the Association; but for members of the Association this proportion was not so great for church members as for non-church members. In district VI, for both members and non-members of the Association, the proportion of farmers who did not go beyond the fourth grade in school, was not so great for church members as for non-church members.

The trends and relationships for both owner operators and tenants, from district to district, were, with minor exceptions, the same as outlined above for all farmers combined. The trend in educational retardation parallels very closely the trend in the per cent of tenants.

Although, on the whole, the number of operators who went beyond the eighth grade in school was relatively small, the per cent of the farm operators who went to high school or college was greater for church members than for non-church members, both for members and non-members of the Association. The proportion of the farmers who went to high school or above, was 9 per cent greater for farmers who were members of both the Association and the church than for those who were members of the Association but not members of the church; and 33 per cent greater for farmers who were members of the church, but who were not members of the Association, than those who were members neither of the Association nor of the church.

Considerable irregularity was found in the relationship between church membership and the proportion of farm operators who had gone to high school or above, from district to district, as shown in table XVII. On the whole, taking all farmers together, for both members and non-members of the Asso-

ciation, the relationship between church membership and the proportion that had gone to the ninth grade or above, was decidedly positive in district VII; neutral, or practically so, in district VIII; and slightly negative in district VI.

Although the grown children of farmers interviewed were further advanced educationally than their parents, the children who had quit school, and whose fathers were church members, were advanced, on the whole, very little, if any, more than those who had quit school, and whose fathers were not members of the church. (See table 10.)

Figures for the children who had quit school show that the proportion that had gone to the ninth grade or above, for all districts combined, for each district separately, and for each tenure group within each district, with minor exceptions, was greater for those whose fathers were members of both the Association and the church than for those whose fathers were members of the Association but not members of the church; while this proportion for all districts combined, for each district considered separately, and for each tenure group within each district, with a few exceptions, was not so great for those children whose fathers were not members of the Association but were members of the church, as that for those whose fathers were members neither of the Association nor of the church.

For the children who were still in school at the time of this survey—taking the children of all farmers, in the districts surveyed, together—there appeared to be a positive relationship between the church membership of the fathers and the educational advancement of their children, as indicated by the per cent retarded, and also by the average years retarded, for children less than 15 year of age; and by the per cent of the children 15 years of age and over that had not entered high school. (See table 10.) Taking the children of owner operators and tenants separately, there appears to be little, if any,

**Table 10. Educational advancement of the children of Oklahoma farmers, classified by tenure, of operators, membership in O. C. G. A. and church membership, 1925-26.**

Items used as bases for comparison and membership in O. C. G. A.	TENURE AND CHURCH MEMBERSHIP OF OPERATORS					
	All Farmers		Owners		Tenants	
	C. M.	Non- C. M.	C. M.	Non- C. M.	C. M.	Non- C. M.
Children who had quit school 1925-26 and who had reached 9th grade or above in school	%	%	%	%	%	%
Members * -----	38.	30.	47.	33.	29.	29.
Non-Members * -----	23.	27.	26.	28.	21.	23.
Children still in school 1925-26						
Children less than 15 years of age. Per cent retarded						
Members * -----	50.	54.	42.	40.	62.	64.
Non-Members * -----	66.	68.	47.	48.	73.	72.
Av. No. years retarded						
Members * -----	.89	.97	.62	.71	1.25	1.15
Non-Members * -----	1.26	1.39	.76	.84	1.39	1.58
Children 15 years of age and over. Per cent retarded						
Members * -----	36.	53.	30.	42.	44.	60.
Non-Members * -----	50.	61.	15.	40.	52.	67.

\*Membership in O. C. G. A. of Father.

relationship between church membership of the fathers and the educational advancement of the children.

Retardation of children, as indicated by each measure used, increased from district VII, in the southwestern part of the state, to district VI, in the eastern part of the state; and from the children of fathers who were members of both the Association and the church, to those whose fathers were neither members of the Association nor members of the church. These trends in retardation in school very closely parallel the trends in per cent of tenants, and suggest that the relationship between tenure of operators and the educational advancement of their children was many times greater than the relation between church membership of farmers and the educational advancement of their children.

#### 4. Standard of Living

On the whole a positive relationship was found between church membership of farm operators and the standard of living maintained by the farm family; as indicated by the average amount of expenditure, for each Ammain unit, for various items of cost of family living. (See table 11.)

The average cost of food, for each Ammain unit, was slightly but consistently less for church members than for non-church members, for both members and non-members of the Association in all districts combined, for each district considered separately, and for both owner operators and tenants in each of the districts; except that in district VIII, for non-members of the Association, the cost of food was slightly greater for members than for non-members of the church, both for owner operators and for tenants.

Very little relationship, if any, was found between the average expenditure for clothing and church membership of the farm operators. In district

**Table 11. Amount of family expenditures in 1925 for Oklahoma farmers, classified by tenure, by membership in O. C. G. A., and by church membership, 1925-26.**

Items used as bases for comparison and membership in O. C. G. A.	TENURE AND CHURCH MEMBERSHIP					
	All Farmers		Owners		Tenants	
	C. M.	Non- C. M.	C. M.	Non- C. M.	C. M.	Non- C. M.
<b>Food</b>						
Members -----	\$191	\$208	\$203	\$224	\$173	\$190
Non-Members -----	193	195	196	217	187	189
<b>Clothing</b>						
Members -----	66	67	74	73	57	60
Non-Members -----	58	58	64	77	54	54
<b>Health</b>						
Members -----	28	22	29	20	24	25
Non-Members -----	24	16	31	22	19	15
<b>Advancement</b>						
Members -----	38	23	55	33	21	16
Non-Members -----	23	16	31	22	19	15
<b>Church and Charity</b>						
Members -----	42	13	64	22	18	7
Non-Members -----	25	10	39	17	18	8
<b>Papers and Magazines</b>						
Members -----	5.4	4.4	6.3	5.9	4.5	3.5
Non-Members -----	5.7	4.2	8.4	6.1	4.6	3.8

VII, in which the average cost of clothing for each Ammain unit was greater than that found in either of the other two districts surveyed, there appeared to be a decided negative relationship between cost of clothing and church membership of operators; but in districts VIII and VI no relationships could be detected.

A very consistent, positive relationship was found between the amount spent for health and church membership of operators. The average amount spent on all items of health combined, for each Ammain unit, taking all operators together, was about 50 per cent greater for members than for non-members of the church. For both members and non-members of the Association, in each district surveyed and for both owner operators and tenants, the amount spent for health, for each Ammain unit, was greater for members than for non-members of the church.

The average amount spent for all items of advancement, for each Ammain unit, taking all farmers in all districts together, was 65 per cent greater for farmers who were members of both the Association and the church than for those who were members of the Association, but not members of the church; 44 per cent greater for farmers who were not members of the Association, but were members of the church than for those who were neither members of the Association nor members of the church; and 179 per cent greater for farmers who were members of both the Association and the church, than for those who were members neither of the Association nor of the church.

The amount spent for advancement by farmer owners was 67 per cent greater for those who were members of both the Association and the church, than for those who were members of the Association, but not members of the church; and 41 per cent greater for those who were not members of the Association, but were members of the church than for those who were neither members of the Association nor members of the church.

The average amount spent for advancement by tenants was 31 per cent greater for those who were members of both the Association and the church than for those who were members of the Association, but not members of the church; and 27 per cent greater for those who were not members of the Association, but were members of the church than for those who were neither members of the Association nor members of the church.

Although the average amount spent for advancement increased greatly from district VI in the east to district VII in the southwestern part of the state, for both members and non-members of the Association, and for both owner operators and tenants in each of the districts surveyed, the average amount spent for advancement was considerably greater for members than for non-members of the church, except in district VI the average amount spent for advancement was the same for tenants who were not members of the Association, but who were members of the church, as that for those who were neither members of the Association nor members of the church.

A decided positive relationship was found between the average amount spent by each farm family and church membership of the operator, for each item of expenditure considered under advancement. Figures showing the average family expenditure for church and charity, and for newspapers and magazines, are given in table 11. From these figures it was found that the average family expenditure for church and charity was 223 per cent greater for farmers who were members of both the Association and the church, than for those who were members of the Association but not members of the church; 150 per cent greater for farmers who were not members of the Association, but were members of the church, than for those who were neither members of the Association nor members of the church; and 320 per cent greater for farmers who were members of the Association and the church, than for those who were neither members of the Association nor members of the church.

The relationship between church membership and average family expenditure for church and for charity in each district surveyed, and for both owner operators and tenants, was on the whole, similar to that shown above for all farmers taken together. The increase in the amount of this expenditure from district VI, in the eastern part, to district VII, in the southwestern part of the state, was very marked.

The relationship between the average family expenditure for newspapers and magazines was similar to that outlined above for that between the expenditures for church and charity, and for church membership, as shown in table 11. The fact that the average family expenditure for current reading material was greater for members than for non-members of the church, indicates that the church members were, to that extent, more progressive, and were maintaining a higher standard of living, than were farmers who were not members of the church.

A very decided positive relationship was found between church membership of the operators and the average family expenditure for each of the other items included under advancement: school, books, and vacation and travel—items which are not shown in table form. This fact makes the relationship between church membership and expenditure for advancement more significant in that it shows that the relatively greater expenditure for advancement made by church members, was not due primarily and principally to the fact that the amount spent for church and charity was relatively greater for members than for non-members of the church, but that each item considered contributed toward this high degree of positive relationship between church membership of the operator and the average expenditure for advancement.

The per cent of farmers who had modern equipment and conveniences was greater for those who were church members than for those who were not church members, both for members and non-members of the Oklahoma Cotton Growers' Association. (See table 12.)

For members of the Association 13 per cent more of the farmers who were church members than those who were not church members had automobiles, 18 per cent more had telephones, 175 per cent more had radios, 4 per cent more had screens, 10 per cent more had washing machines, and 2 per cent more had sewing machines; and for non-members of the Association 23 per cent more of the farmers who were church members than of those who were not church members had automobiles, 19 per cent more had telephones, 20 per cent more had radios, 15 per cent more had screens, 45 per cent more had washing machines, and 31 per cent more had sewing machines.

Taken on the whole, for both members and non-members of the Association, a distinct, positive relationship was found between church membership of the operators and the per cent of the farmers who had each item of equipment and convenience mentioned above, for both owner operators and for tenants; except that for tenants, the per cent who had washing machines was greater for non-members than for members of the church.

The per cent of the operators who had modern equipment and conveniences, increased from district VI in the eastern to district VII in the southwestern part of the state. In each district surveyed and for both owner operators and tenants, on the whole, a positive relationship was found between church membership of the operator and the per cent who had modern equipment and conveniences.

When interpreting the relations found between church membership and the various kinds of advancement considered above, it is well to keep in mind the fact that church membership was not necessarily the result of a rational choice exercised by mature individuals, but that it may have been the result of family tradition or religious practices of the parents, which made church

membership more or less independent of the mature judgment and wishes of the individual.

**Table 12. Conveniences and comforts enjoyed by Oklahoma farmers, classified by tenure, by membership in O. C. G. A., and by church membership, 1925-26.**

Items used as bases for comparison and membership in O. C. G. A.	TENURE AND CHURCH MEMBERSHIP					
	All Farmers		Owners		Tenants	
	C. M.	Non- C. M.	C. M.	Non- C. M.	C. M.	Non- C. M.
<b>Autmobiles</b>	%	%	%	%	%	%
Members -----	69	61	80	72	56	54
Non-Members -----	58	47	68	66	53	42
<b>Telephones</b>						
Members -----	47	40	65	53	28	31
Non-Members -----	32	27	52	53	23	21
<b>Radios</b>						
Members -----	11	4	17	7	4	2
Non-Members -----	6	5	11	8	3	4
<b>Screened Houses</b>						
Members -----	82	79	88	87	74	74
Non-Members -----	86	75	91	92	84	71
<b>Washing Machines</b>						
Members -----	22	20	32	27	11	14
Non-Members -----	10	7	18	11	5	6
<b>Sewing Machines</b>						
Members -----	93	91	94	91	92	91
Non-Members -----	85	65	96	92	80	59

In addition to the fact that the primary function of the church is religious development, and the further fact that religious development in some cases is considered to be more or less independent of the practical, every day affairs of earning money, getting an education, and providing for the comforts and conveniences of the family, the fact that church membership does not always reflect the initiative and judgment of the mature individual would lead one to expect to find less correlation between church membership and the various kinds of advancement considered above than was found between membership in the Oklahoma Cotton Growers' Association and advancement of farmers as indicated in part II of this study. A comparison of the results found in part II with those found in part III of this study, shows that a higher relationship was actually found between economic, social, and educational advancement of farmers and membership in the Association, than was found between church membership and economic, social and educational advancement of farmers.

The fact that members of the church were older, on the average, than were non-members of the church, may be the result of more opportunities had by the older farmers to join the church, coupled with a tendency for the more mature individuals to think more seriously about the end of this life. On first thought it might be supposed that a larger proportion of the young people than of the older people, who were not members of a church, indicates a decadence of the rural churches. But it must be remembered that in the group of older farmers, are included both those who became members of the church early, and those who became members late in life; while in the group of younger farmers, the church membership was confined to those who became church members relatively early in life.

The larger proportion of owner farmers than of tenants, who were church members, cannot be accounted for on the basis of direct cause and effect relationships between church membership and tenure status of the farmer; but indirect factors may help to explain why owner operators were more likely to be church members than were tenants. As was shown above, a greater proportion of the older than of the younger farmers were church members, and since owner operators were, on the average, older than tenants, the age differences of owners and tenants would tend to explain, in part, the relationship found. Furthermore, the frequency of moving, and of changing churches was less for owners than for tenants. This stability of owners may account for a greater interest on their part in the developments in the community, and explain, in part, why owners are more likely than tenants to be members of the church.

Very little relationship that could not be explained by other factors was found between church membership and economic advancement of farmers. The greater amount of capital operated and the greater net accumulation of wealth by church members largely may be accounted for by the fact that church members were older than non-church members, and had had a longer time to advance in managing ability and to accumulate wealth. The rate of accumulation of wealth was somewhat greater, on the average, for farmers who were church members than for those who were not church members, for all farmers combined; but when owner operators and tenants were considered separately, very little, if any, relationship was found between church membership and rate of accumulation of wealth.

It is not disappointing to find little or no relationship between church membership and economic advancement, when it is realized that church membership is not always the result of mature judgment of the individual members, and that economic advancement—or the accumulation of wealth or “riches”—is not considered a very desirable goal by some church members. Church activities may even interfere with economic advancement. For instance, it was reported that in some parts of the sections surveyed, landlords discriminated against tenants who were members of the “Holy Roller” church on account of the fact that these tenants neglected their work in order to attend their religious revivals.

On the other hand some may find that church membership contributes indirectly to their economic well being—aside from developing a philosophy of life and peace of mind—in that it may add prestige, and tend to develop good will, both of which results may add to the economic success of the individual.

The larger proportion of church members than of non-church members who were members of lodges and of the Farmers’ Union, does not necessarily indicate a causal relationship between church membership and membership in these other organizations. Membership in the church and in these other organizations is more probably the result of characteristics of the individuals, which make membership in organizations attractive to them.

The low correlation indicated between church membership and educational advancement, and church membership and standard of living, may be explained on the basis of the facts that the decisions to join the church are not on par with the rational decisions required to obtain an education or to maintain a high standard of living. Both church membership and the educational advancement of the individual may have been influenced by the decisions of the parents; but even then the appeals of the two considerations were not, for all cases, comparable.

**PART IV. RELATION OF EDUCATIONAL ADVANCEMENT OF FARM OPERATORS TO ECONOMIC PROGRESS, MEMBERSHIP IN ORGANIZATIONS, EDUCATIONAL ADVANCEMENT OF THEIR CHILDREN, AND STANDARD OF LIVING.**

The data for this part of the study were divided, as in parts II and III, on the basis of crop reporting districts, tenure of operators and membership in the Oklahoma Cotton Growers' Association. In addition to these divisions the members and non-members of the Association were sub-divided on the basis of educational advancement of the operators. Under educational advancement three classes were made to include: (1) Those that had not gone beyond the fourth grade in school. (2) Those that had gone beyond the fourth grade but had not gone beyond the eighth grade in school. (3) Those that had gone beyond the eighth grade in school.

The average age of operators decreased with the increase in educational advancement, both for members and for non-members of the Oklahoma Cotton Growers' Association, as is shown in table 13. For members of the Association the decrease in average age of farm operators from that of those who had not gone beyond the fourth grade in school to that of those who had gone to high school or college, was 6 years for all operators, 7 years for owner operators, and 8 years for tenants; and for non-members of the Association this decrease was 9 years for all operators, 7 years for owner operators, and 12 years for tenants.

A consistent inverse relationship was found between educational advancement and age of operators, in each district surveyed for both owner operators and tenants, except for a few irregularities in districts VIII and VI for non-members of the Association. Although these age differences were to be expected, since the educational opportunities in general were greater for the younger than for the older farmers, they should be kept in mind during the considerations that follow.

A very distinct, positive relationship was found between educational advancement and the proportion of the farmers who were owner operators, for both members and non-members of the Oklahoma Cotton Growers' Association. (See table 13.) For members of the Association the increase in proportion of owner operators from the group of farmers who had not gone beyond the fourth grade in school to that of those who had gone to high school or college, was 50 per cent in all districts combined, 35 per cent in district VII, 50 per cent in district VIII, and 42 per cent in district VI; and for non-members of the Association this increase was 150 in all districts combined, 105 per cent in district VII, 32 per cent in district VIII, and 186 per cent in district VI.

The stability of the farmers, as indicated by the average number of years between moves, increased with the increase in educational advancement, both for members and non-members of the Oklahoma Cotton Growers' Association. (See table 13.) For all members of the Association the average number of years between moves was 75 per cent greater for farmers who had gone to the ninth grade in school, or above, than for those who had not gone beyond the fourth grade in school; and for all non-members of the Association the average number of years between moves was 112 per cent greater for the farmers who had gone to the ninth grade, or above, in school than for those who had not gone beyond the fourth grade in school.

A very decided positive relationship was found between the number of years between moves, and the educational advancement for both owner operators and tenants, for all districts combined and for both members and non-members of the Association. For members of the Association the average number of years between moves for farmers who had gone to the ninth grade or above in school exceeded that for the farmers who had not gone beyond the

**Table 13. Age and frequency of moving for Oklahoma framers, classified by tenure, membership in O. C. G. A., and educational advancement, 1925-26.**

Items used as bases for comparison and membership in O. C. G. A.	TENURE AND GRADE IN SCHOOL								
	All Farmers			Owners			Tenants		
	0-4	5-8	9×	0-4	5-8	9×	0-4	5-8	9×
<b>Number of Records</b>									
Members -----	114	285	63	43	131	36	71	154	27
Non-Members ----	98	192	35	16	50	14	82	142	21
<b>Per cent Distribution</b>									
Members -----	100	100	100	38	46	57	62	54	43
Non-Members ----	100	100	100	16	26	40	84	74	60
<b>Av. Age of Operators</b>									
<b>Years</b>									
Members -----	50	45	44	55	48	48	46	43	38
Non-Members ----	46	41	37	49	46	42	46	39	34
<b>Av. Yrs. between Moves</b>									
Members -----	4.4	4.6	7.7	6.3	5.7	11.8	3.6	3.7	4.5
Non-Members ----	3.3	3.6	7.0	4.6	3.22	4.34	3.7	7.6	5.7

fourth grade in school by 87 per cent for the owner operators, and 25 per cent for the tenants; and for non-members of the Association the average number of years between moves for the farmers who had gone to the ninth grade in school, or above, exceeded that for the farmers who had not gone beyond the fourth grade in school by 59 per cent for the owner operators and 77 per cent for the tenants.

In each district surveyed, for both members and non-members of the Association and for owner operators and tenants, with a few exceptions, a very distinct, positive relationship was found between the educational advancement of the farm operators and the average number of years between moves. The irregularities may be explained by the fact that some of the averages were based on very small numbers.

The fact that the average age of farmers decreased with the increase of their educational advancement and the further fact that younger farmers tend to move more often, on the average, than older farmers, emphasize the significance of the relationship found above between educational advancement and stability of farmers.

### 1. Economic Progress

The average amount of capital operated increased considerably from the group of farmers who had not gone beyond the fourth grade in school to that of the group who had gone to the fifth grade but had not gone beyond the eighth grade in school, and to that of the group who had gone to the ninth grade or above, both for members and non-members of the Association, for all farmers taken together, and for both owner operators and tenants; except that the amount of capital operated by tenants who were not members of the Association and who had gone to the ninth grade or above in school was not so great, on the average, as that operated by tenants who were not members of the Association and who had reached the fifth grade but had not gone beyond the eighth grade in school. (See table 14.)

For members of the Association the increase in the average amount of capital operated by farmers who had not gone beyond the fourth grade in school to that operated by farmers who had gone to the ninth grade or above in school was, for all farmers, \$8,679 to \$19,190; for owner operators, \$13,246 to \$21,693; for tenants, \$6,224 to \$15,972; and for non-members of the Association this increase was for all farmers, 5,384 to \$10,688; for owner operators, \$8,621 to \$17,878; and for tenants, \$4,808 to \$5,656.

For members of the Association the proportional increase in average amount of capital operated from the group of farmers who had not gone beyond the fourth grade in school to the group that had gone to the ninth grade or above, was 121 per cent for all operators combined, 64 per cent for owner operators, and 158 per cent for tenants; and for non-members of the Association, this proportional increase was 100 per cent for all farmers, 107 per cent for owner operators, and 24 per cent for tenants.

Similar relationships between educational advancement and the average amount of capital operated, to that shown above for all districts, were found in each district surveyed and for both owner operators and tenants, except for a few irregularities the greatest of which were found for tenants who were not members of the Association in districts VII and VI.

A very distinct, positive relationship was found between the educational advancement of farm operators and the average amount of net wealth less inheritance accumulated, when all farmers were taken together, for both members and non-members of the Association and for owner operators and tenants; except that tenants who were not members of the association and who had gone to the ninth grade or above in school, had, on the average, less net wealth less inheritance than had the tenants who were not so advanced educationally. (See table 14.)

**Table 14. Economic advancement of Oklahoma farmers, classified by tenure, membership in O. C. G. A., and educational advancement, 1925-26.**

Items used as bases for comparison and membership in O. C. G. A.	TENURE AND GRADE IN SCHOOL								
	All Farmers			Owners			Tenants		
	0-4	5-8	9×	0-4	5-8	9×	0-4	5-8	9×
Av. Total Capital Operated									
Members -----	\$8,679	\$9,877	\$19,190	\$13,246	\$13,069	\$21,603	\$6,224	\$7,096	\$15,972
Non-Members ----	5,384	7,652	10,688	8,621	10,307	17,878	4,808	6,703	5,656
Av. Net Wealth Less Inheritance									
Members -----	4,544	5,996	8,813	9,740	11,273	12,263	1,186	1,456	3,637
Non-Members ----	1,437	3,073	4,170	3,798	7,872	9,102	878	1,418	796
Av. Personal Accumulation of Net Wealth Less Inheritance									
Members -----	156	245	383	280	416	451	46	66	205
Non-Members ----	58	153	247	136	322	434	37	76	57

For members of the Association the increases in the average amount of net wealth less inheritance accumulated, by farmers who had not gone beyond the fourth grade in school to that accumulated by farmers who had gone to the ninth grade or above in school were, for all farmers combined, \$4,544 to \$8,813; for owner operators, \$9,740 to \$12,263, and for tenants, \$1,186 to 3,637; and for non-members of the Association these increases were, for all farmers combined, \$1,437 to \$4,170; and for owner operators, \$3,798 to \$9,102. For tenants who were not members of the Association, the average amount of net wealth less inheritance increased from \$878 for those who had not gone beyond the fourth grade in school to \$1,418 for those who had gone beyond the fourth grade but had not gone beyond the eighth grade, and then decreased to \$796 for those who had gone to the ninth grade or above in school.

The proportional increase in the average amount of net wealth less inheritance accumulated from that of the group of farmers who had not gone beyond the fourth grade in school to that of the group of farmers who had gone to the ninth grade or above in school, for members of the Association, was 98 per cent for all farmers combined, 23 per cent for owner operators, and 291 per cent for tenants; and for non-members of the Association, this proportional increase was 71 per cent for all farmers combined, and 44 per cent for owner operators; while for tenants there was a decrease of 10 per cent.

Taken on the whole, a positive relationship was found between educational advancement and the average amount of net wealth less inheritance accumulated by operators in each district surveyed and for both owner operators and tenants.

In this connection the differences in the average age of farmers in the different groups, as shown above, should be kept in mind. The fact that the average age, and, consequently, the average length of the period of earning life of farmers decreased with the increase in educational advancement, make the increases in the average amount of net wealth less inheritance accumulated with the increase in educational advancement, as shown above, much more significant. These facts also make the decreases in the average amount of net wealth less inheritance accumulated with the increase in educational advancement much less significant.

The average annual accumulation of wealth less inheritance largely eliminates the influences of differences in the length of the period of earning life, and, consequently, largely overcomes an important weakness of the average net wealth less inheritance accumulated as a measure of economic progress. For this reason average ~~net~~ wealth less inheritance has been used as the final basis for determining the *annual accumulation of* relation of economic progress to educational advancement.

A distinct, positive relationship was found between the average annual accumulation of wealth less inheritance and educational advancement of farm operators, for both members and non-members of the Association, for all farmers taken together, and for both owner operators and tenants considered separately; except that for the tenants who were not members of the Association, those who had gone to the ninth grade or above in school had a somewhat lower rate of economic progress than those who had gone beyond the eighth grade in school. (See table 14.)

For members of the Association the increase in the rate of accumulation of net wealth less inheritance from the group of farmers who had not gone beyond the fourth grade in school to that of those who had gone to the ninth grade or above, was 146 per cent for all farmers combined, 61 per cent for owner operators, and 346 per cent for tenants; and for non-members of the Association this increase was 326 per cent for all farmers combined, 219 per cent for owner operators, and 54 per cent for tenants.

A very distinct, positive relationship was found between the rate of accumulation of net wealth less inheritance and educational advancement, for

members of the Association in each district surveyed and for both owner operators and tenants, in each of these districts; while for non-members of the Association there was, on the whole, a positive relationship found between rate of accumulation of net wealth less inheritance and educational advancement in each district surveyed, but a number of irregularities were found, which may be explained, in part, by the fact that some of these averages were based on relatively small numbers.

## 2. Membership in Organizations

Taken on the whole, for both members and non-members of the Oklahoma Cotton Growers' Association, the per cent of farmers who were church members was greater, on the average, for those farmers who had more than an eighth grade education, than for those who had an eighth grade education or less. (See table 15.) For all farmers in all districts combined, the proportion of church membership for farmers who had more than an eighth grade education exceeded that for farmers who had not gone beyond the fourth grade in school by 17 per cent for members of the Association and 22 per cent for non-members of the Association.

For members of the Association, in all districts combined, and for both owner operators and tenants, the proportion of farmers who were church members was greater for those who had not gone beyond the fourth grade in school than for those who had gone beyond the fourth grade but not beyond the eighth; while for non-members of the Association, in all districts combined and for both owner operators and tenants, the proportion of farmers who were church members was greater for those who had gone beyond the fourth grade but not beyond the eighth than for those who had not gone beyond the fourth grade in school.

Many irregularities were found when each district was considered separately. For members of the Association, in districts VII and VIII, the per cent of church members was greater for both owner operators and tenants who had not gone beyond the fourth grade in school than for those who had gone beyond the fourth grade but who had not gone beyond the eighth grade in school, and the per cent of church members was greater for owner farmers who had not gone beyond the fourth grade than for those who had gone beyond the eighth grade in school; while in district VI, there was a consistent, positive relationship between church membership and educational advancement. For non-members of the Association there were so many irregularities that no well defined relationship could be detected between church membership and educational advancement in the districts considered separately.

A very consistent, positive relationship was found between educational advancement of farmers and the per cent who were members of lodges, for members of the Association when all districts were combined, and for both owner operators and tenants; while for non-members of the Association the per cent who were lodge members decreased somewhat with the educational advancement of the group. (See table 15.)

When members of the Association for all districts were combined, it was found that the proportion of lodge members for the group of farmers who had more than an eighth grade education exceeded that for the group of farmers who had less than a fourth grade education by 90 per cent for all farmers combined, 72 per cent for owner operators, and 84 per cent for tenants; while for non-members of the Association the proportion of lodge members, for farmers who had not gone beyond the fourth grade in school, exceeded that for the farmers who had gone beyond the eighth grade by 17 per cent for all farmers combined, 7 per cent for owner operators, and 90 per cent for tenants.

**Table 15. Membership in organizations for Oklahoma farmers, classified by tenure, membership in O. C. G., and educational advancement, 1925-26.**

Items used as bases for comparison and membership in O. C. G. A.	TENURE AND GRADE IN SCHOOL								
	All Farmers			Owners			Tenants		
	0-4	5-8	9×	0-4	5-8	9×	0-4	5-8	9×
<b>Church Membership</b>	%	%	%	%	%	%	%	%	%
Members -----	58	56	68	67	62	67	52	50	71
Non-Members ----	36	42	44	44	52	64	34	39	29
<b>Lodge Membership</b>									
Members -----	21	28	40	25	33	43	19	24	36
Non-Members ----	21	21	18	31	30	29	19	18	10

In each district considered separately, for members of the Association a consistent, positive relationship was found between educational advancement and per cent of lodge members for all farmers taken together, and, with few exceptions, for owner operators and tenants taken separately; while for non-members of the Association many irregularities were found. These irregularities were largely due to relatively small numbers and also to a relatively small proportion of lodge members, especially in districts VIII and VI.

### 3. Education of Children

A very high, positive correlation was found between the educational advancement of farm operators and the educational advancement of their children, both for the children who had quit school and for those who were still in school at the time of the survey. (See table 16.)

For the children who had quit school and whose fathers were members of the Oklahoma Cotton Growers' Association, the per cent who had gone to high school was more than twice as great for those whose fathers had gone to the ninth grade or above than for those whose fathers had not gone beyond the fourth grade; and those whose fathers were not members of the Association, the per cent who had gone to high school was more than four times as great for those whose fathers had gone to high school or college as that for those whose fathers had not gone beyond the fourth grade in schools.

For the children of owner farmers who were members of the Association, the proportion that had gone to high school or college was almost twice as great for the children whose fathers had gone to high school or college as that for those whose fathers had not gone beyond the fourth grade in school; and for the children of owner operators who were not members of the Association, the proportion that had entered high school was more than two and one-half times as great for those whose fathers had gone to high school as that for those whose fathers had not gone beyond the fourth grade in school.

For children of tenants who were members of the Association, the proportion that had entered high school was almost three times as great for the children whose fathers had gone beyond the eighth grade in school as that for those whose fathers had not gone beyond the fourth grade in school.

For those whose fathers were not members of the Association, the per cent that had entered high school was exactly three times as great for those whose fathers had gone beyond the eighth grade in school as that for those whose fathers had not advanced beyond the fourth grade in school.

Although there was a very decided increase in the proportion of the grown children who had gone to high school, from district VI in the eastern to district VII in the southwestern part of the state, almost without exception, a very distinct, positive relationship was found in each district surveyed—for both members and non-members of the Association and for both owner farmers and tenants—between the educational advancement of the fathers and the per cent of their grown children who had gone to high school. The small number of children who had quit school accounts for the lack of uniformity of trends in the separate districts for non-members of the Association.

For the children who were of high school age and who were still in school at the time of this survey, a very distinct negative relationship was found between the proportion of the children who had not entered high school and the educational advancement of their fathers, for both members and non-members of the Association, in each district surveyed. These exceptions may be explained by the fact that the percentages for the tenure classes in each district were based on relatively small numbers.

The per cent of children, who were under 15 years of age and who were still in school when this survey was made, that were retarded one or more years in their educational advancement, was considerably greater for children

**Table 16. Educational advancement of the children of Oklahoma farmers, classified by tenure, membership in O. C. G. A., and educational advancement of operators in 1925-26.**

Items used as bases for comparison and membership in O. C. G. A.	TENURE AND GRADE IN SCHOOL OF OPERATORS								
	All Farmers			Owners			Tenants		
	0-4	5-8	9×	0-4	5-8	9×	0-4	5-8	9×
Per cent of Children who Quit School that Entered High School									
Members * -----	27	39	59	31	46	61	22	32	56
Non-Members * -----	13	28	33	26	28	67	11	28	33
Per Cent of Children 15 Years of Age and over Not in High School									
Members * -----	74	36	25	48	32	18	79	41	36
Non-Members * -----	80	39	0	43	33	0	86	40	0
Per cent of Children under 15 years of age Retarded									
Members * -----	71	51	50	58	41	23	76	60	52
Non-Members * -----	81	66	50	63	62	12	84	67	62
Av. No. of Years Children under 15 years of Age Were Retarded									
Members * -----	1.4	.8	.7	.9	.7	.3	1.5	1.0	.7
Non-Members * -----	1.8	1.2	.5	1.6	.9	.1	1.9	1.2	.5

\* Membership in O. C. G. A. of fathers.

whose fathers had not advanced beyond the fourth grade in school than that for those whose fathers had made more educational progress, both for members and non-members of the Association and for both owner farmers and tenants. (See table 16.)

For the children of members of the Association, the proportion of retardation for those whose fathers had not advanced beyond the fourth grade in school was 42 per cent, greater for the children of all farmers combined, 152 per cent greater for children of owner operators, and 46 per cent greater for tenants than for the children whose fathers had gone to the ninth grade in school or above; and for children of non-members of the Association, the proportion of retardation for those whose fathers had less than a fifth grade education was 62 per cent greater for children of all farmers combined, 425 per cent greater for owner operators, and 35 per cent greater for tenants than for children whose fathers had gone to high school or college.

The per cent of retardation increased from district VII in the southwest to district VI in the eastern part of the state, but for children of both members and non-members of the Association—in each district surveyed and for both owner operators and tenants—with few exceptions, the retardation varied inversely with the educational advancement of their fathers.

The average number of years these farm children, who were under 15 years of age, were retarded is shown in table 16. From this table it was found that for children whose fathers were members of the Association, the average number of years retarded for those whose fathers had not advanced beyond the fourth grade in school was 100 per cent greater for children of all farmers combined, 200 per cent greater for children of owner operators, and 114 per cent greater for children of tenants, than the average number of years retarded for those children whose fathers had advanced to or above the ninth grade in school; and for children of non-members of the Association, the average number of years retarded for those children whose fathers had not gone beyond the fourth grade in school was 260 per cent greater for children of all farmers combined, 1500 per cent greater for children of owner operators, and 217 per cent greater for children of tenants, than the average number of years retarded for those children whose fathers had not gone to high school or college. For both members and non-members of the Association, in each district surveyed, and, with minor exceptions, for both owner operators and tenants in each of these districts, the average number of years the children were retarded varied inversely with the educational advancement of their fathers.

#### 4. Standard of Living

Taking all farmers in all districts together, the average expenditure for food in 1925, for each Ammain unit, increased with the increase in the educational advancement of the farm operators, both for members and non-members of the Oklahoma Cotton Growers' Association. (See table 17.) The rate of expenditure for food in 1925 by farmers who had gone beyond the eighth grade in school exceeded that by farmers who had not gone beyond the fourth grade in school by 7 per cent for farmers who were members of the Association and 10 per cent for farmers who were not members of the Association.

Many irregularities were found when all farmers in each district were considered separately, and also when owner operators and tenants were considered separately, in each district and for all districts combined. This lack of uniformity in variations indicated very little relationship between rate of expenditure for food and the educational advancement of the operators.

For members of the Association the average rate of expenditure for food in 1925 by farmers who had gone beyond the eighth grade in school exceeded that by farmers who had not gone beyond the fourth grade in school by 49 per cent for all farmers combined, 37 per cent for owner operators, and 43 per cent for tenants; and for non-members of the Association the rate of ex-

**Table 17. Expenditures for family living in 1925 for Oklahoma farmers, classified by tenure, membership in O. C. G. A., and educational advancement in 1925-26.**

Items used as bases for comparison and membership in O. C. G. A.	TENURE AND GRADE IN SCHOOL OF OPERATORS								
	All Farmers			Owners			Tenants		
	0-4	5-8	9×	0-4	5-8	9×	0-4	5-8	9×
<b>Food</b>									
Members -----	\$188	\$191	\$201	\$214	\$208	\$201	\$175	\$175	\$200
Non-Members ----	178	190	196	166	200	232	180	190	184
<b>Clothing</b>									
Members -----	55	66	82	63	73	86	51	60	73
Non-Members ----	53	61	61	59	74	70	52	59	53
<b>Health</b>									
Members -----	15	26	23	15	28	28	15	26	20
Non-Members ----	25	23	29	21	36	20	27	11	38
<b>Advancement</b>									
Members -----	21	30	51	42	41	58	10	20	34
Non-Members ----	15	23	28	18	30	37	15	17	20
<b>Church and Charity</b>									
Members -----	13	31	58	21	51	83	9	13	21
Non-Members ----	13	27	20	11	33	30	12	12	14
<b>Newspapers and Magazines</b>									
Members -----	3.1	5.4	5.9	4.6	6.7	5.7	2.4	4.4	6.1
Non-Members ----	3.3	5.4	5.9	4.2	8.0	8.8	3.1	4.6	4.1

penditure for food in 1925 by farmers who had gone beyond the eighth grade in school exceeded that by the farmers who had not gone beyond the fourth grade in school by 17 per cent for all farmers combined, 19 per cent for owner operators, and 2 per cent for tenants.

The expenditure for clothing in 1925, per Ammain unit, increased in general with the increase in educational advancement of the farm operators, for all districts combined, for both members and non-members of the Association, and for both owner operators and tenants; except that for non-members of the Association the average expenditures for clothing by farmers who had gone beyond the eighth grade in school was not greater than that spent by farmers who had gone beyond the fourth grade but had not gone beyond the eighth grade in school.

When each district was considered separately, for members of the Association a very marked positive relationship was found between the rate of expenditure for clothing and the educational advancement of the operators—when all operators were considered together—and with few exceptions, when owner operators and tenants were considered separately; while for non-members of the Association many irregularities were found in the relationship between rate of expenditure for clothing and educational advancement of the operators, both for tenants and for owner operators.

Very little, if any, relationship between the rate of expenditure for health in 1925 and the educational advancement of the farmers could be detected. The average expenditure—per Ammain unit, for health in 1925 for all farmers of all districts taken together—was somewhat less for the farmers who had not gone beyond the fourth grade in school than for the farmers who had gone beyond the eighth grade in school. (See table 17.)

The average expenditure for advancement in 1925, for each Ammain unit, consistently increased with the educational advancement of the operators, for all districts combined, for both members and non-members of the Association and for both owner operators and tenants; except that owner farmers who were members of the Association and who had less than a fourth grade education, spent slightly more for advancement in 1925, per Ammain unit, on the average, than did those who had gone beyond the fourth grade but had not gone beyond the eighth grade in school. (See table 17.)

For members of the Association the average amount spent for advancement in 1925, per Ammain unit, by farmers who had gone beyond the eighth grade in school exceeded that spent by farmers who had not gone beyond the fourth grade in school by 143 per cent for all farmers combined, 38 per cent for owner operators, and 240 per cent for tenants; while for non-members of the Association the rate of expenditure for advancement in 1925 by farmers who had gone beyond the eighth grade in school, exceeded that of farmers who had not gone beyond the fourth grade in school by 87 per cent for all farmers combined, 106 per cent for owner operators, and 33 per cent for tenants.

When each district was considered separately, it was found that a very decided, positive relationship existed between the average amount spent for advancement and the educational advancement of the operators, for both members and non-members of the Association in each district, and, with a few exceptions, for both owner operators and tenants in each district. The average amount spent for advancement, per Ammain unit, was approximately twice as great in district VII, in the southwestern part of the state, as in district VI, in the eastern part of the state.

The average amount spent for church and charity in 1925 by each farm family increased greatly with the increased educational advancement of the operators, for all districts combined, for members of the Association, and for both owner operators and tenants; while for non-members of the Association, the relationships were not so consistent, but showed a decrease in the average

expenditure for church and charity from the group of farmers who had gone beyond the fourth grade but had not gone beyond the eighth grade to the group of farmers who had gone beyond the eighth grade, for all farmers combined and for owner operators. (See table 17.)

For all members of the Association the average family expenditure for church and charity by farmers who had gone to high school or college, exceeded that of farmers who had not gone beyond the fourth grade in school by 346 per cent for all farmers combined, 295 per cent for owner operators, and 133 per cent for tenants; and for all non-members of the Association the average family expenditure for church and charity by farmers who had gone to high school and college exceeded that for farmers who had not gone beyond the fourth grade in school by 54 per cent for all farmers combined, 76 per cent for owner operators, and 17 per cent for tenants.

In each district considered separately, for members of the Association, a very distinct positive relationship was found between the average family expenditure for church and charity in 1925, and the educational advancement of the operator, for both owner operators and tenants; but for non-members of the Association many irregularities in the relationship between educational advancement and expenditures for church and charity were shown; but, on the whole, a slight positive relationship was found between these two factors.

The average amount spent for newspapers and magazines in 1925 increased with the educational advancement of the operator, for all districts combined, for both members and non-members of the Association, and, with a few exceptions, for both owner operators and tenants. (See table 17.)

For members of the Association the average expenditure for newspapers and magazines in 1925 by farmers who had gone to high school or college exceeded that of farmers who had not gone beyond the fourth grade in school by 90 per cent for all farmers combined, 24 per cent for owner operators, and 155 per cent for tenants; and for non-members of the Association, the average amount spent for newspapers and magazines by farmers who had gone to high school or college exceeded that for farmers who had not gone beyond the fourth grade in school by 79 per cent for all farmers combined, 110 per cent for owner operators, and 32 per cent for tenants.

When each district was considered separately, many irregularities were found, but on the whole, a positive relationship was found between educational advancement of the operators and the average amount spent for newspapers and magazines in each district. A very noticeable decrease in the average amount spent for papers and magazines in 1925 was found in districts VII and VIII for members of the Association, for both owner operators and tenants, from that of those farmers who had gone beyond the fourth grade but had not gone beyond the eighth grade in school to that of those farmers who had gone to high school or college.

The proportion of farmers who had modern equipment and conveniences for the home increased with the increase of educational advancement of the operators, as indicated by the per cent of the farmers who had screens for their houses, washing machines, automobiles, telephones, and radios. (See table 18.)

The proportion of the farm homes that had screens for the doors and windows of the dwelling increased with the increase in educational advancement of the operators, in all districts combined, for both members and non-members of the Association, and, with minor exceptions, for owner operators and tenants. For all districts combined, the homes of farmers who had gone to high school or college exceeded that of those farmers who had not gone beyond the fourth grade in school in the proportion that had screens for the doors and windows of the dwellings by 20 per cent for members of the Association, and 31 per cent for non-members of the Association.

Many irregularities were found in the relationship between the proportion

**Table 18. Conveniences and comforts enjoyed by Oklahoma farmers, classified by tenure, membership in O. C. G. A., and educational advancement in 1925-26.**

Items used as bases for comparison and membership in O. C. G. A.	TENURE AND GRADE IN SCHOOL OF OPERATORS								
	All Farmers			Owners			Tenants		
	0-4	5-8	9×	0-4	5-8	9×	0-4	5-8	9×
Screened Houses	%	%	%	%	%	%	%	%	%
Members -----	74	81	89	89	89	86	67	74	92
Non-Members ----	67	83	88	82	92	93	64	80	85
Washing Machines									
Members -----	16	20	24	31	27	30	6	13	16
Non-Members ----	7	8	21	18	14	21	5	6	20
Automobiles									
Members -----	58	69	85	77	82	91	47	59	76
Non-Members ----	40	51	54	62	58	60	36	48	50
Telephones									
Members -----	33	43	60	55	58	68	20	29	48
Non-Members ----	21	30	44	32	57	71	18	21	25
Radios									
Members -----	4	7	21	7	13	22	3	7	20
Non-Members ----	3	6	6	5	12	7	2	4	5

of farm homes that had screens, and the educational advancement of the farm operators, when each district was considered separately. In districts VII and VIII very little, if any, relationship was found between the educational advancement of the operator and the proportion of the farm homes that had screens; while in district VI a very decided, positive relationship was found between these factors.

The proportion of the farmers who had washing machines increased, on the whole, with the increase in educational advancement of the farm operators. For all districts and for all farmers combined, the proportion of farmers who had washing machines, to farmers who had gone to high school or college exceeded that for farmers who had not gone beyond the fourth grade in school by 50 per cent for members of the Association, and 200 per cent for non-members of the Association.

When owner operators and tenants, for all districts combined, were considered separately, irregularities were found in the relationship of educational advancement to the per cent of homes with washing machines, for owner operators; but for tenants a very consistent, positive relationship was found between the educational advancement of the operator and the proportion of farm homes that had washing machines.

In each district considered separately, many irregularities were found in the relationship between educational advancement of the operator and the proportion of homes that had washing machines; but these irregularities may be explained, in part, at least, by the relatively small numbers who had washing machines, especially in districts VI and VIII.

A very distinct, positive relationship was found between the educational advancement of the farm operators and the per cent of the farmers who had automobiles, in all districts combined, for members and non-members of the Association, and, with a few exceptions, for both owner operators and tenants.

In all districts combined, for members of the Association the farmers who had gone to high school or college exceeded those who had not gone beyond the fourth grade in school in the proportion of those who had automobiles by 47 per cent for all farmers combined, 18 per cent for owner operators, and 62 per cent for tenants; and for non-members of the Association the farmers who had gone to high school or college exceeded those who did not go beyond the fourth grade in school in the proportion of those who had automobiles by 35 per cent for all operators combined, and 39 per cent for tenants; but for owner farmers, the percent who had automobiles was slightly greater for the group of farmers who had not gone beyond the fourth grade in school than that for the other groups.

When each district was considered separately, many irregularities were found in the relationship of educational advancement of the farm operator to the proportion that had automobiles. These irregularities may be explained largely by the fact that a relatively small number of answers were considered in each group. The answers received indicated that a much smaller proportion of farmers in district VI than of those in the other districts surveyed had automobiles.

The proportion of farmers who had telephones, consistently increased with the increase in the educational advancement of the farm operators, in all districts combined, for both members and non-members of the Association and for owner operators and tenants.

In all districts combined, for members of the Association the proportion of farmers who had telephones to the farmers who had gone to high school or college exceeded that for the farmers who had not gone beyond the fourth grade in school by 82 per cent for all farmers combined, 24 per cent for owner operators, and 140 per cent for tenants; and for non-members of the Association, the proportion of farmers who had telephones to the farmers who had gone to high school or college, exceeded that for the farmers who had not

gone beyond the fourth grade in school by 110 per cent for all farmers combined, 122 per cent for owner operators, and 39 per cent for tenants.

With a few exceptions, a positive relationship was found between educational advancement of operators and the proportion of the farm homes that had telephones, for members of the Association, in each district surveyed; but, for non-members of the Association, many irregularities were found in these relationships. These irregularities may be explained, in part, by the fact that some of the averages were based on relatively small numbers.

A very decided, positive relationship was also found between the educational advancement of the farm operators and the proportion who had radios, in all districts combined, for both members and non-members of the Association; and, with few exceptions, for both owner operators and tenants.

In all districts combined, for members of the Association the farmers who had gone to high school or college exceeded those who had not gone beyond the fourth grade in school in the proportion of radios owned by 425 per cent for all farmers combined, 214 per cent for owner operators, and 567 per cent for tenants; and for non-members of the Association, the farmers who had gone to high school or college exceeded those who had not gone beyond the fourth grade in school, in the proportion of radios owned by 100 per cent for all farmers combined, 40 per cent for owner operators, and 150 per cent for tenants.

Many irregularities were found in the relationship between the proportion of farmers who had radios, and the educational advancement of the farmers, when each district was considered separately. These irregularities were due to relatively small numbers used as a basis for calculating the proportions. The relative number of farmers who had radios was greater in district VII than in either of the other two districts surveyed.

The decrease in the average of the farm operators with the increase in educational advancement may be explained, in part, at least, by the fact that the educational opportunities of the young farmers were better than those of the older farmers as a result of improvements in the public school system with the passing of time. The improvement of educational opportunities is evidenced by the fact that the grown children of the farm operators interviewed were, on the average, much more advanced educationally than their parents.

The correlation indicated between educational advancement and tenure status of the farm operator, and between educational advancement and economic progress may not be without the cause and effect relationship. It is reasonable to believe that education may contribute to the earning capacity of the individual, and by so doing contribute directly to the economic advancement of the farmer; but the fact that the farmers who received more education had made more economic progress does not necessarily mean that the educational training was wholly responsible for the difference. It appears more reasonable to the writer to believe that the characteristics of the individual, which were largely the result of the biological and social heritage of that individual, were largely responsible for both the amount of education received and also the amount of economic advancement made.

The very slight, positive relationship found between educational advancement of farm operators and their membership in churches and lodges may be accounted for in part by the fact that membership in these organizations is not altogether the result of initiative and judgment on the part of the mature individual. It should be recalled in this connection that a higher relationship was found between educational advancement of the farm operators and membership in the Oklahoma Cotton Growers' Association than was found between educational advancement of the farm operators and membership in churches and lodges, and that membership in this Association was based on the judgment of the mature individual.

The very high, positive relationship found between educational advancement of farm operators and the educational advancement of their children was to be expected. Children whose parents have a good education are more likely than those whose parents have very little education to have the importance of securing an education stressed by their parents, to have a home environment more favorable to securing an education, to have a better biological and social heritage, and to have greater financial advantages. All of these factors contribute to the educational advancement of the children.

The very decided, positive relationship found between educational advancement of farm operators and the standard of living maintained by the farm families may be explained in part by the fact that educational advancement may stimulate the demand for a higher standard of living, and by the further fact that educational advancement of farmers was associated with economic advancement, which, in turn, makes it possible to maintain a high standard of living. Both the desire for, and the financial ability to maintain the higher standard of living are important, and both are associated with educational advancement.

#### **PART V. RELATION OF ECONOMIC ADVANCEMENT TO MEMBERSHIP IN ORGANIZATIONS.**

The data for part V of this study were divided on the basis of an adjusted index of annual accumulation of wealth less inheritance. This index was obtained by dividing the farmers on the basis of the number of years of earning life, using five years as the class interval, and then by plotting the averages for these classes on a graph on which years of earning life was represented on the horizontal scale, and average annual accumulation of wealth less inheritance was represented on the vertical scale. The ordinates at the mid-point of each class interval, representing the average annual accumulation of wealth less inheritance for each class, were connected by straight lines forming a straight line or angular curve. This curve was then smoothed by the free hand method.

This smoothed curve represented the average annual accumulation of wealth less inheritance for farmers with each number of years of earning life. The average annual accumulation of wealth less inheritance of each farmer was then divided by the ordinate of the smoothed curve for farmers with the same number of years of earning life, to give the adjusted index of annual accumulation of wealth less inheritance.

By expressing the average annual accumulation of wealth less inheritance in terms of the average annual accumulation of wealth less inheritance, of all farmers who had the same number of years of earning life, this index eliminated the influence of age, and of periods of depression and prosperity, and makes it possible to compare all farmers of all ages on the basis of their average rate of accumulation of wealth less inheritance.

The data for the farmers in each crop reporting district were then sorted on the basis of the adjusted annual accumulation of wealth less inheritance into six classes, as shown in table 19. Irregular sizes of class intervals were used in order to secure a more uniform distribution of the number of records in each class than a uniform class interval would give.

Although the distribution of records was fairly uniform for all districts combined, there was a very decided lack of uniformity in the distribution of the number of records in each district considered separately. In district VII, a relatively small number of records was found in each of the lower classes, and the number increased as the index became larger; while in districts VIII and VI, relatively large numbers of records were found in the first classes, and the numbers decreased as the index became larger. These trends show that the prosperity of farmers as a group, as indicated by the adjusted index

of annual accumulation of wealth less inheritance, increased from district VI in the eastern part to district VII in the southwestern part of the state.

The stability of farmers, as indicated by the average number of moves made, increased with the increase in annual accumulation of wealth less inheritance. For all districts combined the average number of moves made decreased with the increase in rate of annual accumulation of wealth less inheritance, except that for the groups with an adjusted index of annual accumulation of wealth less inheritance of 200 and over, the average number of moves made was the same. The average number of moves made by the farmers who had made the most rapid economic progress was only about half as great as the number of moves made by the farmers who had made the slowest economic progress.

Some irregularities were found when each district was considered separately, but, in general, the average number of moves made decreased with the increase in the rate of accumulation of wealth less inheritance. The average number of moves made by farmers increased from district VII in the

**Table 19. Frequency of moving, tenure and membership in organizations for Oklahoma farmers, classified by rate of accumulation of wealth, 1925-26.**

Items used as bases for comparison	Adjusted Index of Annual Accumulation of Net Wealth Less Inheritance					
	24 & Less	25-49	50-99	100-199	200-399	400 & Over
Number of Records -----	137	100	144	110	100	102
Per cent Distribution -----	20	14	21	16	14	15
Number of times moved ----	7.6	7.5	5.3	4.7	3.9	3.9
Per cent of Tenants -----	91	88	83	53	24	10
Per cent Members O. C. G. A.	48	52	55	59	68	71
Per cent Church Members...	47	40	41	53	58	64
Per cent Lodge Members.....	18	16	21	25	27	32
Per cent Members Farmers' U.	6	6	8	7	15	13

southwestern part of the state to district VI in the eastern part of the state, indicating that there is a direct relationship between stability of farmers and the rate of economic progress, not only in the same district, but for farmers of one district as compared to those of another district. These trends in measures of stability should be kept in mind when considering the membership of farmers in organizations, on the basis of their average rate of accumulation of wealth less inheritance.

The proportion of farmers who were operating as tenants decreased greatly with the increase in the rate of accumulation of wealth, as indicated by the adjusted index of annual accumulation of wealth less inheritance. (See table 19.) For all districts combined the proportion of tenants decreased from 91 per cent for farmers whose index of annual accumulation of wealth less inheritance was less than 25, to only 10 per cent for those whose index of accumulation of wealth less inheritance was 400 or over.

The decrease in the proportion of tenants from the group of farmers who had made the lowest rate of economic progress to the group of farmers who had made the highest rate of economic progress was from 92 per cent to 9 per cent in district VII, 85 to 16 per cent in district VIII, and 94 per cent to 0 per cent in district VI. Some minor irregularities were found in the trend in proportion of tenants in each district surveyed, but these irregularities are relatively insignificant and may be explained by the fact that the averages were based on relatively small numbers.

This very decided, positive relationship between rate of economic progress

and the proportion of farmers who were owner operators should be kept in mind during the considerations of the relationships between rate of economic progress and membership in organizations. It is especially important to take into consideration the relationships found between stability of farmers and their rate of economic progress, and the relationship of tenure of farmers and their rate of economic progress, before any cause and effect relationships are assigned between rate of economic progress and membership in organizations.

### **1. Membership in Organizations**

A very distinct, positive relationship was found between rate of accumulation of wealth, as indicated by the adjusted index of annual accumulation of wealth less inheritance, and membership in the Oklahoma Cotton Growers' Association. (See table 19.) For all districts taken together the per cent of farmers who were members of this Association increased from 48 for those farmers whose index of accumulation of wealth was less than 25, to 71 for those farmers whose index of accumulation of wealth was 400 or over. In other words, the per cent of members of the Oklahoma Cotton Growers' Association was 48 per cent greater for the group of farmers who had made the highest rate of economic progress than for those who had made the lowest rate of economic progress.

Considerable irregularities were found in the trend in the per cent of membership in the Oklahoma Cotton Growers' Association in relation to the adjusted index of annual accumulation of wealth less inheritance, when each district was considered separately; but, on the whole, in each district surveyed, a very decided, positive relationship was indicated between membership in the Association and rate of economic progress.

A very marked, positive relationship was found between church membership and rate of economic progress for all districts combined, except that the per cent of church members was greater for the farmers whose adjusted index of accumulation of wealth less inheritance was less than 25 than for those whose adjusted index of accumulation of wealth less inheritance was from 25 to 100. (See table 19.) This exception appears to indicate that a relatively large proportion of the farmers who made a very slow economic progress were members of churches as compared to the farmers who made somewhat more rapid economic progress.

The fact that a smaller proportion of tenants than of owner operators were members of the church, and the further fact that the farmers who had an adjusted index of annual accumulation of wealth less inheritance of less than 25 had a larger proportion of tenants than was found for the farmers whose adjusted index of annual accumulation of wealth less inheritance was from 25 to 100, emphasize the importance of the exception to the relationship between economic progress and church membership.

In each district surveyed the proportion of farmers who were members of the church was greater for those farmers who had made the least rapid economic progress than for those farmers who had made somewhat more rapid economic progress, but not so great as that for the farmers who had made the most rapid economic progress. With this exception and a few other minor exceptions, in each district surveyed a positive relationship was found between economic progress and church membership.

In general, a distinct, positive relationship was found between the rate of economic progress of farmers and their membership in lodges, for all districts combined, and also for each district considered separately. (See table 19.) The outstanding exception was that in district VIII. The farmers who had an adjusted index of annual accumulation of wealth less inheritance of less than 25 had a larger proportion of lodge members than had farmers with a some-

what more rapid rate of economic progress. Other less important exceptions were also found.

Although the number of farmers who were members of the Farmers' Union was relatively small, on the whole, a very decided, positive relationship was found between economic progress and membership in the Farmers' Union. (See table 19.) Some irregularities were found in the total of all districts, and in each district considered separately many irregularities were found; but these irregularities may be explained on the basis of the relatively small numbers of farmers who were members of the Farmers' Union. A much larger per cent of farmers in district VII than in district VI and VIII were members of the Farmers' Union, and in district VII were found fewer irregularities than were found in either of the other two districts.

The increases in the per cent of farmers who were members of each organization considered, as related to the rate of economic progress of farmers, was in the same order, but not to the same extent, as the increases in the per cent of the farmers who were owner operators and also the increases in stability of farmers. The proportional changes in the per cent of farmers who were owner operators, as related to their rate of economic progress, was considerably greater than the changes in the per cent of membership, as related to the rate of economic progress, in any of the organizations considered above; and the proportional decreases in the number of times the farmers moved, as related to economic progress, was as great or greater than the increases in the per cent of membership, as related to the rate of economic progress, in any of the organizations considered.

Earlier in this study it was indicated that, on the average, the rate of economic progress of farmers was considerably greater in district VII than in district VIII, and somewhat greater in district VIII than in district VI. It was found that the proportion of membership in the church, lodges and the Farmers' Union was considerably greater in district VII than in district VIII, and somewhat greater in district VIII than in district VI. These facts mean that a positive relationship was found between rate of economic progress made by farmers and their membership in the church, lodges, and Farmers' Union when the farmers in one district are compared to those in another district.

The correlation between rate of accumulation of wealth by farmers and the stability of farmers appears not to be without the cause and effect relationships. It is reasonable to suppose that a relatively high rate of accumulation of wealth may have tended to make the farmers satisfied to stay with his farm business, while on the other hand the fact that the farmer stayed with his farm business and did not take on the expenses, in time and money, of moving frequently may have been responsible in part for the higher rate of accumulation of wealth.

The increase in the proportion of farmers who were members of the Oklahoma Cotton Growers' Association, churches, lodges, and the Farmers' Union with the increase in rate of accumulation of net wealth less inheritance, found in this part of the study, shows a positive relationship between rate of economic progress and membership in each of the organizations considered. Causal relationships between rate of accumulation and membership in any of these organizations is not very probable except, perhaps, for the Association and the Farmers' Union, which may have been responsible for some savings to farmers. It is more probable that the relationships indicated were largely results of other factors which were the causes of rate of accumulation of wealth and also causes of membership in the organizations.

The relatively high correlation indicated between economic advancement of farmers and their membership in organizations, especially the church, than was found in parts II and III of this study should be noted. This difference is explained by the fact that tenant and owner farmers were not considered

separately in part V. The rate of accumulation of tenants was much lower on the average than that of owners; and, consequently, in the classes of slow accumulations of wealth was found a high percentage of tenants, while in the classes of farmers with a relatively high rate of accumulation of wealth, a larger proportion of owner farmers than of tenants was found. Since owner farmers were found to be greater joiners of organizations than were tenants, this distribution of tenants and owners helps to explain the differences noted above.

### CONCLUSION

The object of this investigation, as stated in the introduction, was to determine the relation between the economic, social, and educational advancement of farmers in the cotton belt of Oklahoma and their membership in economic, social, and religious organizations. The data analyzed, presented and interpreted in the foregoing pages, appear to justify the statement that, consistently, from every point of view approached, a very distinct, positive relationship was found between the economic, social, and educational advancement of farmers in the cotton belt of Oklahoma and their membership in the Oklahoma Cotton Growers' Association, churches, lodges, and the Farmers' Educational and Cooperative Union.

The correlation indicated between membership in the Oklahoma Cotton Growers' Association—an economic organization—and economic, social, and educational advancement of farmers, was considerably higher than that indicated between membership in the church—a religious organization—and the economic, social, and educational advancement of farmers. A probable explanation of the difference is that membership in the Association was based on the judgment of the mature individual, while membership in the church may have been the result of a family tradition or religious practices of the parents, which made church membership more or less independent of the initiative and judgment of the mature individual.

The proportion of farmers who were members of lodges and the Farmers' Union was so small that the data were not sorted on the basis of membership in these organizations, but on the basis of other analyses made, the correlations indicated between membership in lodges and economic, social, and educational advancement of farmers, and between membership in the Farmers' Union and economic, social, and educational advancement for farmers, were somewhat higher than the correlations indicated between membership in churches and economic, social, and educational advancement of farmers. These differences may be explained in part by the fact that membership in lodges and the Farmers' Union require a decision of the mature individual, while church membership may be more or less independent of these decisions.

The very decided, positive correlation indicated between membership in one organization and membership in the other organizations considered, probably means that some farmers were greater "joiners" than others. There is no evidence to indicate that membership in one organization was necessarily the cause of effect of membership in any of the other organizations. Membership in each and all of the organizations considered was probably largely the result of the inherent qualities of the individuals. The disposition to join an organization may have been the result of a realization of the benefits of organized efforts or it may have been the result of a desire to be associated with others in organized groups.

It is reasonable to believe that the correlations indicated between membership in the organizations considered and the advancement of farmers along the lines of development for which the organizations were specifically formulated, were not without the cause and effect relationships. For instance, it may be that a direct cause and effect relationship existed between

membership in the Association and in the Farmers' Union and the economic and educational advancement of farmers, to the extent that membership in these organizations resulted in savings to farmers and to the extent that membership in these organizations was dependent upon the trained intelligence of farmers.

There appeared no good reason for assuming that church membership of farmers was the cause or the result of the economic, social, or educational advancement of farmers, nor that lodge membership was the direct cause or the direct result of a higher standard of living.

No specific cause and effect relationships can be definitely assigned to explain the correlations indicated between economic, social, and educational advancement of farmers, although these cause and effect relationships undoubtedly existed. Educational advancement of farm operators may have been a cause of economic advancement and also a cause of the educational advancement of their children, and a result of the economic and social advancement of their parents. Economic advancement of farmers perhaps influenced the educational advancement of their children. Both economic and educational advancement of farmers probably influenced and in turn were influenced by the standard of living.

It may be that the inherent qualities of the individual farmers were largely responsible for the amount of economic, social, and educational advancement made, and also determined whether the farmer became a member of the organizations considered. These qualities were probably the most important causes back of the relationships found between membership in organizations and advancement of farmers.