A STUDY OF SOME AGE RELATIONSHIPS OF STILLWATER CREEK DRAINAGE AREA FARM OPERATORS TO THEIR TENURE, INCOME AND FINANCIAL STATUS

AGE RELATIONSHIPS OF STILLWATER CREEK DRAINAGE AREA FARM OPERATORS TO THEIR TENURE, INCOME AND FINANCIAL STATUS

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INTRODUCTION

Some economic aspects of age of farm operators appear to have been of considerable importance throughout the history of agriculture, hence many age studies have been made.

In a study of the Old Testament of the Bible, one finds much which reflects the problems of youth and the wisdom (and sometimes folly) of age. The age of the characters is mentioned in many instances. History studied in the light of the age of its leading figures at the time of certain occurences is quite revealing.

In recent years, due to economic stress among certain classes of people in our own country, a great deal of emphasis has been placed upon youth problems and old age security. Much has been said, and some investigations have been made, of the value of men in different industries at various ages. Age has been considered as a factor in several tenure studies and in three inter-related studies of the "human factor" in farm management it was considered of prime importance.[1]

The purpose of this study is to discover any existing proof in the data available of some of the common beliefs regarding age effects. Age relationship

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1 Walter W. Wilcox, George A. Pond, O. G. Lloyd. Human Factor in Farm Management. Journal of Farm Economics. Vol. 11, 1932, p. 477. See bibliography for others.

to the agricultural ladder is considered. Indications of tenure shifts between age groups are included. Tenure classifications have been kept in most of this study as have age groupings and some important comparisons are made between owner and tenant divisions of farm operators. Tendencies are sought as to size of farm as reflected in the subdivisions made of age and tenure classes. In thinking of age in its various relationships which might affect operators, many questions arise which appear to call for extensive research over a long period of time. This study was of necessity limited to an analysis of tendencies as shown by the data.

Among the questions which arise are the following: Is it necessary for the average operator to go through a period of training thus gaining experience and accumulating the essential capital elements of production? Is there a prime of life period which is reflected in income for the operators of the area? Will the increased efficiency in management gained by years of farming experience tend to compensate for loss of laboring ability? Do the most profitable farmers tend to fall within a distinctive age or tenure status group and, if so, what common elements may be responsible for this greater profitability? An examination is made of the data and

of related studies to find an indication of acceptable answers to these and other questions which need explanation.

An effort is likewise made in this study to determine the extent to which operators of different tenure groups tend to accumulate capital and capital goods and establish a certain sense of financial security with increased age. Some consideration is given to debt among different groups. The size of investment is examined for any discoverable tendencies of age relations.

These are some of the problems associated with age as seen by this investigator which he has attempted to solve in this study. Due acknowledgment is made to many persons with whom he has discussed the problem and to the many related and unrelated age studies which have been useful in the completion of this work.

METHODS

The data[2] for this study was gathered by the survey method in January, 1934, and covers the farm business for the year 1933. The farm record tabulations were taken from farm account summary records.[3]

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2 Farm survey under direction of Dr. J. T. Sanders. Stillwater Creek Drainage Area. January, 1934.

3 See appendix, sample farm account summary card.

The age of operators and the year of gaining or losing ownership status were taken from cards prepared by Mr. W. J. Fessler[4] in his study of mobility of farmers in the area under discussion.

The age of the operators was copied on to the farm account summary cards and, after separating the cards according to the five tenure classifications used, the summary cards were arranged numerically according to age.

In the tenure study, percentages of each tenure class within age groups and percentages of tenants and owners of each age group within their respective tenure status is computed and shown in tables and charts. Acquisition and loss of ownership is shown by years.

For the most part the remainder of the study is based upon totals and averages. The groups are usually large enough that it is hoped that this method somewhat accurately portrays the tendencies of the operators of the area with some general implications.

The divisions of operators by tenure status are as follows: owner operators, owner additional, cash tenants, share tenants, and share and cash tenants.[5]

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4 Fessler, W.J. A study of Tenure Status of 769 Stillwater Creek Farmers. Thesis.

5 See appendix A for complete explanation as to meaning of tenure designations.

Five age groups are used with the thought that the samples are large enough to serve as good indicators and yet, that this is enough groups to bring out any outstanding tendencies. In the tenure study the age divisions are: 35 and under, 36 to 45, 46 to 55, 56 to 65, and over 65. In the other studies where averages are computed, a grouping with the same class interval beginning with the group 30 and under and ending with the group over 60 is used.

Tables are used extensively and it is hoped that the uniformity of these tables will make them more easy to understand. Charts are used for clarification and emphasis of outstanding age and tenure tendencies as revealed by the data.

RELATED STUDIES

No specific age studies of farm operators were discovered but age as a factor has been considered by many investigators. Age influences have received some individual study in industry and physiological ageing effects have long been considered. While these considerations have some economic implications, they have been given slight consideration in this study.

W. J. Fessler, using the same source of data as is used in this study, has the following to say in regard to the age distribution of operators in the area:

> Farmers in the present study were distributed by age from 15 to 90 years, with the largest number in the four year interval, 39 to 42. The average age in 46, and the standard deviation of the sample to age was 16 years. The average age was found by getting the arithmetic mean of all the ages with no reference to the age grouping....
>
> The averages for operators in the Stillwater Creek sample showed the most stable group was the oldest...These averages indicate an inverse relationship between age and mobility...Several farmers in this apparently had alternated oil field work with their farm tenures. They might be more accurately classified as oil field workers, either unskilled or skilled, who returned to the farm only when they were unable to secure a job...
>
> No relation between wealth and date was found when wealth at time of moving was correlated with date and age. More correlation with age was apparent. It was shown that the most stable farmers (1) began with the greatest amount of wealth (2) were older at the time of their first move, (3) moved less frequently, and (4) showed a greater gain in wealth when they did move than the least wealthy.[6]

As Fessler's thesis is primarily concerned with mobility, his divisions of data and analysis relate only to that problem. However, much careful analysis is indicated in the above quotation and mobility is apparently associated, to some extent, with age.

Ankers[7] made some contributions to the study of ages at which the most profitable, the average and the least profitable farmers might be expected to

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6 W. J. Fessler. The Economic and Tenure Status of 769 Farmers in the Stillwater Creek Drainage Area. Thesis, 1937. pp. 11-12.

7 O. L. Ankers. How Much Credit Can a Farmer Afford to Use. Thesis.

attain ownership of land. In his study he based his conclusions largely on data from Garfield County Farm Operators.[8] He did use data in his study from preliminary work done by Dr. Nelson[9] in making comparisons of the ages at which ownership might be attained in the two regions. He found that ownership might be expected at a much lower age (30 years of age for most profitable) in the Stillwater Creek Area than in the Garfield Area where the investment in farming equipment was much higher and land values greater. Anker also found that the average operator in the Stillwater Creek Area would be unlikely to obtain ownership by purchase.

Henry C. Taylor's "Outlines of Agricultural Economics" and Dr. Peter Nelson's writings in Current Farm Economics on Farm Tenancy have been read for a better understanding of tenancy and ownership problems. Much credit is due these sources for the soundness of economic principles evolved. C. L. Holmes Ecohomics of Farm Organization and Management" has been used as a source of farm management principles.

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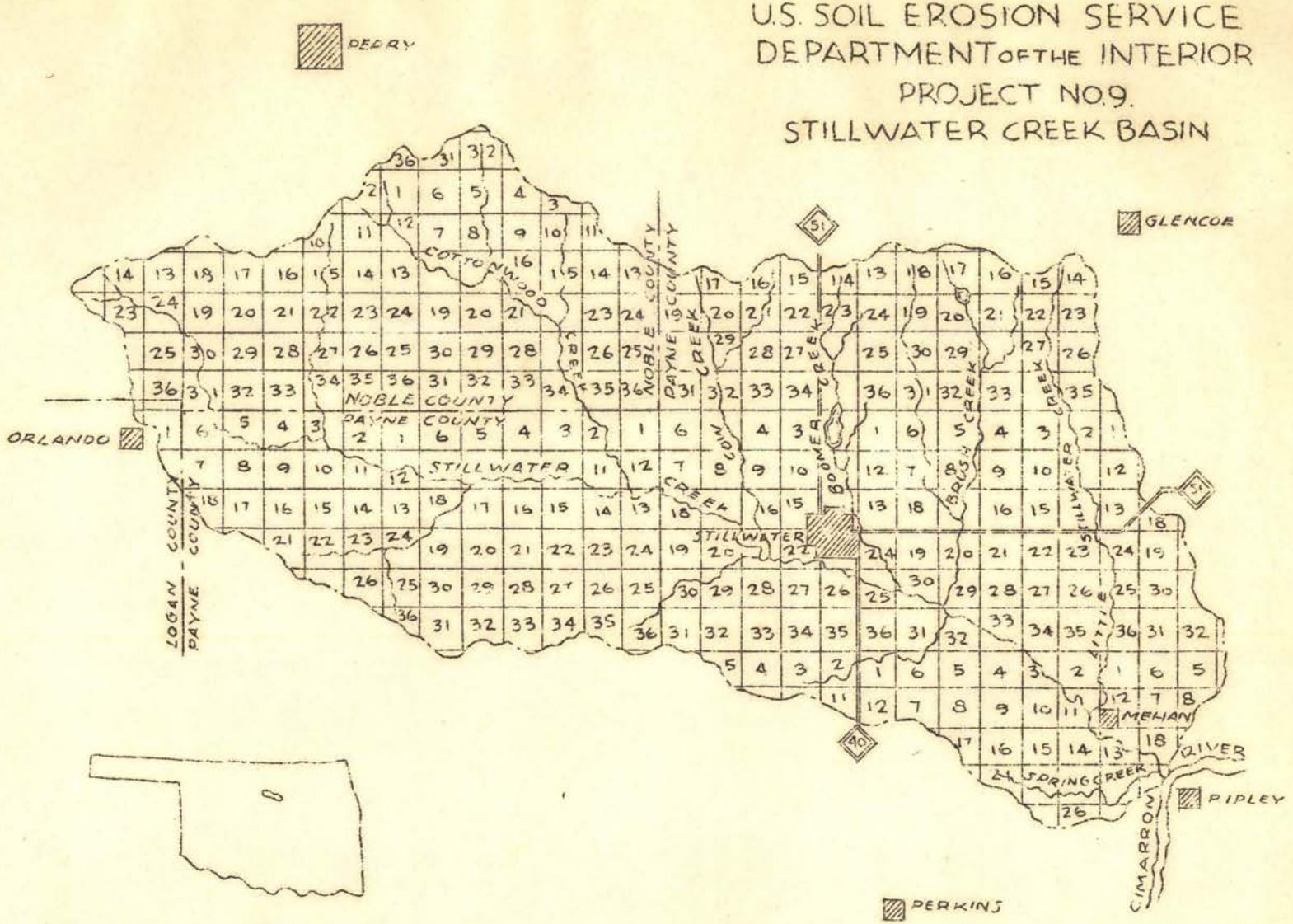
8 Anker, op. cit.

9 Nelson, Dr. Peter. Unpublished data collected by Dr. Nelson, Department of Agricultural Economics, Oklahoma A. & M. College, from figure appearing in "Farm Value, Gross Income and Cash Income from Farm Production."

Thus we have a statement of problem together with some of the questions involved, a brief sketch of methods used in solution of the problem embodied in this thesis with recognition of other related and unrelated studies dealing with the same subject matter from which assistance and inspiration was obtained.

U.S. SOIL EROSION SERVICE
DEPARTMENT OF THE INTERIOR
PROJECT NO. 9.
STILLWATER CREEK BASIN



CHAPTER I

DESCRIPTION OF AREA

The Stillwater Drainage Area is located in the eastern portion of the Red Plains Region and covers an area of about 177,000 acres. The larger portion of the area is within the bounds of Payne County as shown by the map of the area (Figure 1).[1]

The mean altitude of the region is approximately 900 feet. The average annual rainfall is slightly over 32 inches, unevenly distributed. The average growing season is about 209 days.[2]

The area is located in Type of Farming Area 7[3] and is partly bounded on the North and West by the cash grain area No. 3. Area 7 is a transitional zone between cash grain and cotton areas. As is usual in such areas, general farming predominates. (See Table 1)[4] The major cash crops are cotton and small grain with corn, grain sorghums, hay and forage as feed crops along with some small grain especially oats.

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1 See map preceding page.

2 Outline of Project Works Program, Stillwater Creek Basin, Project #9, OK-SCS-1, Stillwater, Oklahoma.

3 Nelson, Peter. Geographical Variability in Types of Farming in Oklahoma, Current Farm Economics, Vol. 9, No. 1, February, 1936, p. 4.

4 Table 1, following page.

Nearly 71.5% of the crop land is in feed crops (see following table). Almost 50% of the area is classified as pasture land.

TABLE 1

A COMPARISON OF CROP AND LIVESTOCK ORGANIZATION OF PAYNE COUNTY OKLAHOMA FARMS AND FARMS OF THE STILLWATER CREEK DRAINAGE AREA

	Payne County	Stillwater Creek Drainage Area
Average Size of Farm	134	172
Percent of Farm land in crops	47.2	43.8
Percent in:		
Corn	8.3	5.7
Wheat	1.5	1.5
Oats	4.0	4.9
Hay	5.4	12.0
Cotton	10.2	5.2
Sorghum	7.1	7.8
Other crops	0.8	1.6
Idle, fallow and failure	9.9	5.1
Pasture	46.0	45.5
Other farmland	5.6	10.6
Livestock per 100 acres of farm land:		
Horses and mules	2.7	2.0
Cattle	6.5	5.8
Cows and heifers (milk production)	2.4	3.5
Swine	3.5	3.3
Sheep and lambs	.8	.6
Chickens	55.8	45.9

5 Above table calculated from 1930 Census. The Stillwater Creek Drainage Area had a smaller percent of crop land, more hay and less cotton and more milk cows than Payne County as a whole.

The livestock play an important part in the utilization of the resources of the are. Dairying is the leading livestock enterprise while poultry is of considerable importance. Beef cattle are important particularly on the larger farms with a large amount of pasture land. Hogs are principally important as a source of farm meat and only a very few have any sheep.

The area is too broken for large scale production of small grains with power machinery and the competitive advantage of other areas keep cotton production from being altogether desirable. Corn yields are uncertain and usually very low except on the better grade of alluvial soils.

Grain sorghums and some grasses do well in the region and seem to be adapted to a larger portion of the land. However, they are not high profit crops and must be utilized with livestock.

Stillwater is a good small market for dairy and poultry products but it has very definite limits. For the most part, the products of these farms must be produced for distant markets and, hence, a certain extensity of methods and production of goods of high specific value are required.

Cotton, therefore, appears to be the principal cash crop; some wheat is sold as cash grain. Milk and milk products together with cattle and calves sold comprise the chief livestock enterprises.

These factors are important in an age study in the same manner that environmental conditions are generally important in economic and social problems.

CHAPTER II

AGE AS RELATED TO OWNERSHIP, TENURE, AVERAGE SIZE OF FARM, INVESTMENT, NET WORTH, DEBT, LABOR AND FARM INCOME.

The land included in the Stillwater Creek Drainage Area was located principally in that portion of the state commonly known as Old Oklahoma, opened to settlement, April 22, 1889. A portion was also included in the area known as the Cherokee Outlet opened in 1893.

Only twelve of the present operators, included in the survey of the Stillwater Creek area, had gained ownership prior to the run of 1889; seven gained ownership that year (which was 45 years prior to the date of the survey, data from which is used in this thesis). If these individuals gained ownership at the age of 21 they would have been 66 years old at the time this information was gathered. It could, therefore, safely be assumed that virtually all owners who gained ownership before 1900 would be shown in the age group over 60. This included some 85 present owners who acquired ownership during this period.

Ownership of the remaining operators appeared to have been acquired somewhat regularly throughout the entire period from 1889 to 1934 with 1896, 1901, 1910, 1919, 1930, 1932, 1933 and 1934 as outstanding years as to number attaining ownership.[1] The cause for the larger numbers

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1 See Appendix B, Table 1.

becoming owners during these years was not explained. There is some indication that acquisition of land by farm operators occurs in cylical periods of from 5 to 11 years.

No operators still farming in the area in 1934, had lost ownership prior to 1900. However, fifty-nine were still farming as share croppers and tenants who had, at one time been owners. Thirty had lost ownership since 1923 showing a probable tendency on the part of those losing ownership status once gained to give up farming either by retirement or by entering other lines of work. The difference between the number gaining ownership and those losing it are shown in table 1, appendix. This shows the years in which present ownership was attained, and also the number gaining and losing ownership each year from 1865 to 1934. It does not necessarily show the date on which the present farm was acquired; only date of change of status is included.

Analysis of findings, shown in Table 1, indicates duration of tenure of present owners to have been 21 years and average age of owners to have been 52.6 years.[2] This gives 32.6 years as an average age at which ownership is attained. This is only 2.6 years above the age which

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2 See Table 1, Appendix B.

Ankers analysis found to be the expected age of ownership of the most profitable farmers under recent farming and price conditions for the Stillwater Creek operators.[3]

It appears, however, there was little or no correlation between the number gaining and losing ownership each year and the value of Oklahoma farm real estate. This is also true for relationship indicated as regards prices of farm products.

Lack of relationship is probably due, in part, to the fact that the purchase of land usually indicates the acquiring of part ownership and payment in full usually covers a number of years. There is shown an almost continuous rise in both farm real estate values and prices of farm products up to and including 1920. (See Table 1, Appendix B).

A study of yields of the area, weighted by farm prices, might show a great deal more correlation. It would be reasonable to assume that farmers purchase land after bumper crops assuming proper equilibrium as to yields and prices. Historical data on yields are not available. Consideration of data on number of owners and prices without historical data on yields do not show an appreciable relationship.

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3 Ankers, loc. cit.

The greater number acquiring the ownership status in the period 1930-1934 was probably due, in part, to the loss of ownership due to the crisis which occurred during this period. There appears to be a tendency shown for operators to have obtained ownership in increasing numbers during or following financial crises. However, no complete explanation has been found. The preceding are mentioned only as possible factors.

TENURE STATUS

Distribution of the entire group of 524 operators as to age and tenure status is found in Tables 2 and 3 page 22. (See also Table 2, Appendix B) If we assume that this gives a representative showing of what might be found in this, and other, areas with about 50% tenancy; we find age to be an important factor in gaining ownership.

Table 2, Appendix B, shows a progressive growth in ownership in each tenure and age group. The greatest percentage increase, between groups, came in the 56 to 65 age group. There were 24.6% more owners in this group of 104 operators than in the preceding group 46 to 55 years. Figure 2, page 18, illustrates this growth as between all owners and all tenant groups.

Presenting the data (found in Figure 2, in words, we find the following distribution; assuming a distribution of eight operators within each age group, there

PERCENT OF OWNERSHIP OF 524 STILLWATER CREEK DRAINAGE AREA FARM OPERATORS - BY AGE GROUPS

January 1, 1934

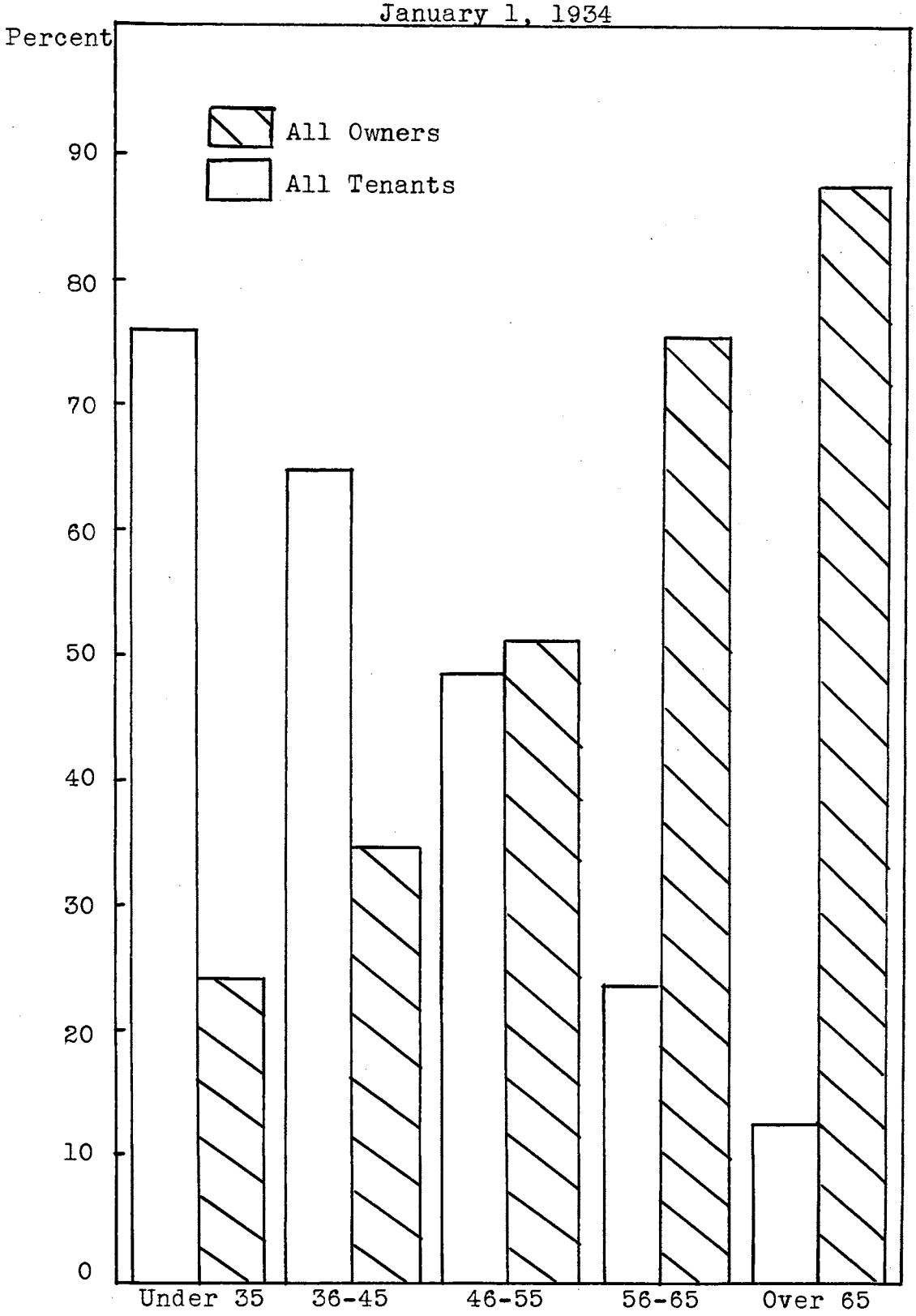

Figure 2.

would be two owners and six tenants under 36 years of age, three owners and five tenants between 36 and 45 years, four owners and four tenants between 46 and 55, and six owners and two tenants between 56 and 65 and seven owners and one tenant in the group over 65 years. This would result in 22 owners and 18 tenants or 55% owners and 45% tenants. Actual data show 51.1% owners and 48.9% tenants.

There was a marked increase in percentages of owner operators with advance in age as shown in Figure 2, page 14. (A part of the oldest group of owners acquired ownership by homesteading, others at extremely low price.) The increase amounted to 34% in the 56-65 year group. This was due, in part, to a marked decrease in owner additional operators of 9.4%. These owner-additional operators increased until they reached this age group and remained fairly constant after this decrease.

There were several possible explanations for this decrease, none of which were indicated by the extent of this study. One likelihood may have been that ages between 56 and 65 is the time at which the children of most families are becoming established for themselves. Up until this time, it could be assumed that the children are becoming increasingly helpful as family laborers.

Another factor which may have effected this group is that it is an age during which certain physical ageing effects cause a large number of operators who have established a certain sense of security to slow down in their farming activity. Reasons for making the extra effort would be partially removed if the first mentioned possibility is accurate. A combination of these factors was assumed to be of major importance as a casual relationship. It must be remembered at all times that this table was based on the entire group of 524 operators for the year 1933 and was not a progressive study.

There were some very interesting indications of definite shifts between the different tenant groupings as well as the attainment of ownership already indicated with each advance in age group. In the first place, there was almost a complete elimination of share tenancy after reaching the age of 65 and at the same time a slight increase in cash tenancy between this age group and the preceding one. This would indicate that it was increasingly difficult to share rent a farm after reaching 60. This was probably due, for the most part, to the preference of landlords for younger share tenants. A smaller division of age groups might have shown this phenomenon to have occurred a few years earlier. This

tendency would tend to emphasize the problem of social security which is ever gaining more attention.

In the second place, there was a marked decrease in share tenancy between those operators who were under 36 and those who were between 36 and 45. Between these same two groups of cash tenants there was only a slight reduction. The combination of two factors may have been important in causing this tendency to appear. The landlords may have had a strong preference for cash rent on most of these farms and there may have been a somewhat selective process in the choice of tenants as to their ages. The tenants may have thought cash rent to their advantage because of experience, accumulated capital and freedom of choosing enterprises. The group of operators who paid both cash and share rent was made up presumably for the most part of those tenants who paid share rent for their crop land and cash rent principally for additional pasture land. There were some of the operators who rented from different landlords with different rental requirements.

This group of renters showed the same general tendencies as the owner-additional operators except the highest percentages and greatest number occurred between the ages of 36 and 45 instead of between 46 and 55.

DISTRIBUTION OF OWNERS AND TENANTS AS TO AGE GROUPING

Table 2 and Table 3 show the distribution of owners, tenants and both owners and tenants combined within each

age grouping. Table 2 was made from the data as to 524 operators included in Table 1, Appendix B.[3] Table 3 is a similar table computed by O. D. Duncan from data on 540 operators of the Hard Winter Wheat Belt of Oklahoma. A slightly different age grouping was used in making up the two tables but this was not a serious defect in making a comparison of different aged groups in the two areas.

TABLE 2

PERCENTAGE DISTRIBUTION OF OWNERS AND TENANTS BY AGE FOR 524 STILLWATER CREEK DRAINAGE AREA FARM OPERATORS 1933.

Number	Owners-268	Tenants-256	All-524
Age	%	%	%
Under 36	10.1	34.8	22.1
36-45	16.0	31.2	23.5
45-56	21.3	20.7	21.0
56-65	29.5	9.8	19.8
Over 65	23.1	3.5	13.6

TABLE 3

PERCENTAGE DISTRIBUTION OF OWNERS AND TENANTS BY AGE FOR 540 HARD WINTER WHEAT AREA FARM OPERATORS, 1935

Number	Owners-281	Tenants-259	All-540
Age	%	%	%
20-29	10.7	21.5	19.7
30-39	23.3	13.2	34.4
40-49	24.4	23.1	25.5
50-59	18.0	22.8	12.7
60-69	15.9	24.5	6.5
70 and over	7.8	13.9	1.2

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3 Survey, Sanders, loc. cit.

Upon close observation, it appeared likely that the two areas have a very similar age distribution in all groups. This indicated a definite analogy between the age relationship to the tenure status in the two areas. Another similarity was in percentage of ownership. In the Stillwater area, 51.1% of the 524 operators were owners, while in the wheat area 52.0% of the 540 operators were owners.[4]

The only considerable variation in number of operators within any age group in the Stillwater area was that there were more than 30% fewer operators over 65 years of age than in the other age groups. This could possibly be explained by the fact that the number of farm operators past this age are considerably reduced by both death and retirement.

While the youngest group had a wider range in ages, it usually takes some time for a young man to become established as an operator. Many young men remain at home with their fathers after they pass the age of 21. Others work out or farm as croppers before they can obtain enough equipment to operate a farm.

AVERAGE SIZE OF FARM

The average size of farm operated showed a tendency to increase with age of the owner and the owner additional

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4 See tables preceding page.

classes of operators; the size of farm operated by the tenant classes rose after 30 and decreased sharply after 60.[5] The average size of farms operated by owner operators cash tenants and share tenants was almost identical when taken for the entire group. The owner additional and the combined share and cash tenants showed a similar tendency to operate about the same sized units. However, this uniformity did not exist between these groups when considered by ages as mentioned above. Owner additional operators averaged about 121 acres of owned land and 124 acres of rented land for all ages combined. There was a tendency for the amount of owned land to increase with age while the amount of rented land remained fairly constant after 30 years of age.

TABLE 4

AVERAGE SIZE OF FARM ACCORDING TO AGE AND TENURE STATUS OF 524 STILLWATER CREEK DRAINAGE AREA FARM OPERATORS, 1933.

Group Age	Owner Operator Acres	Owner Additional Acres	Cash Tenant Acres	Share Tenant Acres	Cash & Share Tenants Acres	All Acres
30 & under						
30 and under	151	176	147	136	200	146
31 to 40	131	252	151	164	345	183
41 to 50	139	246	164	164	207	179
51 to 60	150	235	153	148	242	176
Over 60	164	271	133	113	140	175
All	153	245	153	152	243	174

5 See Table 4.

Table 5 shows number of operators and number of acres operated by each age and each tenure group.

TABLE 5

NUMBER OF ACRES FARMED AND NUMBER OF OPERATORS ACCORDING TO TENURE STATUS AND AGE:524 STILLWATER CREEK DRAIN AGE AREA FARM OPERATORS,1933.

Age Group Years	Owner Operator		Owner Additional		Cash Tenant		Share Tenant		Share & Cash Tenant	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres
30 & under	9	1360	6	1055	19	2788	35	4767	2	400
31-40	19	2491	16	4028	28	4238	37	6067	9	3109
41-50	24	3345	23	5664	28	4602	36	5881	12	2498
51-60	44	6604	25	5873	9	1375	18	2662	5	1212
Over 60	82	13415	19	5158	9	1200	6	680	4	560
All	178	27215	89	21778	93	14203	132	20157	32	7779

The quality of the land and the percent of land in cultivation has not been included in this study. As the size of investment, as shown in the following discussion does not vary directly with the size of the farm, the probable explanation is likely to be in a combination of quality of land and amount of productive livestock.

INVESTMENT

Size of investment would appear to be important in an age study because farming, like any other business, requires capital investment. In farming, within this area,

TABLE 6

AVERAGE SIZE OF INVESTMENT FOR 524 STILLWATER CREEK DRAINAGE FARM OPERATORS, 1933.

Age group	Owner Operator	Owner Additional	Cash Tenant	Share Tenant	Cash & Share Tenants	Average All
30-39	$4727	$5387	$3668	$3774	$3636	$3999
40-49	6048	6760	3955	4826	7348	5308
50-59	6522	6409	3746	4704	5222	5222
60-69	4907	6838	3737	4330	4645	5165
Over 69	6149	5953	5120	3906	4664	5876
Average of totals	5835	6426	3927	4404	5561	5221

Average for all owners $6033

Average for all tenants $4377

Average for all operators . . . $5221

land and fixed improvements on the land represent the larger part of the investment. Working machinery and equipment, including work stock would usually amount to less than $500.00 Very few tractors were being used in the area at the time of this study. Other livestock and feed would also be included in the investment.

By calculating averages for the data shown in Table 6, preceding page, one can place the average investment operated by all farmers at a figure slightly greater than $5000.00; $6000.00 for owners and $4000.00 for tenant groups.

The average size of investment operated by the f ive different tenure groups divided into five age divisions showed the two classes of owners to be operating somewhat larger capital investment than either the cash or share tenants, as shown in Table 6, with few exceptions. The tendency was shown for those operators, under 31 years of age, to be operating a lower investment than the other age groups. There also appeared some tendency toward uniformity between the ages of 31 and 60 for each tenure group except owner operators and combined share and cash tenants.

TABLE 7

SIZE OF INVESTMENT OPERATED BY 524 STILLWATER CREEK DRAINAGE AREA FARM OPERATORS, 1933

Age		Under 30	30-39	40-49	50-59	60-69	70-up
Totals	520	11.5%	20.0%	24.4%	18.7%	17.3%	8.1%
Investment		%	%	%	%	%	%
Up to $2499	94	23.4	20.2	20.2	13.8	12.8	9.6
2500-4999	229	9.6	20.5	26.2	19.2	18.8	5.7
5000-7499	104	11.5	19.2	23.1	18.3	19.2	8.7
7500-9999	42	4.8	16.7	30.9	23.8	14.3	19.5
10,000-up	51	4.0	21.6	21.6	21.6	17.5	13.7

TABLE 8

SIZE OF INVESTMENT OPERATED BY 540 NORTH CENTRAL OKLAHOMA HARD WINTER WHEAT BELT FARM OPERATORS, 1935.[6]

Age		Under 30	30-39	40-49	50-59	60-69	70-up
Totals	540	10.7%	23.3%	24.3%	18.0%	16.9%	7.8%
Investment	215	20.4%	33.5%	22.8%	13.5%	7.9%	1.9%
Up to $2499	"						
2500-4999	64	12.5	32.8	26.6	10.9	9.4	7.8
5000-7499	51	3.9	13.7	23.5	25.5	21.6	11.8
7500-9999	68	4.4	13.2	33.8	19.1	16.2	13.3
10,000-up	142	.7	12.0	21.1	24.6	28.9	12.7

In comparison of size of investment operated by the Stillwater Creek farmers to that of farmers operating in the Hard Winter Wheat Area, as shown by the above tables, we find (as has been stated previously) the number of farmers included in the survey to be about equal with a comparable age distribution between groups. Distribution of farmers in the two areas as to investment, on the other hand, shows a larger variation. The same tendency is shown for older groups to operate larger investment with

6 O. D. Duncan, umpublished data.

with the necessity for larger investment indicated in the wheat area as a possible explanation for a part of this variation. In the wheat area the usual organization includes a much higher investment in both land and equipment.

NET WORTH

TABLE 9

AVERAGE NET WORTH OF 524 STILLWATER CREEK DRAINAGE FARM OPERATORS BY TENURE AND AGE GROUPS, 1933.

Age	Owner Operator	Owner Additional	Cash Tenant	Share Tenant	Share & Cash Tenant
30 & under	$5062	$2578	$ 500	$ 482	$566
31-40	6064	5160	512	545	1339
41-50	7762	3993	1127	886	868
51-60	5917	4124	1006	866	552
60 & over	6379	4340	1653	334	334
Total	5348	4218	853	656	865
Totals combined	$5637			$753	

The average net worth, as shown above, indicated a normal tendency to increase after 30 years of age. The accumulation of wealth by those who attain the ownership status was much higher than that of all tenant groups. The net worth of cash tenants was somewhat higher than that of the share tenants. There was a difference of almost $500,00 between the net worth of all owners as compared with all tenants.

The $753.00 average net wealth of tenants would represent very nearly a minimum requirement for equipment, productive livestock and household furniture.

The net wealth table shows the very definite advantage of land ownership over tenancy. The tenants, as a class, have not acquired anything to carry them over a period of low agricultural prices or a year of unfavorable crop conditions. In the tenant classes, only the cash tenant showed any tendency to accumulate wealth with age.

Table 10 shows the type of investments which represent the tenants wealth. About one-fourth is in productive livestock, over 50% is invested in working equipment and materials including automobiles. About half of the non farm resources of the cash tenant (see Table 11) is in other real estate.

TABLE 10

AVERAGE FARM INVESTMENT OF 176 SHARE TENANTS AND 100 CASH TENANTS IN THE STILLWATER CREEK DRAINAGE AREA, 1933.

Type of Investment	Share tenant Amount	Cash tenant Amount
Farm buildings	$ 36	$ 116
Machinery	135	148
Work stock (horses and mules)	176	155
Feed	54	46
Productive livestock:		
Milk cows	75	115
Other cattle	54	72
Poultry	20	21
Hogs	12	15
Sheep	3	0
Total productive livestock	$164	$223
Grand total	$565	$690

TABLE 11

AVERAGE NON FARM RESOURCES OF 100 STILLWATER CREEK DRAINAGE AREA CASH TENANTS, January 1, 1934.

Type of asset	Amount $
Savings and cash	25
Shares,bonds, etc.	25
Paid up life insurance	57
Real estate	156
Accounts receivable	21
All other assets	7
Total	$ 291

Analyzed on the basis of profitableness, approximately one-half of the tenants wealth is in a form that is used up by actual consumption or by depreciation and obsolescence or that becomes less valuable after a short period due to increased age as in the case of work stock. The productive livestock might be expected to yield a comparatively high return on the investment while the non-farm investment with the exception of shares and real estate in a few cases, would appear likely to yield a very low rate of interest, if any. In brief, a large part of the wealth of tenants is in a form where costs of owning are relatively high and returns are uncertain and usually low.

INDEBTEDNESS

No definite tendencies were shown between age groups as to amount of indebtedness. The owner classes, however, owed a great deal more money than did the tenants. This data is not divided as to land indebtedness so it may safely be assumed that the larger part of the difference, as shown in the following table would likely be that form of debt.

TABLE 12

AVERAGE DEBT OF 524 STILLWATER CREEK DRAINAGE AREA FARM OPERATORS, January 1, 1934

Age	Owner Operator	Owner Additional	Tenant Cash	Tenant Share	Tenant Cash & Share
Under 31	$ 292	$ 772	$ 203	$ 199	$ 38
31-40	1324	1277	286	224	620
41-50	1171	781	219	84	275
51-60	998	1126	287	156	182
61-up	1098	726	886	23	359

About 16% of the total wealth of the owners was involved in debt while the tenants capital accumulation carried a debt burden of about 26%. The fact that the cash tenants had a heavier debt than the share tenants was probably due to the fact that some of them had not been able to pay their rent. While there were a good many operators in all groups who were free of debt there was little indication of savings on the part of tenants ex-

cept for an accumulation of capital goods, largely represented in farm equipment and productive stock as suggested previously.

LABOR INCOME

Labor income for the year 1933 appeared to be very low for all tenure and all age groups. Many individual Farm Account Summary Cards showed complete failure of the corn crop. Other low yields would at least partially explain the general low income.

TABLE 13

AVERAGE LABOR INCOME FOR 524 STILLWATER CREEK DRAINAGE AREA FARM OPERATORS, 1933.

Age	Owner Operator	Owner Additional	Cash Tenant	Share Tenant	Cash & Share Tenant
Under 31	$ 61	$174	$206	$220	$ 91
31-40	-130	102	218	381	115
41-50	-234	125	158	223	236
51-60	-2	62	265	257	309
61-up	-172	-93	-74	176	284

There was a negative labor income for all owner operators. Owner additional and cash tenants also showed a negative average labor income for that group of farmers over 60 years of age. The two other tenures showed a decreased labor income for this same age group.

(See Table 13 and Figures 3, 4, 5, 6, and 7 on following pages.)

A partial explanation of the lower labor income of the owner operators is found by an examination of Farm Income Table 14. However, this also shows a tendency for lower earnings by the farm owned than by those operated by tenants.

TABLE 14

AVERAGE FARM INCOME BY AGE AND TENURE STATUS FOR 524 STILLWATER CREEK DRAINAGE AREA FARM OPERATORS, 1933.

Age	Owner Operator	Owner Additional	Cash Tenant	Share Tenant	Cash & Share Tenant
Income:					
Under 30	$176	$322	$225	$244	$118
31-40	209	315	241	403	248
41-50	109	313	199	244	267
51-60	243	281	301	279	337
61-up	135	130	-10	192	300

RANGE IN LABOR INCOME

The range (the highest and lowest in each group) in labor income between the different age and tenure groups was quite interesting but no definite conclusions could be drawn. It seems that the opportunity to lose money increases with age as well as the increased opportunity to make money.

AVERAGE LABOR INCOME OF 524
STILLWATER CREEK DRAINAGE AREA FARM OPERATORS
1933
For Each Tenure Class According to Age Groups

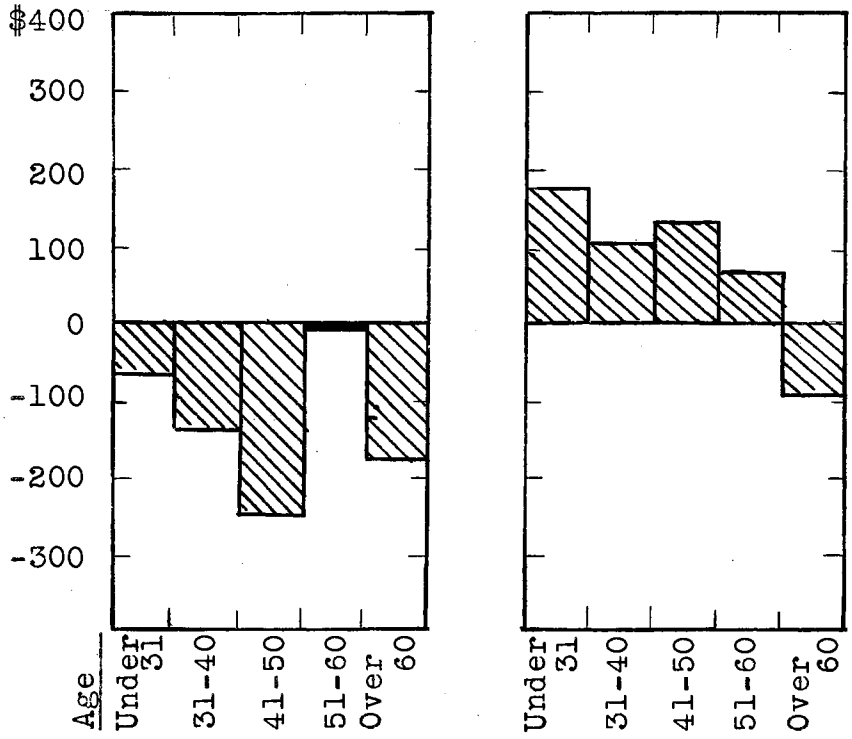

Fig. 3 Owner-Operator

Fig. 4 Owner-Additional

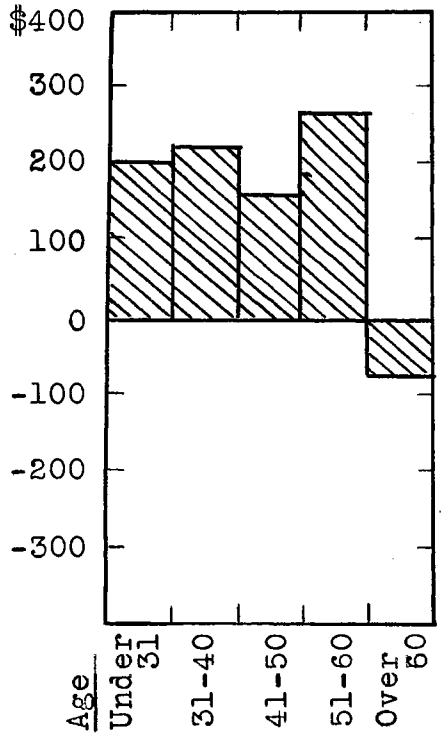

Fig. 5 Cash Tenant

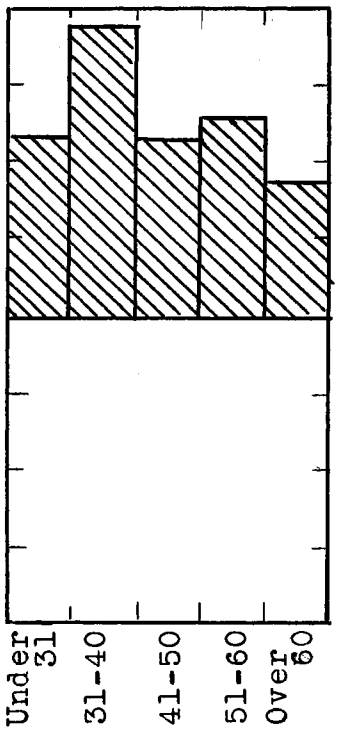

Fig. 6 Share Tenant

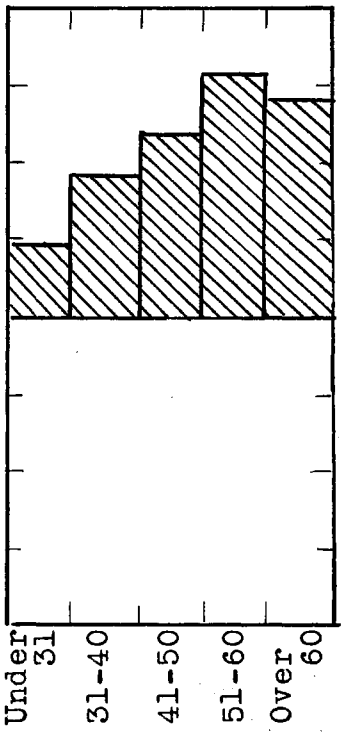

Fig. 7 Share amd Cash Tenant

TABLE 15a

RANGE IN LABOR INCOME BY AGE AND TENURE STATUS FOR 524 STILLWATER CREEK DRAINAGE AREA FARM OPERATORS, 1933: HIGHEST LABOR INCOME WITHIN GROUP

Age	Owner Operator	Owner Additional	Cash Tenant	Share Tenant	Cash & Share Tenant
Under 31	$543	$489	$853	$668	$374
31-40	713	1777	833	1194	925
41-50	1716	1989	862	1203	955
51-60	1410	832	775	984	615
Over 60	511	805	447	520	893

TABLE 15b

RANGE IN LABOR INCOME BY AGE AND TENURE STATUS FOR 524 STILLWATER CREEK DRAINAGE AREA FARM OPERATORS, 1933: LOWEST INCOME WITHIN GROUP.

Age	Owner Operator	Owner Additional	Cash Tenant	Share Tenant	Cash & Share Tenant
Under 31	$-1010	-305	-186	-135	-192
31-40	-1221	-1539	-524	-478	-1179
41-50	-2487	-746	-512	-189	-276
51-60	-1137	-872	-338	-201	47
61-over	-1139	-573	-1120	33	-180

The highest labor income appeared in each tenure group to be reached in the age group 40-50. The lowest labor income for each tenure group does not follow any definite age pattern. Owners in each age group had the lowest labor income.

LABOR OFF THE FARM

A tendency is shown for amount of income for labor off the farm to decrease with age for the owner classes and to increase for the tenant classes. This is probably due to the reduced need and increased security of the older owners. The tenant class must continue to be dependent upon their labor as the principal source of income and as they are forced to reduce the size of farm operation must supplement their revenue from farm operations with all other labor obtainable.

TABLE16

AVERAGE LABOR INCOME FOR OFF THE FARM: 524 STILLWATER CREEK DRAINAGE AREA FARM OPERATORS, 1933.

Age	Owner Operator	Owner Additional	Cash Tenant	Share Tenant	Cash & Share: Tenant: All	
Under 31	$173	$ 51	$ 41	$ 32	$ 32	$54
31-40	181	131	41	28	14	72
41-50	40	57	37	57	36	47
51-60	59	40	132	93	70	67
Over 60	14	22	-	124	21	20

There seems to be considerable justification for special attention to the younger and older groups in agriculture as well as to the general movement for these groups as a result of analysis of the data and findings of this thesis.

Much has already been done and is being done along educational lines by the Extension service and Agricultural Education Department, 4-H Club, and the Future Farmers of

America and other organizations. The problem is a deeply rooted one. Improved knowledge and methods in agriculture are usually more readily accepted by younger groups hence any solution must be one of slow and steady growth and of long duration.

Financial assistance would be a definite step toward solution in securing the necessary farming equipment and after a period of time, land when proof of ability, energy, and integrity had been established. The Farm Security Administration is doing some work along these lines at present. Subsidies in conjunction with the nearest approach possible to a complete self sufficiency would tend to reduce the present trend of the less profitable operators to part time farming or to non farming and partly, or complete dependence upon WPA and other relief agencies. It is possible to interpret the average labor off the farm as showing the beginning of such a movement in 1933.

Subsidy of less profitable operators is, of course, in direct opposition to all conservative economic theory and is justifiable only as an emergency and social measure. These social measures take into consideration the national good, the well being of the nation and of the individuals making up the nation, the quality of

the population. In the light of such philosophy, a small self sufficing type of farm organization appears to be a worthy solution of the problem of both younger and older farmers. The present trend in national policy is in this direction.

FACTORS APPEARING TO BE IMPORTANT NOT INCLUDED IN THIS STUDY.

The farm organization appears to be of considerable importance. This was not fully analyzed but younger operators appeared to be somewhat handicapped, as has been stated, by a shortage of both the primary and secondary factors of production as described by Holmes.[7] This is due largely to not having accumulated these goods and to not having gained the necessary experience of combining the factors for maximum utilization.

Older operators, tended to reduce the quantity of all or a part of the factors of production. Possibly this was a natural result of those physical and economic consequences of age already discussed on page 15.

Quality of land farmed, percentages of crop land, amount of waste land and densely wooded land might help explain some variations in the data.

Management as distinguished from organization is unquestionably a variable factor between each individual and likely more distinctly between age and tenure groups.[8]

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7 C. L. Holmes, Economics of Farm Organization and Management. Chapter Vii, VIII, IX and X. D. C. Heath, 1928. p. 371.

8 Ibid.

CHAPTER III

SUMMARY AND CONCLUSIONS

1. The physical and economic conditions of the Stillwater Creek Area cause cotton and small acreages of wheat to be the principal cash crops of the area. These factors, also make dairying usually of an extensive nature and cattle and calves largely a by-product of the dairy enterprises the most important livestock enterprises of the area.
2. The historical data show present ownership to have been acquired over a long period of time with considerable uniformity. More data and further analysis are needed before any conclusive statement can be made in regard to the comparative difficulty of becoming an owner at any period since good free land or good cheap land has been obtainable.
3. A very decided increase in percentage of ownership was shown with each advanced age group. A tendency was shown for the tenants over sixty-five years of age to be forced into the cash tenant group.
4. The size of farm operated by different age groups showed no definite tendencies but in comparing the size of farms operated by all ages within each

tenure group, the average was almost identical for owner operators, cash tenants and share tenants and for owner additional and share and cash tenants. The amount of owned land tended to increase with age while the amount of rented land increased after 30 and decreased after 60 years of age.

5. The size of investment operated tended to increase after 30 years of age and was higher for owner classes than for tenants. Owner classes averaged operating a larger investment than tenant classes.
6. The average net worth of the owners was about eight times as great as for the tenant classes.
7. The debt load of the owners was greater; this was explained by the probable land indebtedness.
8. The average labor income shows no conclusive evidence of a definite trend by age groupings. A sharp decline occurred in all averages for operators over 60 years, however. Between tenure groups, the average labor incomes for 1933 showed the tenants to have an advantage of owners. The owner operators in all cases had a negative labor income.
9. The farm income indicated a like advantage for tenants.
10. The range in labor incomes might be said to point to the possibility of greater gains and greater

losses by owners and operators of large farms. Operators under thirty did not have so wide a range in incomes.

11. There was a decline in average amount earned off the farm for the older owners, a reverse tendency was shown for tenants.

CONCLUSIONS

Age does have some very definite bearing on the economic status of farm operators.

1. The most conclusive evidence of age as a factor is shown in its relationship to tenure status. In most of the remaining analysis tenure status shows the most decided tendencies but this may thus be considered indirectly an age effect because the older operators were larger owners.
2. The relationship of age to size of farm operated is not clear but there is some indication that very young and very old farmers tend to operate smaller farms. The former because of the period of accumulation of equipment and livestock necessary to operate a larger farm; the latter because of reduced need and physical ageing.
3. After 60 years of age the average farmer should not expect to maintain as high a labor income as he formerly received. His physical strength is less. The

causes and need for ambitions are not so great and usually the help of growing and grown children is absent.

4. That the security and assurance of the full ownership of a farm is a valuable form of insurance for farm operators and appears to be the common form of accumulation of wealth by most farmers. The farm home if owned usually represents the greater part of a farmers life savings in this area. Savings are apparently not common to farmers except among those who invested in property and livestock.
5. The average debt of more than $1000.00 each for all owners may be considered a great burden for farmers in this region. This is about one-sixth of total wealth of tenants. The interest on such an amount is considereble in the light of farm income.
6. The period of training and gaining experience necessary before beginning farming for oneself is usually well taken care of by the rears spent working on the home farm as a farm hand. It does appear probable that the period of accumulation of the necessary capital goods required to operate at highest efficiency usually takes a longer period.
7. The prime of life varies with different men but the indications are that, for this area, it would appear to include the entire period from 30 to 60.

8. Economic necessity appears to be a motivating factor even among older operators.

9. Tenancy in this area does not appear, from the data, to be altogether an evil especially as reflected in labor income. As regards accumulated wealth it seems that tenants do not usually attain a position of financial security, however. It is generally accepted as a truism that the first thousand dollars is the hardest to accumulate; few tenants have amassed this amount and among those who have a large part is represented in froms of investment which yield little or no monetary return except imputed value which passes into crops and livestock produced and which depreciated rapidly such as machinery and tools, including cars, trucks and tractors (on few farms). Tenants are forced to rely almost entirely upon their labor and upon the relatively small amount of farming equipment and productive livestock, as the chief sources of income. The amount of interest on investment in most cases amounts to less than fifty dollars. Hence social security looms as one of the large problems in the present agricultural situation.

BIBLIOGRAPHY

PRIMARY SOURCES:

Farm Account Record Cards, see sample, Appendix C.

Survey, Stillwater Creek Drainage Area, January 1, 1934. Directed by Dr. J. T. Sanders.

Farm Account Record Books.

Thesis. Fessler, W. J. "A Study of the Tenure Status of 769 Stillwater Creek Farm Operators".

Thesis. Ankers, D. L. W. "How Much Credit Can a Farmer Afford to Use."

Nelson, Dr. Peter. Geographical Variability in Types of Farming in Oklahoma, Current Farm Economics, Vol. 9, No. 1, February, 1936. p. 4.

Nelson, Dr. Peter. Landlord Tenant Relations in the Southwest with Special Reference to Oklahoma. Southwestern Social Science quarterly, Vol. XIV, No. 4, March, 1939.

Outline of Project Works Program, Stillwater Creek Basin Project No. 9, OK-SCS-1, Stillwater, Oklahoma.

United States Department of Agriculture. Index of Farm Prices, Demand, Credit, Prices Outlook. Chart 1937. p. 38.

SECONDARY SOURCES:

Pond, Geo. A and Walter W. Wilcox. Human Factor in Farm Management. Journal of Farm Economics, Vol. 11, 1932, p. 477.

Wilcox, Walter W. and O. G. Lloyd. The Human Factor in the Management of Indiana Farms. Indiana Agricultural Experiment Station Bulletin No. 369. p. 12.

Wilcox, Walter W. and Andrew Boss and Geo. A. Pond. Relation of Variations in the Human Factor to Financial Returns in Farming. Minnesota Agricultural Experiment Station Bulletin No. 288. pp. 18-19.

Nelson, Dr. Peter. Is Farm Tenancy Inherently an Evil? Yes? No? Who Knows? Current Farm Economics. Vol. 10, No. 2, Series 49, p. 29. April, 1937.

Nelson, Dr. Peter. Stability of Farm Tenure Through Revision of Prevailing Rental Agreements. Current Farm Economics. Vol. 11, No. 5, Series 49, p. 111. October, 1938.

Nelson, Dr. Peter. Where to In Farm Tenancy. Current Farm Economics. Vol. 10, No. 6, Series 40, p. 124, December, 1937.

Nelson, Dr. Peter. The Land Tenure Problem in Oklahoma. Current Farm Economics. Vol. 10, No. 4, Series 49, p. 74. August, 1937.

APPENDIX A

EXPLANATION OF TERMS USED

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EXPLANATION OF TERMS USED

Total investment	Beginning farm inventory plus final farm inventory divided by two.
Farm income	Gross receipts less total farm expenses.
Labor income	Farm income less 5 percent interest on average farm investment
Productive livestock	All farm livestock contributing to the total farm return, and excluding livestock used exclusively for power.
Owner operator	Full owner or part owner who has title to all the land he operates.
Owner additional	The same as above except that he cash or crop rents additional land which he farms with his owned land
Cash tenant	Operator who pays cash rent for all the land he farms.
Share tenant	Operator who pays a proportionate part of the crops produced to the landlord for the use of the land. The customary crop rent is one-fourth of cotton and one-third of grain and feed crops.
Share and cash tenant	An operator who combines both of the two preceding methods of renting land. This is often due to a share tenant paying cash rent for pasture and sometimes due to renting from landlords who use the different forms of renting.
Agricultural ladder	So called, the "agricultural ladder" is a term used in speaking to the gradual upward progress in gaining the ownership of land. If a person climbs the agricultural ladder with-

	out skipping any rungs, he begins as a farm hand, usually on his father's farm, then be becomes a share cropper, then a share or cash tenant, then a part owner and finally he attains full ownership of a farm.
Net Worth.	Total wealth less total debt.
Total gross receipts	The cash farm receipts plus increases in farm inventories (except land).
Returns to investment	Farm income less the operator's estimate of the value of his own labor, averaging $422.00.

APPENDIX B

TABLES

TABLE 1

NUMBER OF FARM OPERATORS GAINING AND LOSING OWNERSHIP, STATUS 1865-1934 with INDEX OF FARM REAL ESTATE VALUE[1] AND INDEX OF FARM PRODUCTS PRICES.[2]

1913-1914 = 100

Year	Number gaining Ownership	Number losing Ownership	Oklahoma Farm Real Estate	Farm Product Prices
1934	13	7	76	72
1933	16	2	76	72
1932	16	3	94	68
1931	7	1	116	91
1930	15	3	127	124
1929	8	3	127	147
1928	6	3	127	148
1927	9	0	128	139
1926	6	1	130	140
1925	6	3	131	154
1924	9	4	125	140
1923	9	2	133	138
1922	8	2	139	132
1921	5	2	160	124
1920	7	1	166	211
1919	12	0	140	221
1918	6	3	130	208
1917	2	0	114	181
1916	7	0	104	118
1915	4	1	95	100
1914	6	2	101	100
1913	4	2	101	100
1912	1	3	98	102
1911	4	2	90	94
1910	10	3	100	104
1909	3	0	94	98
1908	5	1	83	87
1907	7	2	83	80
1906	4	1	77	79
1905	6	0	76	82
1904	7	0	79	78
1903	6	1	75	82
1902	2	0	79	74
1901	13	0	71	71
1900	8	1	68	64
1899	1	-	61	63
1898	6	-	60	60
1897	6	-	58	56
1896	13	—	54	62
1895	8	-	59	63
1894	7	-	60	

Continued following page.

TABLE 1*
Continued

Year	Number gaining Ownership	Number losing Ownership	Oklahoma Farm Real Estate	Farm Products Prices
1893	5	-	69	72
1892	2	-	66	69
1891	5	-	73	76
1890	5	-	68	71
1889	7	-	64	67
1888	0	-	72	75
1887	2	-	68	71
1886	0	-	65	68
1885	1	-	69	72
1884	2	-	95	99
1883	2	-	83	89
1882	0	-	95	80
1881	1	-	85	72
1880	0	-	77	72
1879	1	-	69	89
1878	0	-	69	89
1877	0	-	85	99
1876	0	-	85	102
1875	1	-	95	103
1874	1	-	98	108
1873	0	-	99	102
1872	0	-	104	112
1871	0	-	98	128
1870	0	-	107	138
1869	0	-	123	133
1868	0	-	132	140
1867	0	-	128	148
1866	0	-	134	140
1865	1	-	142	148

1 United States Department of Agriculture Index of Farm Prices: Demand, Credit, Prices Outlook Chart 1937, p. 38.
2 Fessler, loc. cit.

* Data for columns 1, 2 and 3 of this table were taken from 769 cards copied by W. J. Fessler from original data of the Stillwater Creek Drainage Area Survey, loc. cit.

TABLE 2

PERCENTAGE OF TENURE CLASSES WITHIN EACH AGE GROUP OF 524 STILLWATER CREEK DRAINAGE AREA FARM OPERATORS, JANUARY 1, 1934.

No.	Age groups years	All[1] Owners %	All[2] Tenants %	Owner[3] Operators %	Owner Additional %	Cash Tenants %	Share Tenants %	Cash & Share Tenants %
117	Under 36	24.0	76.0	13.7	10.3	28.2	43.6	4.2
123	36-45	35.0	65.0	17.1	17.9	25.2	30.1	9.7
109	46-55	51.4	48.6	26.6	24.8	14.7	25.7	8.2
104	56-65	76.0	24.0	60.6	15.4	5.8	14.4	3.8
71	Over 65	87.3	12.7	73.2	14.1	8.5	1.4	2.8
524	All	51.1	48.9	34.5	16.6	17.6	25.2	6.1

1 All owners included owner operators and owner additional

2 All tenants included cash tenants, share tenants and cash and share tenants

3 See Appendix A for definition of tenure groups

The percentage ofownership rose for each advance in age group. The most marked increase was in the age group 56-65. The owner additional operators decreased for the two age groups over 65. Share tenancy almost disappears after 65 and cash tenancy increased slightly for the same group.

APPENDIX C

OKLAHOMA FARM ACCOUNT SUMMARY CARD