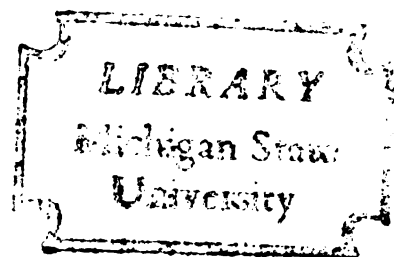


USE AND AVAILABILITY OF
CREDIT IN
NORTHERN MICHIGAN AGRICULTURE

Thesis for the Degree of M. S.
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Eugene Burns Pickler
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U S E A N D A V A I L A B I L I T Y
O F C R E D I T I N
N O R T H E R N M I C H I G A N A G R I C U L T U R E

by

Eugene Burns Pickler

A Thesis

Submitted to the College of Agriculture of Michigan
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ABSTRACT

The purpose of this study is to determine if lack of credit has been a contributing factor in the present conditions of despair in Northern Michigan Agriculture and if credit can be used as a tool to improve the present depressed conditions.

A six county area was selected from economic area 4a to be studied. This area consisted of Lake, Mecosta, Missaukee, Newaygo, Osceola, and Wexford counties. Within the six counties the rural geographic area was divided into segments containing eight to ten families and sample segments were drawn at random. Three hundred and forty-one families were interviewed concerning their physical and human resources and particularly concerning their credit use, credit availability, debt situation, and financial position.

Farm and managerial characteristics that were thought to be factors in the use of credit were tested by analysis of variance. The factors found to be most closely associated with credit use were size of farm, education of family head, and gross farm income.

A survey was also made of all major lending agencies in six counties to give further insight into the agricultural credit situation from the lenders side. The primary lending agencies consisted of eighteen banks, three Production Credit Association Offices, three Farmers Home Administration Offices, and two offices of the Federal Land Bank.

These agencies were asked questions of fact and of opinion. Their lending policies were reviewed as to interest rate and as to limits on loan size, equity, and length. Lenders were asked what characteristics they desired in borrowers and what information they wanted before making a loan. They were asked opinions of the current agricultural situation in their area and to what they attributed its present condition. The lenders also checked off the borrowers from the list of the farm survey interviewees as a check on the accuracy of the farm survey data.

The conclusion was drawn that there has been no lack of credit in the last decade considering the attitudes of lenders and borrowers that existed. However, credit could have been used to help prevent the present situation had different attitudes existed.

A further conclusion was drawn that credit cannot be used successfully under the existing institutional framework to improve the present conditions. However, with the education of both lenders and borrowers to the potentials of credit when used as a tool in agricultural production and with the changing of legal restrictions from emphasis on collateral to emphasis on earning power, credit can become a very valuable tool to aid in the economic improvement of agriculture in an area such as Northern Michigan.

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Any errors that remain in the final manuscript are the sole responsibility of the author.

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CHAPTER I

INTRODUCTION

In any dynamic economy adjustments must be made. Conditions in the factor markets change and factors become combined in different ways and in different proportions. Conditions in the product market and consumption and investment patterns change, leaving some products more plentiful and some products less plentiful than before. Many of these changes are the result of people's thoughts and actions. A few of them are the result of some forces, as yet, completely beyond the control of the human element. Regardless of the source of the forces that cause the economy to remain dynamic, the realization that constant adjustments must be made and are being made is not difficult to recognize.

In this dynamic economy in which everyone is an involuntary prisoner, adjustments do not always bring improvement for all segments of the society. As some phases of our economy expand, others may contract. This contraction may be a very painful process when the people involved do not want to contract or change their activities. Out of this painful process often come anguished protests which enlist the sympathies of society in an attempt to ease the pain

through governmental action by whatever means possible and feasible. This study is the result of just such conditions.

Agriculture is a very vital part of the economy of this nation. Agriculture, as must the other sectors of the economy, makes adjustments because of changing conditions. In this dynamic process, some segments of agriculture fall by the wayside, comparatively, resulting in economic despair for some regions. Michigan has an area which is presently in this situation. This study is designed to take a small part of the State of Michigan, examine the conditions therein, and attempt to determine if credit has been a factor either contributing to or helping to prevent this situation from developing.

However, before the objectives of this study are made more explicit, some background information should be presented to give the reader a better understanding of the area under study and its history.

Conditions in Northern Michigan are under study here. This is the region commonly referred to as the "cutover region." It was into this region that settlers began to move after the middle 1800's. The settlers were preceded by the lumber jacks who cut away the virgin forests of pine and hardwoods that abounded in the area. With the timber gone, the land was left open for the settlers to establish farms. The settlers came by the hundreds and these farms

were established.¹

For a more detailed study of conditions in this area, a six county area in the lower peninsula of Michigan was selected. This consists of Lake, Mecosta, Missaukee, Newago, Osceola and Wexford counties.

Farmers moved into this area with little knowledge of the soil or the productivities of the different soils in the area. As is true in many of the glaciated areas in the northern United States, the soils vary tremendously even within a distance of a few feet. The real differences in the soil were not apparent when it was virgin soil, but

¹John T. Stone, "The Relationship of Land Use to Land Character in Otsego County, Michigan" (unpublished thesis, Michigan State College, 1940), p. 8.

as the farmers plowed the land year after year and planted it to crops, much of the virgin fertility was lost and the real differences in the soil quality began to appear.

During the last 15 years there has been a decline in the number of farms in this six county area that substantially exceeds the United States' average for decline in farm numbers. According to the United States Census there were 30.1 percent as many farms in 1954 as in 1939 while in these six counties there were only 67.8 percent as many farms in 1954 as in 1939. It is general knowledge that farm size has been increasing in the United States, because changing technology required an increased size of operations. Inasmuch as the total available farmland is nearly constant, an increase in size means a decrease in number.

Therefore, it would appear that the large reduction in farm numbers in this area would mean a high proportion of larger and seemingly more efficient units. The units, in fact, were larger in 1954 than in 1939. While the land in farms decreased 15.4 percent from 1,215,000 acres in 1939 to 1,028,000 acres in 1954, the number of farms decreased even more. However, the productivity apparently did not increase with size. The Census data show that the gross farm income per farm in 1939 and 1944 was approximately 63 percent of the national average, while by 1949 and 1954 it had dropped to only 50 percent of the national average gross farm income. This area, then, has declined relative

to the national agricultural situation. Moreover since this 50 percent figure amounted to only \$2574 in 1954, it is the author's opinion that the situation can safely be described as one of economic despair.

It is evident that the agricultural and economic conditions of this area have failed to keep abreast of the national economy. There are doubtless many causal factors that come into play in this situation; however, this study is an attempt to study one possible causal factor—credit.

To be more explicit, the objectives of this study can be stated as follows:

1. To determine if the lack of credit or the misuse of credit by entrepreneurs has contributed to the present conditions of despair, and
2. To determine if credit can be used as a tool to improve the present conditions.

The hypotheses to be accepted or rejected in this study follow:

1. There has been no shortage of credit in the past decade for agriculture—given the attitudes that have existed on the part of the lenders and borrowers concerning the making and use of loans.
2. Most of the credit used has been for consumption and short-term production credit.
3. There is no shortage of credit now considering the current local demand.
4. Credit will not have a substantial influence in

improving present conditions if used only for short-term, small changes in production methods.

5. The major factor determining whether a loan is made to a farmer is the character of the man rather than his producing ability.

6. Major changes in the criteria used in making loans are needed if farmers in an area such as this are to progress at the same rate as farmers elsewhere. These include new attitudes and rules on the part of both the borrower and the lender.

With the general background information presented on the area under study, with the specific objectives presented, and with the hypotheses in mind, the reader should be fully equipped to move into the details of this research project.

CHAPTER II

THEORETICAL FRAMEWORK

Now that some attempt has been made to define the problem being studied and to state the hypotheses that have been formulated, attention should be directed to the theory that deals with the problem situation. Before dealing with capital specifically, some theory relating to this situation is presented as a starting point from which to formulate and refine hypotheses and from which to develop procedures leading to tentative solutions.

Definitions

In any technical discussion it is necessary to understand the terminology. The following definitions are presented to insure a mutual understanding of the terminology used.

Capital, defined in a strict sense, is an aggregation of economic goods used in the production of other goods instead of being valuable for immediate enjoyment. This definition is believed to be too restrictive for the theory which will follow concerning capital rationing. Therefore, the definition which will be used can be stated as follows:

capital is an aggregation of economic goods used in the production of other goods. It includes those economic goods which can readily be converted from production goods to consumption goods and those consumption goods which can readily be converted to production goods.

This definition of capital includes working and fixed capital. Some difficulty exists in trying to distinguish between the two in theory and in practice. However, the time element is the distinguishing factor. In an instantaneous time period all capital is fixed, in the ultimate long run all capital can be regarded as working capital, and in any realistic time period there will be a combination of working and fixed capital.

Other terminology that should be clarified involves knowledge conditions. The terms, certainty, risk, and uncertainty will appear quite often in the discussion; consequently, a clear understanding of their meaning should be assured.

Certainty can be defined as a perfect knowledge situation. It is the case where all the consequences of a given action are known before the action is executed. The manager in a dynamic economy faces a combination of knowledge situations which include certainty and those with a probability of less than one.

Risk refers to situations where the outcomes are predictable. The probability of a single occurrence is not

necessarily predictable but rather its occurrence in a large number of cases is known. Such situations give the manager an opportunity to insure against a detrimental result such as fire, theft, or in some areas, crop failure.

In these cases the probability of a given occurrence can be obtained by statistical methods using a large sample of the population. The manager facing a risk situation can measure the cost of alleviating the risk in terms of dollars spent on insurance premiums. Risk situations continually confront the individual and the firm as natural occurrences in the dynamic economy.

Uncertainty is purely subjective. It refers to the individual's appraisal of the future. The probabilities of occurrence are not known and no formal insurance schemes can be developed for uncertainty. However, the manager must deal with uncertainty in the dynamic economy. Insurance against uncertainty is in terms of foregone income resulting from something less than the optimum allocation of resources by the firm in its effort to protect itself against uncertainty.

Capital Use and Capital Rationing

As the firm or the household dips into the stream of economic information that is required for its continued existence in the economic system, certain capital problems are faced. The farm firm may use capital as capital or convert some or all of it into consumption goods. As the firm analyses the available alternatives there are uncer-

teinties involved in any decision that the firm makes concerning its use of capital. For the nonfarm firm and the household there exists much of this same uncertainty. Capital rationing² occurs largely as a response to uncertainty. Lenders of capital goods are confronted with the possibility that the borrower may not be acting in good faith and has no intention of repaying the funds borrowed. The lender also is faced with the task of evaluating, to some extent, the ability of the entrepreneur to use efficiently the funds that he has borrowed.³

The first of these uncertainties confronting the lender may actually fall in the risk category instead of the uncertainty classification. If the lender is a large firm and has sufficient business to allow a distribution to develop between successful loans and bad debts, then this uncertainty may become a known probability which can be insured against and thus will become a risk instead of an uncertainty. However, when the lender is an individual or a firm too small to know this probability, the lender must operate under conditions of uncertainty. Even so, every

²Capital rationing can be defined as any situation where the lender or borrower restricts the use of capital by the firm to an amount short of the quantity that would be used in the perfect knowledge situation.

³D. Gale Johnson, Forward Prices for Agriculture (Chicago: University of Chicago Press, 1947), p. 63.

lender does consider at least momentarily the possibility that the borrower is insincere.

Both internal and external capital rationing have been given attention. The first resides in the ideas and in actions of the potential borrower, the latter primarily in the lending agencies. First the situation that results in external capital rationing should be examined more closely. This is a situation where the lending firm is withholding some of the funds the borrower should have and/or would like to have to expand his firm to the optimum size with the optimum combination of the factors of production.

In the static situation capital would be priced by the interest rate and changes in either demand, supply or the interest rate would bring about instantaneous adjustments of the other variables making reserves and rationing unnecessary.

However, where the dynamic situation is considered several variables are added to the picture. Here the credit firm is faced with both risk and uncertainty. In the dynamic situation there is no perfect knowledge and no instantaneous adjustments. The interest rate, which priced credit in the static situation, is no longer the pricing factor. The dynamic situation brings with it variables that must be measured under a common denominator which was unnecessary to use in the static situation—marginal utility.

As a result of the effects of uncertainty, lenders do not provide, except in a very limited number of cases, loaned funds in the amounts that would equalize, for the

borrower, the marginal rates of return and the marginal rates of interest on the funds. To assure as nearly as possible the repayment of both interest and principal, restrictions are placed on the amount which the firm can borrow so that the ratio of borrowed to owned capital is kept below some prescribed level (to insure repayment of funds through legal seizure if necessary) and the rate of return on capital is kept purposely at a high level.⁴

One other peculiarity is true of the farm firm which will encourage the lending firm to ration the capital extended. The farm firm and the household are usually inseparable. Thus the lending firm may fear that the capital loaned will not be put into productive use but will be "eaten up."

Consideration now should be given to the farm firm and its use of credit. The farm firm is "buying the credit" from the lending firm. Any purchase of credit obligates the repayment of the loan at some future date. The firm's flexibility may be decreased by the contract to repay the borrowed funds at some future date without the advantage of decreased uncertainty of the future. If the farm firm waits until there is an increased and favorable degree of certainty about the future, it may lose the advantage of increased profits through attaining a more optimum size during the waiting period. It is also true that no matter

⁴Ibid., p. 63.

how certain the future may appear in a dynamic economy, enough uncertainty exists to make some degree of flexibility desirable. Thus, as the firm increases its capital use to more nearly approach the optimum size, the returns from an additional unit of credit may exceed the cost of credit, but still fail to equal the returns (measured in terms of utility) from maintaining that degree of flexibility.⁵

Internal capital rationing is the limiting of capital use by the firm itself. Under a situation of complete certainty, internal capital rationing would not occur because there would be no need for flexibility. In other words, credit reserves would be of no value except for predetermined uses with known results. However, under conditions of uncertainty some amount of flexibility will have a greater marginal utility than no flexibility; thus some effort will be made to attain the desired flexibility through capital reserves in the form of cash and unused credit.

Consequences of Capital Rationing

The theoretical consequences of capital rationing in the farm firm can be dealt with using the conventional marginal analysis of the theory of the firm. Capital rationing, either internal or external, may have the effect of limiting the farm firm in reaching its optimum size and

⁵Glenn L. Johnson, "Allocative Efficiency of Agricultural Prices — As Affected by Changes in the General Level of Employment," (unpublished Ph. D. thesis, University of Chicago, 1949), pp. 115-116.

combinations. It is not beyond the realm of possibility that the necessary economic adjustments can be made without capital rationing becoming a limiting factor. Many such adjustments of a relatively small size are often made by the more progressive farm firms. However, as the size of adjustment required to place the firm in an optimum position is increased, the probability that capital rationing will become a limiting factor increases.

When the firm obtains the optimum combination of factors, the marginal value products of each factor of production is exactly equal to the price of the last unit of the factor. This can be restated using the following equation:

$$\frac{MVP_{x_1}(y)}{P_{x_1}} = \frac{MVP_{x_2}(y)}{P_{x_2}} = \dots = \frac{MVP_{x_d}(y)}{P_{x_d}} = 1^{\frac{7}{}}$$

When the factors are combined in such a way as to fit the above equation the enterprise is producing at an optimum position.

The optimum combination of enterprises is obtained

$$\text{when } \frac{MVP(x_1 \dots x_d)y_1}{F(x_1 \dots x_d)} = \frac{MVP(x_1 \dots x_d)y_2}{F(x_1 \dots x_d)} = \dots = \frac{MVP(x_1 \dots x_d)y_i}{F(x_1 \dots x_d)} = 1^{\frac{8}{}}$$

where $x_1 \dots x_d$ are variable inputs combined in least cost combinations.

Institutional Framework

In the society in which entrepreneurs operate, the

⁷Lawrence A. Bradford and Glenn L. Johnson, Farm Management Analysis, (New York: John Wiley & Sons, Inc., 1953), p. 132.

⁸Ibid., p. 161.

marginal utility framework is not the only one that must be faced. There often exists an institutional framework that conditions the utility considerations of the businessman, farmer, or banker. The institutional framework is particularly obvious when dealing with the banking and credit agencies of this country.

Although the interest rates in economic theory would be determined by the supply and demand for capital, in an institutional framework certain rules and rigidities will modify the form and the way in which the supply and demand for capital will interact. Lending agencies operate under relatively strict laws of the state and lenders tend to fall into fixed habits under these laws. In actual lending practices the institutional factors influence interest rates much more than the economic factors. If a bank is in the habit of lending money at a particular rate of interest, there is reason to believe that the interest rates will not change, or change only slowly, regardless of the relation of demand to the supply of money. In these circumstances it would appear that the lender maximizes utility only by conforming to law and habit, or otherwise stated, considerable energy and effort must be expended in changing the normal pattern and most lenders prefer not to do so.

Other institutional factors also affect the amount of the loans. Laws regulate the maximum size of loans in terms of dollars that a particular lender can make and limit

the size in relation to equity also. The institutional limitations may not stop with the laws. Habit again comes into the picture of credit. Many lenders, particularly after years of experience, have difficulty adjusting to new lending situations. This means the lenders often establish rules of thumb that may or may not apply to the loan situation and then follow them diligently. For them, the greatest utility comes from habit while marginal analysis does not influence their decisions.

Another institutional factor is the regulation of reserves required of the banks of the Federal Reserve Board. This may have the effect of changing the supply of funds available and as a result may keep both borrower and lender from maximizing their utility through making a loan.

CHAPTER III

METHODS AND ANALYSES

This study was prompted because a problem of low income was known to exist. The six counties under study have been classified by the Census Bureau as moderately low income areas. They are labeled as economic area 4a. The fact that the problem is known to exist, however, is not sufficient for solution. Much more information must be obtained before causal factors can be isolated and solutions suggested.

To better understand the agricultural situation a farm survey was taken. A total of 341 families were interviewed in a geographically stratified random sample. The sample was chosen as follows. The counties were split into segments with eight to ten families per segment and then segments were selected at random. The interviews were taken by a total of nine people, including the author, working for various lengths of time during May, June, and July, 1957. The interviews were taken from the head of the family if he was available, or from some other responsible person if the family head was not there at the time. The sample included 4.97 percent of the rural population based

on the 1954 Census of Agriculture.

The credit problem which this thesis is considering was studied as a part of a larger study covering many aspects of the human and physical resources in northern Michigan agriculture. The larger study was concerned with land, human resources, occupational history, buildings and equipment, farm production in 1956, off-farm income and employment, acquisition of land, uses of credit, financial summary, and decisions for the future. For the purpose of this thesis, the sections on acquisition of land, uses of credit, and the financial summary were drawn on most heavily.

Respondents were asked when they acquired their first land and from whom the purchase was made. Financial arrangements were obtained including length of loans, interest rates, and source of funds when borrowed capital was used in the purchase. This same information was obtained for all additions to the original tract of land. Needless to say, if the respondent was renting, the land acquisition questions were irrelevant and therefore, not asked. Respondents were also asked if they had ever wanted to buy land for farming operations and did not do so because they either could not or believed they could not get credit.

Uses of short-term credit were also investigated. Loan information for the past three years was obtained including purposes, amounts, sources, interest rates, and lengths of loans. These loans were for production and

consumption.

The data were subjected to tests through analysis of variance. The credit use was compared with a number of different factors believed influential in determining the amount of credit used. These comparisons—such as farm income, farm assets, and education of family head—were tested by analysis of variance tests.

All the data from the farm survey interviews were put on IBM punch cards so that the information could be sorted in many ways in the least possible time and for the least cost. The credit information was sorted against almost twenty other characteristics of the farm, and the credit use was related to these characteristics.

A survey was made to obtain information about practices, policies, and opinions of lending agencies. It was felt that adequate information could not be obtained about the actual agricultural credit situation if the farm survey was the only source of information. Therefore, the survey of the lending agencies was a logical approach to the problem.

Since the size of the lending agency population is small, the entire population of the lending agencies making agricultural loans a large or major portion of their business was included instead of taking just a small sample. The total population consisted of seventeen State banks (including several with branch offices), one National bank, three

Farmers Home Administration Offices, three Production Credit Associations Offices, and two Federal Land Bank Offices. All of these were visited and surveys taken by the author during August, 1957.

The questionnaire was designed to gain information of fact and some information of opinion. It asked questions about loan policies for farmers, such as length of loans made, maximum money loaned to one person, interest rates, and other related information. This type of information was obtained for both short-term and long-term loans.

Inasmuch as the human element is an important factor in determining credit policies and practices, questions of opinion were also asked. They were asked if they considered some farming enterprises more risky than others and if so, which were the most and least risky. Questions were asked about the declining agricultural situation of the area and to what cause the lender attributed this decline. Specific questions were asked concerning agricultural credit use, including whether lack of credit could have been a causal factor.

Lenders were also quizzed concerning opinions of borrowers. They were asked what characteristics they liked most in a prospective borrower. They were asked about part-time farmers—what portion of their customers were part-time farmers, and what did they think about part-time farmers with respect to risk. Lastly, they were asked if they thought credit could be used as a tool to improve the current

declining situation in agriculture.

The point should probably be made that the questions were worded in such a way as to attempt to get answers by an indirect approach. This was particularly true of questions concerning availability of credit and the agricultural decline.

Because the survey of the lending agencies contained the entire population instead of a sample, no elaborate statistical procedures were used in the analysis of the data. The data were compiled into a number of tables showing the exact reactions of the lenders to the various questions. By using this simple method the reactions of the lending population can be seen very plainly.

Some effort was also made to check the accuracy of the credit data obtained from the farm survey. A list of respondents was compiled and each lender was asked to check any name that had had a loan during the last three years. When this information was checked with the farm survey it was found that approximately 25 percent of those who the lenders said borrowed money had reported in the farm survey that none had been borrowed. To increase the accuracy of loan information, mortgage records for this 25 percent were obtained in the county offices and these loans were added to the data. Unfortunately, this did not correct for all the unavailable information because all loans are not recorded in the mortgage records.

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basis for estimating the completeness of the loan information. To compensate for the incomplete loan data, the assumption was made that the unknown 25 percent had the same characteristics and averages as the known portion. On the basis of that assumption, the 25 percent were compensated for and the analysis proceeded.

One other source of data was used. The State Banking Commission, State FHA Office, FLB, and PCA offices provided data on loaned funds. The total amount of funds loaned plus a breakdown of agricultural loans were obtained for the six counties. These official amounts proved very helpful in comparing accuracy of the loan amounts obtained from the population sample.

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CHAPTER IV

RESULTS OF STUDY

The farm survey provided some data that proved to be of little value and no more than general descriptive information. However, this survey also provided data that proved useful in helping the researcher better to understand some of the underlying reasons for present credit use.

Three hundred and forty-one interviews were made in the six counties studied. Only 54 respondents depended entirely on the farm as a source of income, while 131 had both farm and non-farm income and 106 had only off-farm income sources.

Present Debt Situation

In the farm survey the present debt situation was asked of the respondents as to total debts and some breakdown of total debts into various categories of debts. A summary of the present debt situation of the 341 families in the sample is shown in Table 1.

Of the 341 individuals in the sample, 160 said they had debts at the time of the interview. However, only 144 of the 160 gave the amount of debts. To correct for the 12.7

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TABLE 1

PRESENT DEBT SITUATION

Farm real estate	\$206,650
Other real estate	25,000
Short-term farm	112,850
Short-term non-farm	42,310
Personal notes	13,340
Other	<u>4,960</u>
Total	\$410,110

percent who refused to give the amount of their debts, the assumption was made that this 12.7 percent had the same average debts as did the portion which stated the amount. Therefore, an adjusted present debt situation for the sample was derived as shown in Table 2.

TABLE 2

ADJUSTED PRESENT DEBT SITUATION

Farm real estate	\$234,712
Other real estate	28,637
Short-term farm	129,267
Short-term non-farm	43,465
Personal notes	21,008
Other	<u>5,682</u>
Total	\$469,771

To check the accuracy of the farm survey data from the lenders' side, the funds loaned in June, 1957, by the lending agencies were checked against the sample. It should be pointed out that this is far from completely accurate for two reasons. First, the assumption was made that funds loaned by lenders located in the six county area to people who lived outside the area under study were equal to loans

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made by lenders located outside the area to people in the six counties. This may be a false assumption, but unfortunately it cannot be proven or disproven. The other error comes in the fact that no check could be made as to funds loaned by one individual to another. Only the public lenders were included in the check. Regardless of the faults of this check, it was felt worthwhile and the results are compiled in Table 3.

TABLE 3

FUNDS LOANED BY ORGANIZED CREDIT INSTITUTIONS IN
WEXFORD, MISSAUKEE, LAKE, OSCEOLA, NEWAYGO,
MECOSTA COUNTIES, JUNE, 1957 ^{9/}

Lender	Farm Real Estate	Other Farm	Total Loaned Funds
State Banks	\$1,836,000	\$3,601,000	\$26,272,000
National Bank	105,000	230,000	853,000
PCA		564,000	564,000
FLB	2,045,000		2,045,000
FHA	658,000	808,000	1,466,000
Total	\$4,644,000	\$5,203,000	\$31,200,000

The figures in Tables 2 and 3 are not comparable because one table is for 4.97 percent of the population, while the second table is the total for the population.¹⁰

⁹Sources: Michigan State Banking Commission, First National Bank of Ewart, Michigan Farmers Home Administration Office, and local offices of the Federal Land Bank and Production Credit Association.

¹⁰Based on 1954 Census of Agriculture.

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When the sample data are expanded to 100 percent of the population instead of 4.97 percent, the population debt situation as obtained from farm sample and from the lending agencies compare as shown in Table 4.

TABLE 4
COMPARING DEBT DATA FROM TWO SOURCES

	Farm Real Estate	Other Loans to Farmers
Farm Sample	\$4,762,317	\$4,689,316
Lending Population	4,644,000	5,203,000

These data lead to the conclusion that the farm sample information is surprisingly accurate in spite of the difficulty of discussing debt information with interviewees. For the sample to be more accurate, the debt situation from the sample should calculate to some amount higher than the debts reported by the lending agencies. This is true because the farm sample includes debts to individuals which are not included in the amounts reported from the lending agencies. These debt data, while not having particular meaning in and of themselves, will be used when all the results are tied together at the end of this chapter.

Factors Affecting Short-term Borrowing

Three factors stand out as being influential in the amount of short-term credit used. These factors are: size of farm, education of the family head, and gross farm income.

The size of farm was measured by the amount of cropland used. Total acres were not used as a measure since the amount of cropland used is a more meaningful measure of the size of the economic unit included in the farm, particularly in this area of Michigan. In general, the amount of short-term credit used increased as the amount of cropland increased. With less than 10 acres of cropland the average amount of all short-term credit used during the three-year period, June 1954 through May 1956, was \$1,253, while those having 70 to 99.9 crop acres averaged \$2,624 of short-term borrowings, and those using more than 200 crop acres averaged \$4,910. It should be pointed out that these averages refer only to the average of those who used some credit. It is not the average of all farms in the category unless all farms in a given category happened to have used credit.

When an analysis of variance was applied to these data, the size of farm as related to amount of short-term borrowing proved to be highly significant; thus it can be concluded that the size of farm is a factor in the use of short-term credit.

Education of the family head is the second characteristic that appeared to be important in the use of short-term credit. Several categories were established ranging from no formal education to 14 or more years of formal education. The greatest number of individuals had completed eight years of formal education, with almost half having more than eight years of formal education, while less than

15 percent had less than eight years of formal education.

It could be seen that generally the greater the education, the greater was the use of credit. Those with eight years or less of formal education used an average of \$1401 of short-term credit while those with more than eight years education used an average of \$2457 of credit during the same three year period.

The third part of the descriptive information that has important influence on the use of credit is gross farm income. This was also divided in various categories according to amount of income and the credit used. As might have been expected, the use of credit increased as the farm income increased. The detailed information can be seen in Table 5.

When statistical tests were applied to the data, the variance in credit use was highly significant.

TABLE 5
GROSS FARM INCOME AND SHORT-TERM CREDIT USE

Amount of Income	Average Size of Loan
Under \$1000	\$ 836
1000-1999	1,374
2000-2999	1,572
3000-3999	2,208
4000-4999	3,675
5000-5999	3,384
7000-8999	3,367
9000-11,999	4,333
12,000 and over	5,314
Not reported	2,239

There were a number of other characteristics which

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were related to the use of short-term credit. None of these were statistically significant, although in a number of cases associations were expected. These are presented below.

The age of the family head seemed to make little difference. Some of the younger families used as much or as little credit as the families 30 to 40 years older with no apparent relation between age and credit use. This can readily be seen in Table 6.

TABLE 6
AGE OF FAMILY HEAD AND SHORT-TERM CREDIT USE

Age of Family Head	Average Size of Loan
Under 25	\$ 665
25-34	1,729
35-44	2,564
45-54	1,539
55-64	1,740
65 and over	2,363

There was no relation between size of household and short-term credit use. All the household sizes averaged very close to the same amount of credit use.

Tenure was another factor that had little relation to the credit use. More than 90 percent of the households interviewed fell into either the owner-operator, owner-operator renting land, and non-farm categories. There was not any significant difference in credit use between these groups and there were too few individuals falling into other tenure categories to be included in the analysis of variance. Therefore, it should be emphasized that tenure had little

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apparent effect on short-term credit use.

The last non-significant characteristic of credit use tested is off-farm income. Eighty-four percent of the households interviewed had off-farm incomes; however, the amount of the off-farm income had little or no relation to the credit used. This can be seen in some detail in Table 7. The decline in loans as off-farm income increased is slow and irregular.

TABLE 7

OFF-FARM INCOME AND SHORT-TERM CREDIT USE

Off-farm Income	Average Size of Loan
None	\$2,557
Less than \$2,000	1,766
2,000-2,999	1,390
3,000-3,999	2,038
4,000-4,999	1,529
5,000-5,999	1,973
6,000-6,999	1,866
7,000-7,999	1,400
8,000-9,999	1,617
10,000 and over	1,050
No report	2,160

Description of Short-term Borrowing

Attention should be given to some description of the actual use of this credit. There are four major points that should be discussed—purpose of loans, interest rates, sources of loans, and length of loans.

As one would expect, the amount of the loans varies widely with the purpose of the loan. Loans for livestock purchase were the highest of all purposes, averaging \$2,471

per loan. Farm equipment loans were second largest, averaging \$1,265 per loan. Auto loans averaged \$903 and house or household loans had the lowest average, amounting to \$546. It should be noted that most of the loans in the latter category were used for furniture and appliances and were, therefore, installment loans. The non-farm portion (based on use) of the short-term loans used amounted to 123 of 260, the total number of loans; or in other words almost one-half of the loans. However, in dollar volume the non-farm loans accounted for only one-third of the total dollars borrowed.

One should not be surprised to find that the size of loan varies widely with the purpose of the loan. However, the number of loans that were used for non-farm purposes should point up an apparent attitude that seems to be true with urban and rural families alike. That is the attitude that it is no longer necessary or often desirable to wait until you have the necessary funds to purchase consumption goods, but rather that credit is a means of obtaining added consumption goods sooner than would otherwise be possible.

Interest rates, according to economic theory, are determined by the supply and demand of money for lending. However, in practice this is not a complete explanation, because of institutional patterns that enter into the banking and lending systems in the United States. Therefore, it is not surprising that the interest rates are grouped in the 6 percent and 7 percent categories. Of the 237 individual short-term loans that were recorded from the

interviews, about one-fourth listed 6 percent interest and about one-fourth listed 7 percent interest. Over one-third of the farmers did not report the interest rate. Only the remaining one-sixth or less of the loans listed interest rates of less than 6 percent or greater than 7 percent.

One inaccuracy in the data should probably be pointed out here. A high percentage of the loans involved in this study were installment type loans. These are rarely a straight 6 percent or 7 percent although it may clearly state 6 percent or 7 percent on the loan contract. In such cases it is expected that the respondents gave the stated interest rate while the actual interest rate was higher. The exact proportion of the loans that this involves is not known. The author is sure that this has happened in a number of cases; hence, the data actually reported an average interest rate lower than the true rate.

In this study, short-term loans have been defined as loans other than those made on real estate. The length of loans was short in terms of years with three-fourths of them less than three years duration. In number, there were 30 under one year, 90 from one to two years, and 50 from two to three years from a total of 237 short-term loans. Only 22 were for three to five years, with the remaining 45 of the 237 short-term loans not reported with respect to length.

One major source provided most of the short-term

loans—local banks. One hundred and seventy-eight of the 237 loans were obtained at the local banks with only 15 obtained from the FCA and 8 from the FHA. Eighty-two loans came from other sources including installment loans from stores and loans from friends or relatives.

Implications Pertaining to Short-term Loans

Presumably a production short-term loan is used to either enable the economic unit to maintain its present status or to expand its size and productive facilities. When all of the aspects of the economic units are in a proper proportion and size, short-term production loans can meet these objectives. However, when one of the necessary aspects of the economic unit is missing it will prevent the maximum use of credit facilities as a production tool.

All of the factors are not known precisely nor are all the proper combinations known; however, three factors were significantly correlated with the use of short-term credit. The education of the family head proved to be significant and is probably significant only because it is somewhat of a gauge of managerial ability. Managerial ability cannot be measured; however, in our society it is usually assumed that education improves managerial ability. Although education was a significant factor in the use of short-term credit, management was probably the real factor, and education is a factor in managerial ability rather than directly influencing credit use.

Another important aspect of the economic unit is its size. The old saying that it takes money to make money may not be too far wrong. Both the size of farm and the gross farm income were related to borrowings, but they are also indicators of size and productive power of the economic unit. Therefore, the size of the economic unit affects and may limit the use of credit as a tool in maintaining its size or expanding its size.

Economic units may be limited by present physical size or managerial ability. If these limitations exist, all the short-term credit available is of little value to these units in improving their financial position.

In this study production and consumption loans have been considered together. This has been done because farm units require a different approach from that required if urban units were under consideration.

The farm economic unit is a combination of household and business units that is usually operated as one. Therefore, the real purpose for a short-term loan is far from clear. The loan may be to buy feeder cattle but is necessary only because money has already been spent to buy appliances for the home. Conversely, cash may be used to buy feeder cattle while a new electric range is purchased on installment credit. Therefore, one must be careful about the implications drawn from the distribution of loan purposes.

Probably the only safe implication that can be drawn

is that to maintain the level of living desired and to maintain or expand the productive unit, additional capital is used. The particular purpose given for making a loan may not reflect the real reason or need for borrowing the money.

A final implication that should be drawn at this point deals with the lending agencies. It has been shown that the local banks are the major lending institutions in the area under study. This leaves the banks in a position of tremendous influence on the lending procedures and policies in the local communities. Bank policies could stifle economic growth in an agricultural area through conservative and out-dated banking procedures, and conversely could promote the economic growth and well being of a community through an aggressive, educational, and somewhat liberal lending policy.

In all fairness to the banks' situation in this area, it should be remembered that most banks are primarily dependent on the agricultural sector of the economy for their livelihood and would not be expected to stifle agricultural growth intentionally. What happens unintentionally cannot be ascertained at this point.

Long-term Loans

Long-term loans are another aspect of agricultural credit that has not been discussed. These are loans made on real estate and, consequently, run for much longer time periods than do loans secured by non-real estate items. In

the farm survey sample taken from the six county area under study, there were 406 changes of ownership reported by the 326 present owners. These 406 changes of ownership included the initial acquisition of land by the present owner and any additions to the original plot of land that have been made.

Of the 406 title transfers that were recorded, 47 were inherited and 144 were obtained by cash purchases. The remaining 215 were purchased via the use of some borrowed funds and will, therefore, demand a closer examination in this study.

Long-term credit has been of substantial importance over the past 50 years. Table 8 shows the dates that various title changes took place over the past 50 years both with the use of credit and the total purchases which include credit and cash purchases.

TABLE 8
DATES OF LAND PURCHASES

Date	Total Purchases	Purchases Via Credit
Before 1900	4	2
1900-1909	16	9
1910-1919	22	10
1920-1929	38	19
1930-1939	42	31
1940-1949	133	78
1950-1957	90	61
No report	<u>9</u>	<u>5</u>
Total	359	215

Inasmuch as a high percentage of present owners would be expected to have bought their land in the more recent years, it is not surprising that a high percentage of the purchases have been made in the last 15 to 20 years.

Several sources of credit were of major importance in long-term loans. Of the 215 purchases using credit, 56 used funds obtained from individuals, 47 obtained funds from the local bank, and 25 were financed by the Federal Land Bank. Only 5 used Farmers Home Administration Funds, while 79 of the 215 who borrowed funds failed to divulge the source of the loan. The use of the Federal Land Bank and Farmers Home Administration points out that these federal agencies account for a higher proportion of long term loans than their counterparts do for short-term credit.

The land contract type of credit has been most popular in this area. Under a land contract the lender holds the title on the land while payment is due, but cannot sell the land nor influence the use of the land so long as the buyer is meeting the previously agreed upon payment plan. This plan accounted for 103 of the 215 loans made on farms. It is commonly used by individuals when they lend money and is used by many banks. It is not uncommon for the seller to hold the land contract.

Interest rates for long-term loans varied much more widely than for short-term loans. Table 9 on page 33 illustrates the range of interest rates paid on long term loans.

TABLE 9

INTEREST RATES OF LONG-TERM LOANS

Interest Rate	Number of Loans
Less than 3.9%	15
4.0-4.9%	28
5.0-5.9%	18
6.0-6.9%	63
7.0-7.9%	15
No report	<u>76</u>
Total	215

It would appear that the long term borrower has more opportunities to get funds at different interest rates than are available to short-term borrowers. Inasmuch as many individuals obtained funds from friends and relatives rather than local banks, lower interest rates are often available to them. The Federal Land Bank and the Farmers Home Administration also provide loans at rates somewhat lower than local agencies. Since the Federal Land Bank is never available for short-term loans and since individuals do not lend money as readily on short-term bases, lower interest rates are simply not as readily available to short-term borrowers.

The length of loans varies a great deal. Although none of the farm purchase loans were of less than one year there were quite a number in the four and five year category. Fifty were of no longer than five years and 54 were from six to ten years in length. Table 10 on the next page gives the detailed breakdown according to length of loans.

TABLE 10

LENGTH OF LONG TERM LOANS

Length of loan (years)	Number of Loans
1-5	50
6-10	54
11-15	8
16-20	14
21-25	4
26-30	4
31-35	1
36 and over	4
No report	<u>76</u>
Total	215

It should be noted that in this area only two of the twenty-one local banks can make a loan of more than 10 years; therefore, it is not surprising that the majority of the stated length of loans are under ten years. The longest loans are mostly attributable to the Federal Land Bank which can now make loans of 33 years in length and which formerly could make loans up to 40 years. These long-term loans make it possible for the farmer to get relatively low principal payments and relatively low interest rates; however, having a loan for that length of time adds to the inflexibility of the economic unit. All lenders set payments so the loan would be paid off in the stated number of years that the loan was to run.

Implications of Long-Term Data

With 215 of 359 land purchasers using some credit to

make the purchase, it is rather obvious that long-term credit is of great importance to agriculture in the area under study. It is also the author's observation that there are more possibilities for obtaining funds for land purchase than is the case for production and consumption credit. There is reason to believe that the greater number of sources are available because the original sources (mostly local banks) proved to be inadequate in long-term credit, therefore providing the stimulus for the foundation of such agencies as the Federal Land Bank and the Farmers Home Administration. Evidence to support this statement has not been presented as of now; however, discussion of the interviews with the lending agencies will add support to this reasoning.

Lending Agencies

To better understand the actual credit situation in the six counties under study, the primary lending agencies were interviewed in an attempt to obtain information pertaining to lending practices. They were also asked for opinions as to the role of credit in agriculture and its possibilities as a tool in agricultural production. The Federal Land Bank, Farmers Home Administration, and the Production Credit Association have established rules to follow which are fairly inflexible. Their practices and policies will be given a short discussion later. Bank policies are not so uniform, and will be discussed below.

There are 17 State banks and one National bank in the six counties. In addition, several of the State banks have branches, so that a total of 23 bank offices are available to the public in the six counties. All of the offices were visited and interviews were made at 21 of the 23. The two remaining banks were not interviewed because their loans to farmers were less than 1 percent of total loans outstanding and, therefore, it was mutually agreed upon by the bankers and the author that the interview would be largely a waste of time.

The policies of the banks will be discussed first with a summation of the opinions of the bankers made later.

Taking first the real estate loans, it was found that 13 of 21 banks had a maximum length of loan of 10 years while one made loans no longer than 5 years and two went up to 15 years. Although they can legally make loans up to 10 years, there were several others that conceded most of their loans were of 5 years length or less and that they preferred not make longer ones in most cases. The length of loans that can legally be made are set by law according to the capital strength and type of the bank. However, the indication of the bankers was that the legal limit is rarely a limiting factor when making a loan.

The interest rates for all banks were 6 percent and/or 7 percent. Most of the banks determined the rate of interest by the size of loan. For example, one bank charged

7 percent interest for any loan up to \$3,500 and 6 percent interest for loans over that.

When the number of repayments per year was discussed it was noted that eight banks insisted on 12 payments per year and eight others operated mainly on two payments per year, while the remaining five gave no set policy pertaining to number of payments.

Maximum size of loan in terms of dollars and minimum equity required for the owner to hold are important questions in any discussion of banking. Both are established by law. Michigan law requires a minimum of 40 percent equity to be held by the owner so 60 percent of the assessed value of the property is the maximum that a bank can loan. However, 13 of 21 bankers said that they never loaned more than fifty percent of the value of the property. There are doubtless cases where earning power is enough in question to cause a bank to be careful of collateral. However, many loans result in sufficient earning power to warrant that little attention need be given to collateral. If the banker limits the loan when it is unwarranted, a case of external capital rationing results which may impair the progress of the economic unit involved and which, given enough cases, may impair the progress of agriculture in the region.

The maximum amount of money that can be loaned to one individual is also set by law. This is determined by the capital assets and surplus of the bank. The greater the

assets of the bank, the greater is the loan that can be made to one individual. In terms of agricultural loans, it can be a definite limiting factor in some communities to depend on the local bank for all the loanable funds. Fourteen of the twenty-one banks gave no limit in terms of dollars, which meant that their limit was high enough that it never came into play. Three listed limits of \$10,000 and the remaining four gave limits ranging from \$16,500 to \$22,000. In terms of commercial agriculture these limits hinder the proper development of the economic unit. In practice, any farmer dealing with one of these banks potentially could obtain a larger loan by going to other banks or other agencies. However, he may find greater difficulty in obtaining the desired amount of funds in an area where he is a stranger, and he may be reluctant to try because he knows this to be true. Therefore, the low limit of loanable funds is almost certain to contribute to external rationing.

Short-Term Loan Policies

Some consideration should be given to banker's policies and practices concerning chattel mortgages.

These are loans which are secured by items other than real estate. Because the items are less durable than real estate and because they fit into the category of production or consumption loans, the loans are generally of a shorter length than real estate loans. Six of the twenty-one banks make chattel loans for only six months and then renew all or

part of the loan if it is necessary. Four others make loans for varying lengths of time up to one year. Ten banks make loans from one to three years while one goes up to five years in length.

Equity requirements show considerable range among the banks. Five said they set no minimum equity requirement on chattel loans while ten gave 50 percent as their minimum equity requirement for the owner. Two even went as high as 75 percent equity requirement, while four others were more liberal in their loaning procedures, requiring only 25 percent and 30 percent equity to be held by the owner.

The interest rates charged by the banks was 6 percent and/or 7 percent. Two had a flat 7 percent interest rate on chattel loans, but most of them charged 7 percent for small loans while the larger loans could be obtained for 6 percent.

The maximum amount per loan was the legal limit set on the bank and none of the bankers felt that this was a limiting factor in chattel loans. Limits as low as \$10,000 may be a limiting factor in chattel loans in this area. One individual interviewed in the farm survey used \$12,000 of chattel credit annually in his turkey production. If he needed to deal with one of the smaller banks he would find himself limited for funds.

Of course, bankers do not limit their credit activities to secured loans; therefore, while discussing lending policies of banks the non-secured notes to farmers have a place here. Most of the bankers know the men they are deal-

ing with. Therefore, more than collateral requirements are usually considered. Many farmers can borrow \$500 or \$1,000 on their signature with no security. The author found it impossible to obtain any detailed information from the bankers concerning non-secured notes, except that the interest rates were the same as chattel loans. It appears that non-secured notes play an important role in short-term credit use in this area, but it was impossible to obtain either numbers or dollar volumes of non-secured notes from the various banks.

Practices and Policies of Other Lending Agencies

After local banks in importance, come the Farmers Home Administration, Production Credit Association, and Federal Land Bank. Although all three of these agencies are commonly referred to as Federal agencies, only the FHA is actually a Federal Agency. The PCA and FLB were started as Federal government projects but are not now Federal agencies but rather cooperatives. For purposes of this discussion, the three agencies will be discussed one at a time, starting with the FHA.

The Farmers Home Administration is a Federal agency under the United States Department of Agriculture. In the six counties under study there are three offices with each supervisor having a two-county district. FHA real estate loans are made at $4\frac{1}{2}$ percent interest for periods up to 30 years. There is a \$20,000 limit per loan but there is no



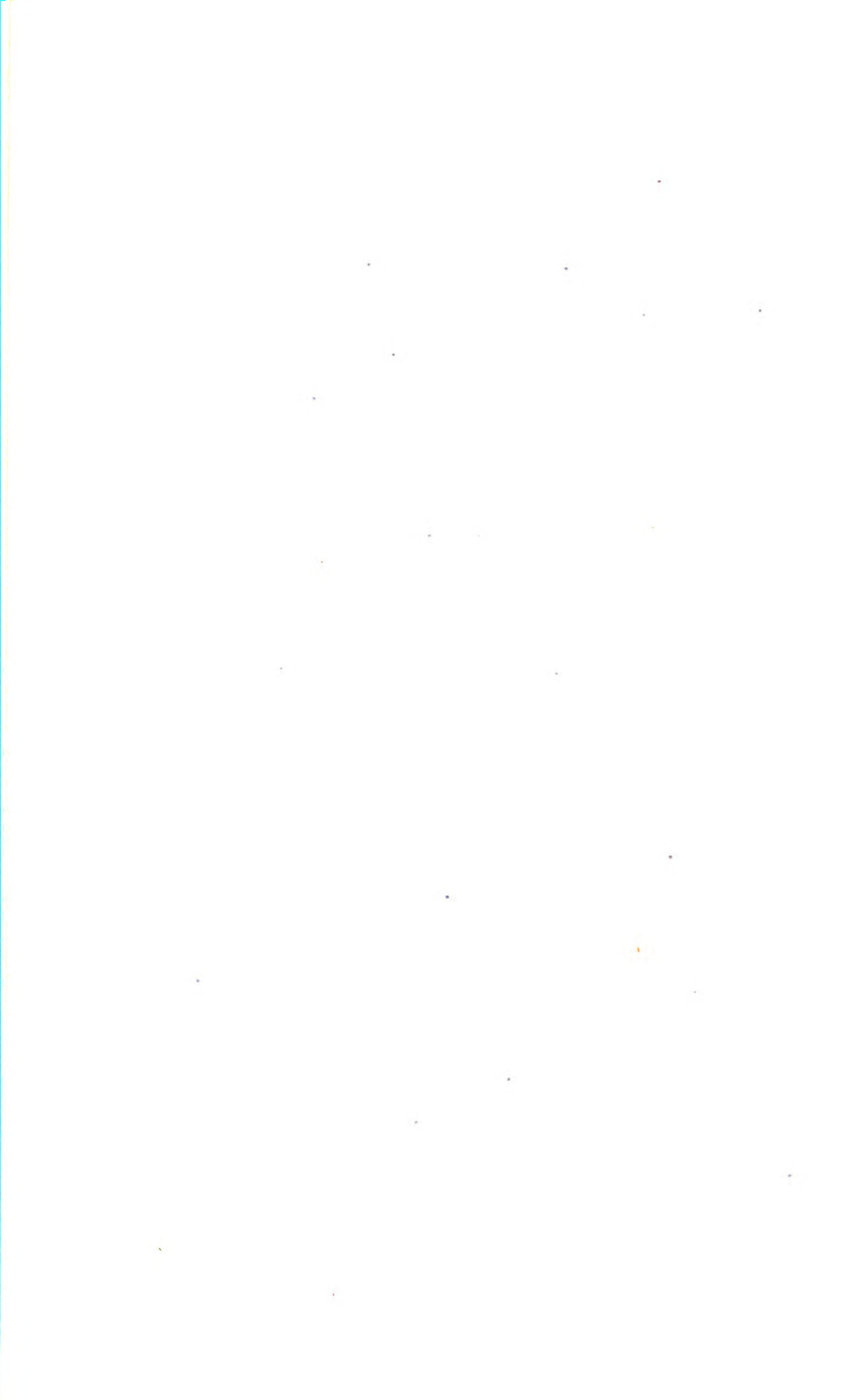
minimum equity requirement for the owner. Principal payments are made once a year.

Chattel loans are made for periods of up to seven years at 5 percent interest rates. The same \$20,000 loan limit is in effect; however, any chattel loan of more than \$10,000 must be approved by the State Director. Payments vary with individual loans but most are made monthly. Some of the chattel loans are paid by taking a cut directly from the sale of the farmer's products, such as taking out some of the milk check before the farmer gets it.

In addition to the conventional real estate and chattel loans the FHA will also make House Improvement loans, Soil and Water Conservation loans, and Livestock loans. All of these loans are made at $4\frac{1}{2}$ percent interest rates but are of minor importance in this area.

The PCA and FLB are cooperatives that operate from the same source of funds. They are set up in such a way that, in theory, no overlapping of loans occurs. This is done by the FLB loaning funds secured by real estate only, while the PCA makes only production loans secured by chattel mortgages.

The Federal Land Bank makes loans for time periods up to 33 years at 5 percent interest. However, the most common length of loan is 20 years in length. Loans may be made up to \$200,000 with a minimum equity requirement of 35 percent. Repayment of the principal is made either annually or semi-annually with equal size payments made over the



length of the loan.

The Production Credit Association makes only loans secured by chattel mortgages. Their loans are made up to five years in length at an interest rate of 7 percent. The dollar limit of loans is so high that it never comes into play as a limiting factor. The equity requirement is not firmly established and varies from one Secretary-Treasurer to another. Repayments are made in the way most convenient for the farmer, ranging from one to twenty-four payments per year.

Lenders Opinions

Attention is now directed to the opinions of the lenders. Regardless of the legal limitations and rules for making loans, the most important influence in the making of most loans is the human element. This varies from one lender to the other but is a very important influence on the credit use of an area or community. A group of lenders in an area that holds conservative ideas pertaining to agricultural loans can have a completely different influence on agricultural progress in that area than would be observed in another area where lenders hold liberal ideas concerning agricultural loans, although both areas may be operating under exactly the same legal restrictions. Therefore, to enable the researcher better to answer the question as to the influence of agricultural credit on present conditions



in the six counties under study, some detailed discussion of lenders ideas as recorded by interviews is made. This discussion will include bankers, PCA, FHA, and FLB personnel all in one group.

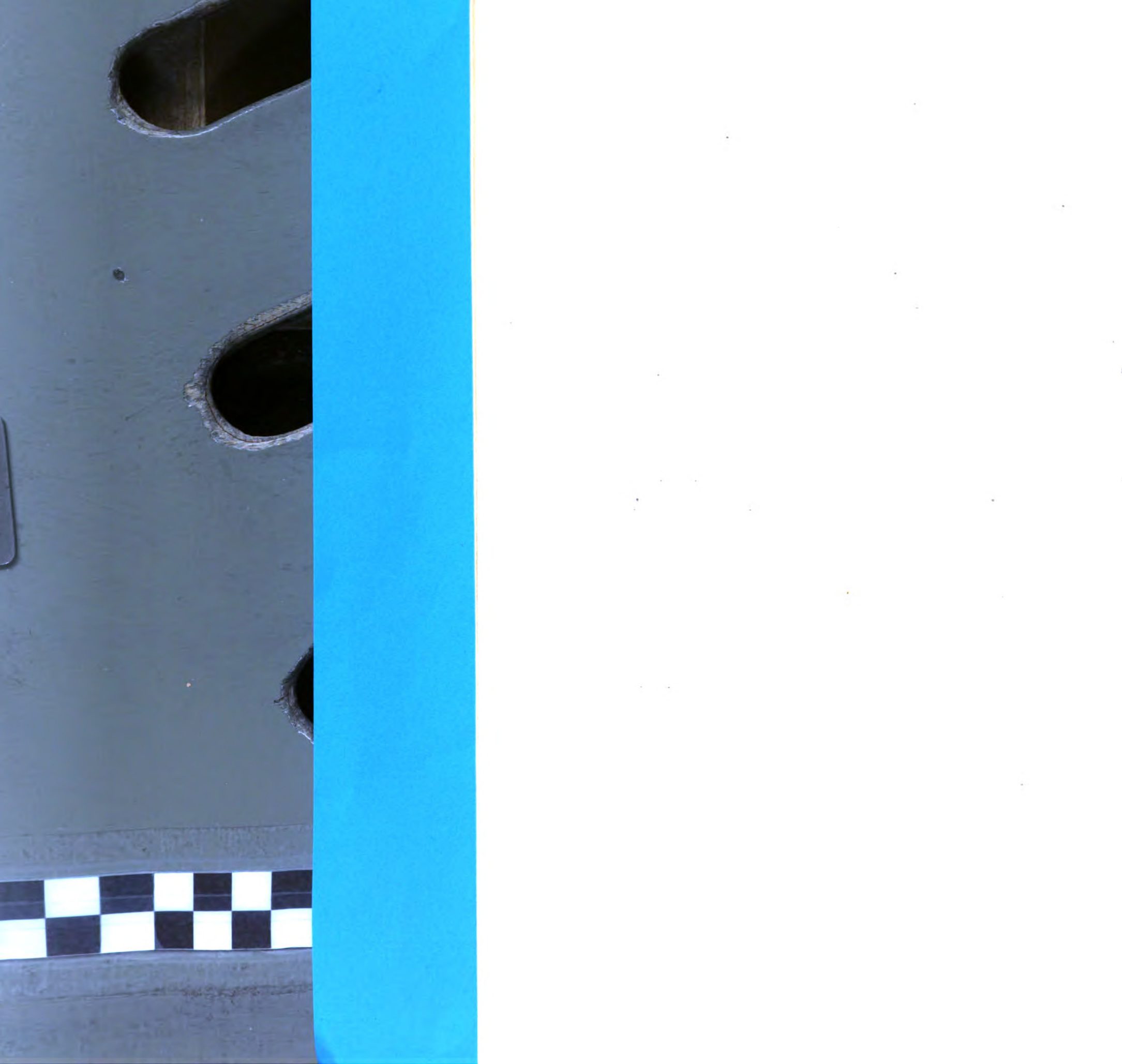
Lenders were asked if they considered some farming operations more risky than others. Twenty-three of twenty-nine said that they did consider some operations more risky than others. The enterprises considered most risky and the enterprises considered least risky are listed in Table 11.

TABLE 11
FARM ENTERPRISES CONSIDERED MOST AND LEAST RISKY

Most Risky	No.	Least Risky	No.
Cash crops	13	Dairy	13
Turkeys	4	Livestock	3
Fruit	3	Diversified farming	3
Potatoes	3	Cattle	2
Onions	1	Don't know	1

It will be noted that some categories rightfully fall into others already listed (potatoes and onions are cash crops); however, the listing here is made just as given when the lender was asked which he considered most and least risky.

The lenders who said there was a difference in risk considerations between farming enterprises were asked if this caused them to alter their equity requirements on agricultural



loans. Eleven of twenty said yes they did alter equity requirements on real estate loans and thirteen of twenty-one said they altered equity requirements on chattel loans.

When asked what characteristics were considered most important when considering a farmer for an agricultural loan, a wide range of characteristics was mentioned. Table 12 shows the number in each classification of characteristics.

TABLE 12

IMPORTANT CHARACTERISTICS OF BORROWERS

Characteristics	Number
Character	8
Capabilities	5
Collateral	5
His record	4
Individual himself	4
Ambition	4
Honest	2
Ability to pay	2
Has a farming plan	1

When asked if they would actively expand their loans if they could find more farmers with these characteristics, twenty-two said yes, four did not answer, and three said no. The three who said no gave the reason of being loaned to their limit at the present time and therefore could not expand loans to anyone.

Lenders were also asked what information they considered important to know before they made real estate and chattel loans to farmers. This question also brought a great variety of answers that are summarized in Table 13.

The recent agricultural census reports of agriculture

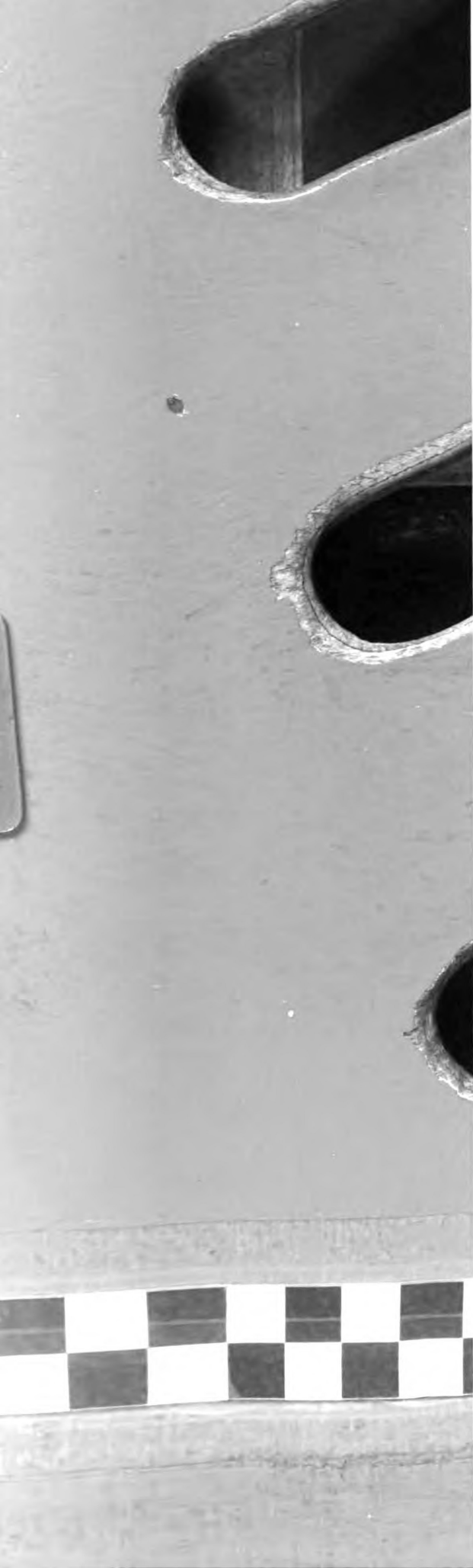


TABLE 13

INFORMATION DESIRED BEFORE MAKING A LOAN

	Real Estate Loan	Chattel Loan
Already know most of them	7	6
Property in general	6	5
Production of farm	6	4
Equity	5	5
Previous loan experience	5	4
Use of loan	3	3
Background of man	3	5
Other income	2	2
Livestock	1	3
Equipment	1	2

in the six counties under study reveal that there are a large number of part-time farmers residing in the area. Inasmuch as this sector has become of major importance to the agricultural economy in this area, it was felt that some information should be obtained as to the number of agricultural loans that are being made to the part-time farmers and some questions pertaining to lenders' ideas about making agricultural loans to part-time farmers should be explored.

A summary of the opinions of the lenders reveals that approximately 50 percent or more of the farmers who are borrowing money from the major lenders are part-time farmers. It should be noted here that this is not inconsistent with the farm survey sample that was taken.

When asked whether they thought part-time farmers were better or worse risks than full-time farmers with respect to agricultural loans, thirteen said they were better, five said they were worse, eight said there was no difference, two said



they did not know, and one said it was unimportant. Several thought part-time farmers were better risks because they had other sources of income, thus increasing the possibility of repayment. However, two reported that part-time farmers were worse risks than full-time farmers because they did not devote enough time and interest to the farming enterprise.

One of the objectives of this thesis is to determine whether or not the lack of agricultural credit or the misuse of this credit has contributed to the present despair in the area under study. Therefore, the last question asked the lenders was a point-blank question as to whether the agricultural situation has declined in the area and if so, why. Twenty lenders said there had been a decline, six said there had not been, and three said they did not know. The twenty who said there had been a decline in the agricultural situation gave the reasons listed in Table 14 for the decline.

TABLE 14

REASONS FOR DECLINE IN AGRICULTURAL PROFITABILITY

Cost-price Squeeze	12
Small and/or Marginal Farms	4
Poor Land	3
Lack of Knowhow	2
Don't Know	2

Inasmuch as none of the lenders mentioned the possibility of credit or lack of credit as having contributed to the agricultural decline, some specific questions concerning this were asked. Sixteen said internal rationing had not



been a contributing factor while only two said it had.¹¹ Seventeen said external capital rationing had not been a factor while only one said it had been a factor in the decline. Twenty-eight said there is plenty of credit available to agriculture now while one said there was a shortage in long-term agricultural credit. In the quick summation of this paragraph it can be said that lenders were of the opinion that neither farmers' nor lenders' rationing of credit has been a factor in the agricultural profitability in the six counties under study.

When asked if they thought more credit or different terms or different interest rates could be used to help improve the present conditions in agriculture, three said yes and twenty-three said they did not think it would help. The three that answered yes gave three different approaches to the problem. One banker said that banking laws should be more flexible to take care of young farmers' problems. Another said that longer time periods were needed on some chattel loans than were commonly granted, and the third said that credit could be used as a tool to improve the situation but only if the farmers were better educated to the uses of credit.

The twenty-three who said more credit or different credit policies would not help the depressed situation were

¹¹Capital rationing has been defined in footnote number 2 on page 9. The lenders were asked this capital rationing question in non-technical terms.

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asked why it would not help. Five gave no reason for feeling this way, but the reasons given by the eighteen that did answer are listed in Table 15.

TABLE 15

REASONS WHY CREDIT CHANGES WILL NOT
IMPROVE PRESENT SITUATION

Plenty of Credit Available	6
Have FHA for this	5
Problem of paying off now	3
Would be little incentive	1
In debt enough now	1
Has little to do with it	1
Land not productive enough	1

Needless to say, the five that said the FHA was to take care of this were bankers and not FHA supervisors.

A last question asked that is really more in the realm of policy than opinion was whether the lender gave agricultural advice to borrowers. It should be noted that all three FHA supervisors gave answers of yes which was expected. Part of the FHA loan program includes farm supervision and advice and, therefore, the FHA county supervisors are required to make farm visits to give advice.

Of the other lending agencies (including the banks) seventeen said they gave advice to loanees occasionally and ten said they never gave advice when asked or when the loan became delinquent; however, only three lenders (other than FHA) said they even made visits to farms to advise the operators without being asked and this happened only occasionally. For the three bankers who said they occasionally volun-

The three bankers who said they occasionally volunteer being asked and this happened only occasionally they even made visits to farms to advise the delinquent; however, only three lenders (other than they never gave advice when asked or when they said they gave advice to loaness occasionally the other lending agencies (including the banks) visits to give advice.

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please to say, the five that said the FHA was to

1	and not productive enough
1	as little to do with it
1	in debt enough now
1	could be little incentive
1	problem of paying off now
3	ave FHA for this
2	plenty of credit available

REASONS WHY CREDIT CHANGES WILL NOT IMPROVE PRESENT SITUATION

TABLE 12

listed in Table 12.

y, but the reasons given by the eighteen that did would not help. Five gave no reason for feel-

teered advice, it was a change of policy over ten years earlier. When asked why the policy had changed there were three reasons given: (1) difference in production methods, (2) different management in the bank, and (3) younger employees at the bank.

Several conclusions should be made briefly at this point pertaining to the banks' and loan agencies' practices. The author feels that the small farm in this area is in a very precarious position. This opinion is not held by the author alone, but is held by many people in the area and most agricultural experts who are familiar with the situation. There are several alternatives that should be open. One is part-time farming where the farmer actually ceases to be a farmer but rather depends mainly on the farm for a place to live. Another alternative should be one of expanding the economic unit into a size that will afford the farmer a respectable income. This will require capital, education, and foresight on the part of both lender and borrower but particularly by the lender. The lending agencies are relatively few and exert tremendous influence in this area. An organized and well managed effort on the part of the lending agencies to educate the farmers to better management practices and to teach them the potentials of credit when used as a tool in farming would be to the mutual interest of both farmers and lenders. However, in the opinion of the author, the banks in particular and the other agencies to a large extent are failing to meet the challenge that is necessary if two alter-



natives are to be open to the small farmer.

Income Situation

The motivation for most individuals in this culture is strongly influenced by income. Lack of income, or inadequate income, was a major reason for conducting this research project from the beginning; therefore, it is only natural that some discussion of the current income situation should be made.

It has long been accepted that farm income is a function of several factors including a major factor that can be classed as capital assets. Farm income is definitely related to farm assets in the sample used in this study. An analysis of variance showed the relationship to be highly significant. Table 16 shows the average gross farm income for different levels of asset categories under the control of the operators.

TABLE 16

FARM ASSETS AND GROSS FARM INCOME, 1956

Assets	Average Gross Farm Income	Number of Farmers
Under \$5,000	\$ 826	10
\$5,000 - 7,499	951	16
7,500 - 9,999	1,606	20
10,000 -14,999	1,837	38
15,000 -24,999	3,110	41
25,000 -49,999	6,110	17
50,000 and over	30,872	9
No report	3,338	84

If the assumption is made that a farmer depending solely on agriculture for his income should have a minimum

to be open to the small farmer.

Income Situation

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TABLE 16

FARM ASSETS AND GROSS FARM INCOME, 1956

Assets	Average Gross Farm Income	Number of Farmers
\$2,000	\$ 826	10
7,499	921	16
9,999	1,606	20
14,999	1,837	38
24,999	3,110	41
49,999	6,110	17
and over	30,872	9
Total	3,338	84

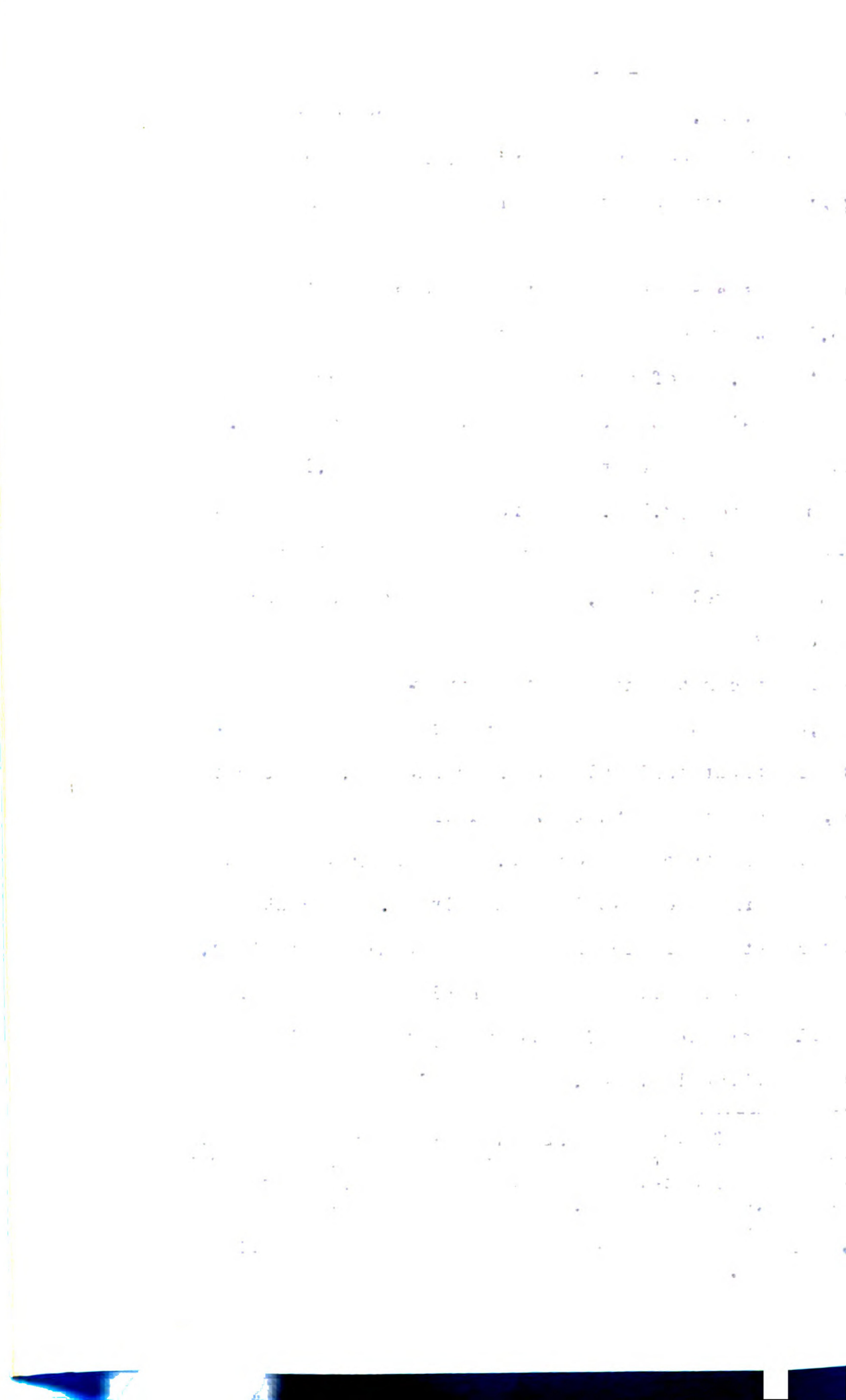
The assumption is made that a farmer depending on his income should have a minimum

gross income of \$6,110,¹² analysis of asset control problem can begin. Even this seems to be a rather low minimum when considering gross income because net income will be much lower.

However, as a starting point the gross farm income figure of \$6,110 was used and all questionnaires of farmers with \$25,000 to \$49,999 of assets were withdrawn from the group and the actual asset values were listed and averaged. It was found that the assets required to produce \$6,110 of gross income averaged \$33,588. The real question now arises — what asset increase would be required to bring all farms up to the minimum level of \$33,500 and is it possible for credit to do this?

Quickly it can be shown that anyone with assets of less than \$15,000 is out of range of credit help under present legal and institutional rules in reaching \$33,500 at one jump because, even assuming that every dollar borrowed increased his farm assets by one dollar, the farmer who started with \$15,000 in farm assets would hold only 44.8 percent equity. This is still within the realm of legal possibility, but to assume that this will happen in reality one must also assume that all farms have good management, that the lenders involved are all liberal minded, and that plenty of funds

¹²The exact figure of \$6,110 is used because the average amount of assets used in the production of this average income is known. Existing asset-income relationships for other incomes within \$3,000 of the \$6,110 figure could not be obtained from the data without substantially lowering the sample size, and biasing the results by individual selection of farms to be used.



are available for long-term agricultural loans. The author does not feel that all these assumptions are valid; therefore, for all farmers who hold \$15,000 in farm assets or less, credit cannot be used as a one step tool to raise them to an adequate farm income.

If the \$33,500 farm asset level is held as a minimum requirement to have an adequate farm income, it would mean that credit will not be able to help 55.6 percent of the farm population to raise their income to the \$6,110 level, assuming present legal restrictions. Credit can be used by 27.2 percent to put them in a position of minimum farm income, providing there is no capital rationing, and the remaining 17.2 percent of the farm population will not need any assistance because that portion has already reached this minimum position.

However, it is quite possible that a gross farm income of \$6,110 would not be considered adequate or that \$33,500 of farm assets is an amount too small to insure a desired minimum farm income level. Therefore, a higher level of assets should be considered and the possibilities of attaining that level ascertained.

The ten farms in the sample with assets between \$35,000 and \$75,000 were averaged as to gross farm assets and gross farm income. It was found that for an average of \$48,950 in gross assets, an average of \$8,320 in gross farm income could be produced. Consequently, taking this higher



level of assets and income, it can be shown that credit will be an even less adequate tool than before. Inasmuch as almost \$50,000 in assets are needed for the \$8,320 income, anyone with less than \$25,000 in assets now would be beyond help. This means that credit would not be sufficient for 82.8 percent of the farmers (assuming present legal restrictions), that 6.6 percent could use it to good advantage, and that 10.6 percent do not need it to attain the assumed minimum income.

It should be noted that credit would not be sufficient, in the cases stated, if used as a one-step method. However, there is the possibility that if a smaller loan were made, efficiency and productivity could be increased. the loan repaid, more borrowed, and therefore, step by step credit could be used to raise the income to a given level. Unfortunately, there are two sides to this picture also. More and more capital is being required in agriculture as a whole, and more and more is being required by each farm unit. Also, the net income in any gross income is becoming less and less in agriculture and probably will continue that trend. The combination of increasing capital requirements and decreasing proportions of net income will prevent any gradual expansion of most small farmers through the use of credit.

Impressions and Implications

The discussion of uncertainty in chapter two has led to the assumption that the individual is trying to maximize utility. This is a valid assumption. Economic and

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Implications and Implications

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 is a valid assumption. Economic and

sociological researchers are still unable to measure utility between persons and, in any practical sense, it cannot be measured for one person. Therefore, in conducting research some goal that can be measured must be assumed. This is usually income, in economic research, because the assumption is made that maximizing income is the way to maximize utility. Just such an assumption brought about this research project because income, which can be measured, is known to be low in the area under study; therefore, the assumption was made that utility is also low and, consequently, some method should be found to raise the income and utility.

There has been some external rationing. This has been determined; however, it is not known whether the external capital rationing has been solely because of maximizing lender utility, solely the result of legal restrictions, or some combination of the two. The latter situation is suspected, however.

Internal capital rationing is usually harder to detect. However, there are some definite indications of internal capital rationing. A substantial number of those farmers who listed no loans or debts made the point that they preferred to do all business on a cash basis when possible.

When asked if they planned to borrow money in the future, only 12.3 percent of the entire sample said they planned to use credit in the future. Considering the much larger number who are currently using credit, the author

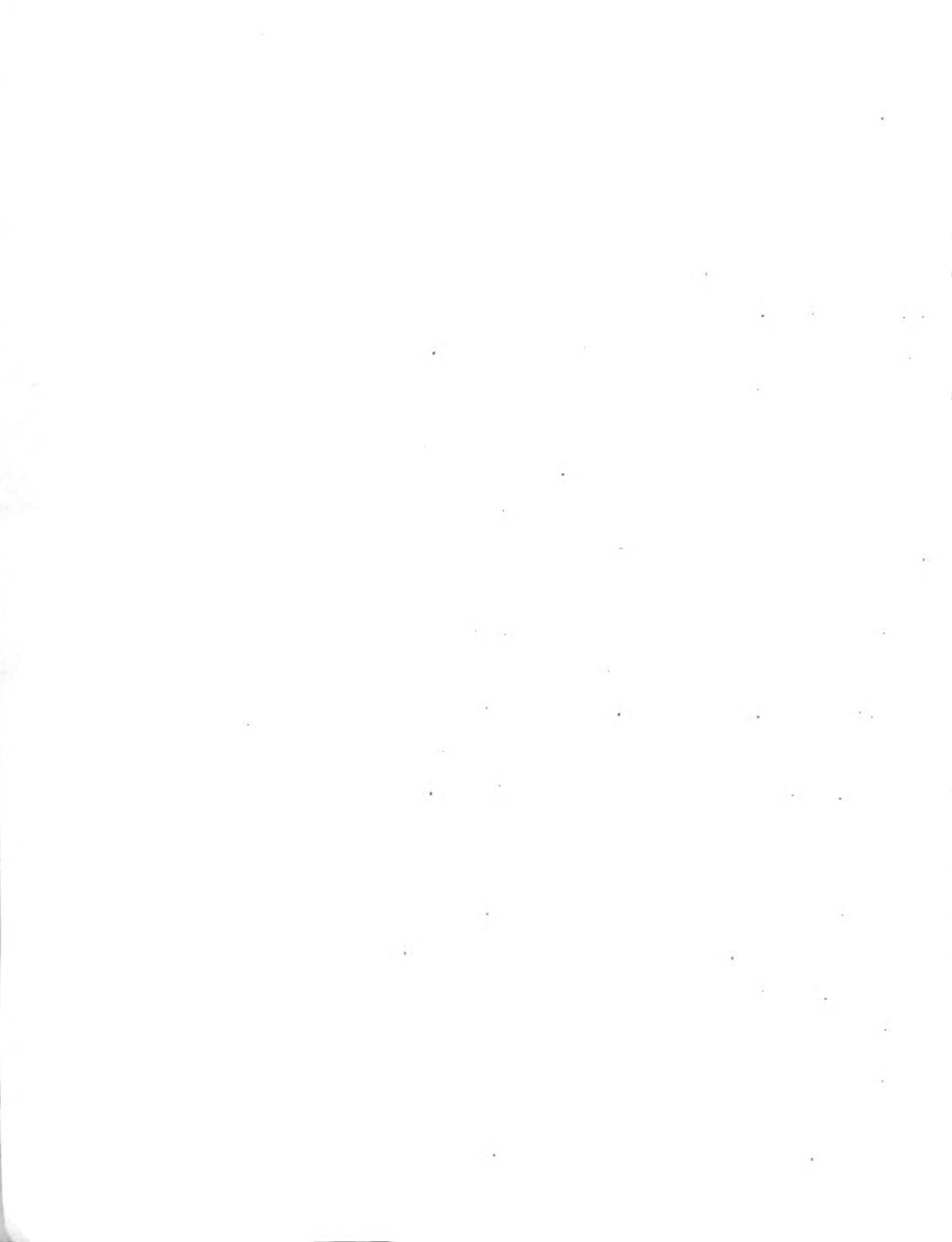
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feels that the 12.3 percent is an inaccurate figure; however, it does point up the internal capital rationing that exists.

The entire capital rationing discussion leads the author to a confirmation of the theory that utility is being maximized instead of income. Many individuals do not have the foresight to use credit to increase income; however, there are many others that would prefer to use less or no credit and maintain their present low income rather than using credit as a tool to raise their income.

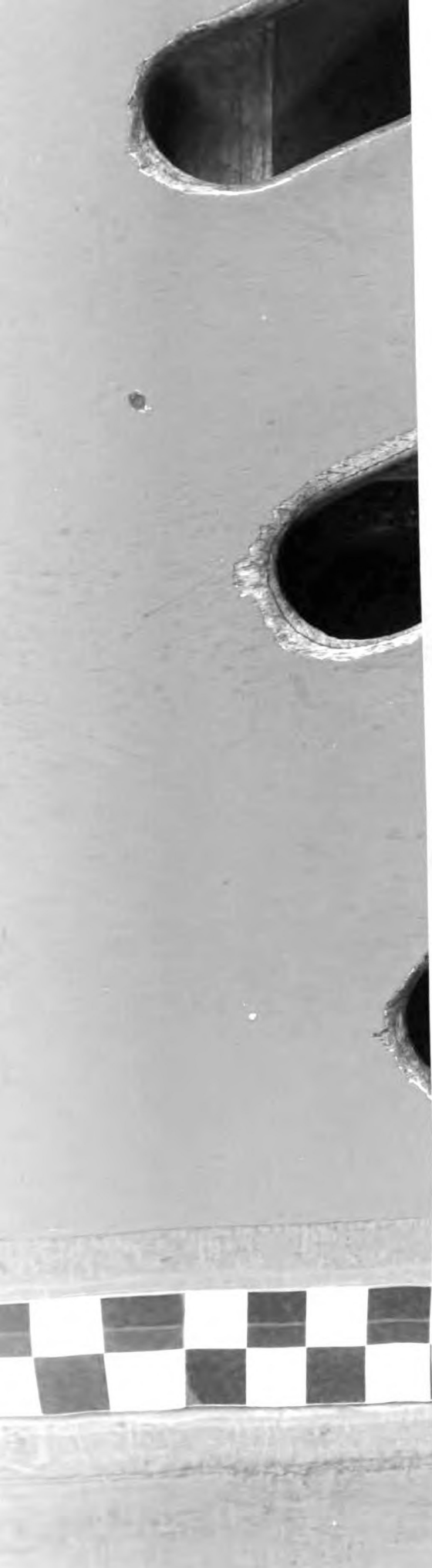
Another impression received concerns the loan terms in some banks. Legal limits of a ten year loan and the own banker's limit of something less than ten years often make it impossible for the farmer to make large expansions at one time - expansions which may add substantially to the efficiency of the economic unit. Therefore, the farmer is forced to go to other sources or to do without if he desires to make the major expansions. External rationing is the result.

Now if the assumption is made that there will be no internal rationing by the farmers and that half of the current farmers try to expand their assets by \$10,000, the question of adequate funds arises. If these assumptions held, an additional \$25,000,000 in loanable funds would be needed in the area. This is approximately equal to total amount loaned currently, which means the loanable funds would have to double and that portion loaned to agriculture would have to increase many times. Short of government help, there



would definitely be external rationing if the farmers decided to use credit as a tool to lift themselves to a better economic position.

Credit is a necessary but not a sufficient condition for economic improvement. The aggregate farm population of the nation cannot use credit as a major tool to improve their economic position. For individuals the road is still open, but for the majority other opportunities must be sought. Commercial farmers can use credit as a tool to continue and expand their operations, but for the majority of low-income farmers in this area, the opportunity does not exist and short of government aid, probably will not exist.



CHAPTER V

SUMMARY AND CONCLUSIONS

The agricultural situation in Northern Michigan has been observed to be slipping into economic difficulty. The awareness of the problem of economic despair existing in the area was responsible for conducting a research project to examine causal factors and possible solutions. A study is under way concerning the human and physical resources of Northern Michigan's Agriculture. This thesis took a portion of the larger study and dealt with it specifically.

Credit, when properly used, is a tool for improving agricultural production. Therefore, this study had as its objectives to determine if credit has been used effectively as a tool in the past and to explore ways in which it could be more effectively used to alleviate the present conditions in parts of Northern Michigan.

From the six county area chosen for the study, geographic segments were drawn at random from each county. Interviewers questioned 341 families in these random segments in order to determine the human and physical resources in the area and the use being made of them. The sections dealing with short-term and long-term credit and with the present debt and financial positions were most useful in this thesis.



As data were compiled and analyzed the factors thought to be affecting or associated with the use of credit were subjected to analyses of variance. The detailed descriptive and statistical data were presented and some implications drawn as the results were presented.

To determine factors influencing credit use from the lender's side a survey was made of the principal lenders in the six county area. These people were asked detailed questions concerning fact and opinion. Their lending policies and practices were examined in terms of length of loans, interest rates, equity requirements, size of loans, and other related factors. Inasmuch as the human elements have a powerful influence over loans, given any legal restrictions, the lenders were asked a number of questions of opinion concerning agriculture and desirable characteristics of borrowers. All this information has been presented in some detail.

Six hypotheses were presented at the beginning of the study to act as a guide in the work and to enable the researcher to better tie together the results in a meaningful form.

Conclusions

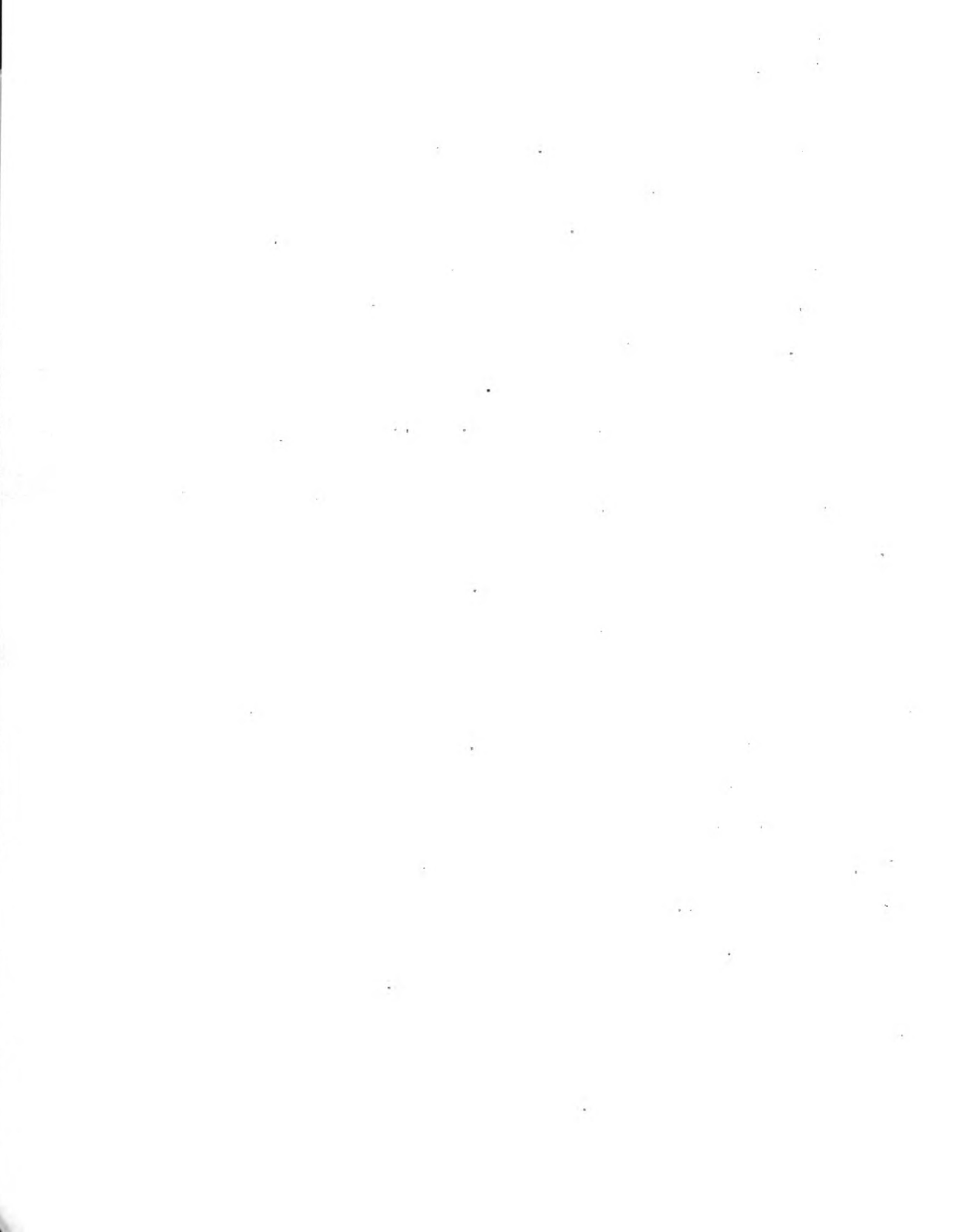
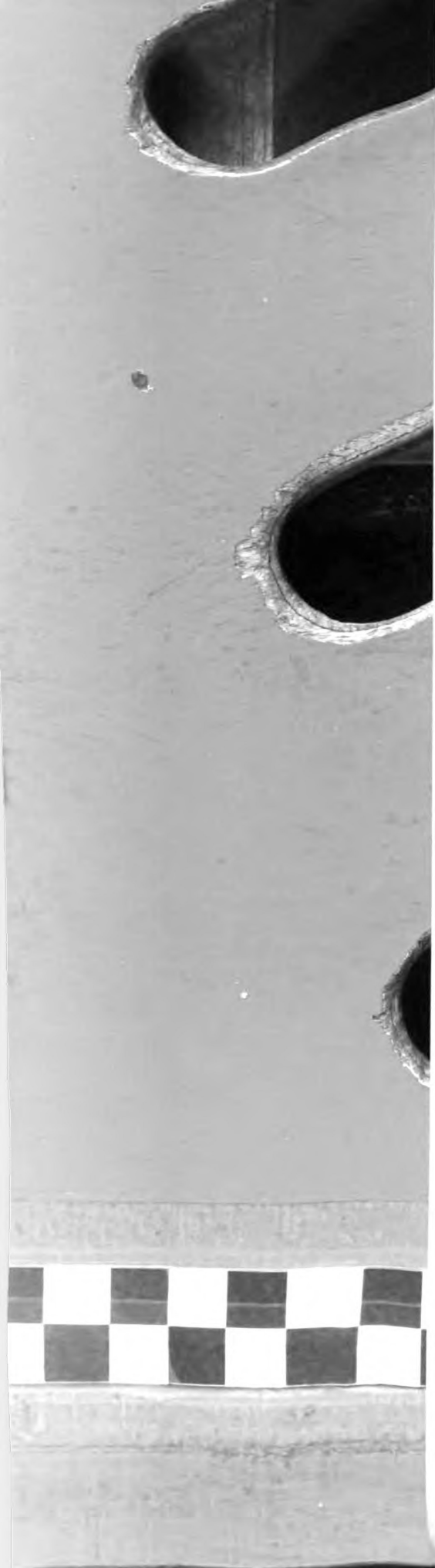
The hypotheses that were presented in Chapter I have been tested. The evaluation of the tests would indicate the following results:

1. There has been no shortage of credit in the past decade for agriculture given the attitudes that have



existed on the part of the lenders and the borrowers concerning the making and use of loans. Though the first hypothesis is accepted, proof is not as substantial as the author would desire.

2. Most of the credit has not been used for consumption and short-term production credit. The second hypothesis is rejected. The dollar volume of long-term loans was higher than for short-term loans.
3. There was a shortage of credit in the summer, 1957, given attitudes and loan considerations of lenders and borrowers; therefore, the third hypothesis is rejected. Several agencies in the area reported a lack of sufficient funds to meet the demand.
4. Credit will not have a substantial influence in improving the economic conditions of agriculture if used only for short-term small changes in production methods. The fourth hypothesis is accepted. Major changes in most of the economic units will be required if the agricultural situation is to improve very substantially. These changes will require major loans which will, in most cases, have to be made on a long-term basis, and in some cases this will not be sufficient because of a lack of managerial ability.
5. The major factor determining whether a loan is made to a farmer appears to be the character of the man rather than his producing ability. The fifth hy-



pothesis is accepted. One other aspect that was of major consideration was collateral. The results of the study would indicate that the majority of the lenders are more concerned over whether the collateral is sufficient to repay a foreclosure than whether the borrower will have the producing or earning ability to repay the loan.

6. Major changes in the criteria used in making loans are needed if farmers in an area such as this are to progress at the same rate as farmers elsewhere. The sixth hypothesis is accepted. The changes must include new attitudes and more liberal legal restrictions for both the lender and the borrower.

It is very difficult to say to what extent the lack of use of credit has caused the present depressed conditions in an area such as this. With the attitudes that have existed on the part of lenders and borrowers credit could not have much effect; however, in terms of what could have been done, given the proper attitudes, lack of credit use has contributed to the present conditions.

Be that as it may, the real problem is to start from the present and work for the future. Here credit can be used to real advantage. It cannot be used under present legal and lender restrictions to help most farmers in this area substantially because they do not have enough assets from which to start. However, with an ambitious program of education



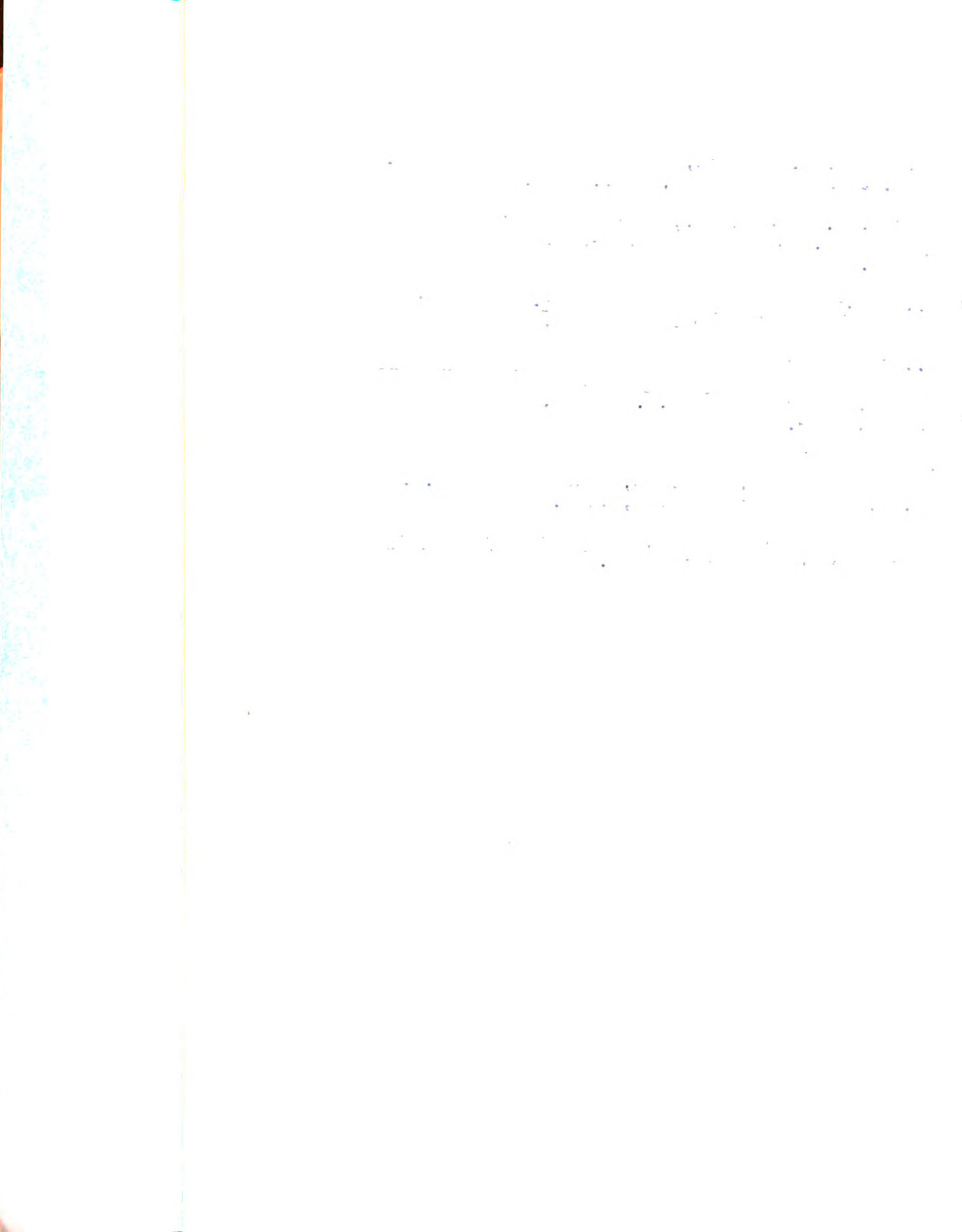
for farmers and lenders, and with the relaxing of some of the long established habits of lending agencies, credit can be used as a tool for the improvement of the agricultural situation in the area.

It should also be remembered that a program which involves more liberal loan policies may or may not mean greater risks. A large loan which enables a farmer to become truly productive is less risky than a moderate loan which does not materially improve the income position. The risks from a major economic or crop disaster or from personal unreliability, of course, are greater with the larger loans. However, in terms of human welfare small loans, though financially secure, provide little opportunity for raising productivities and income.



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APPENDIX A

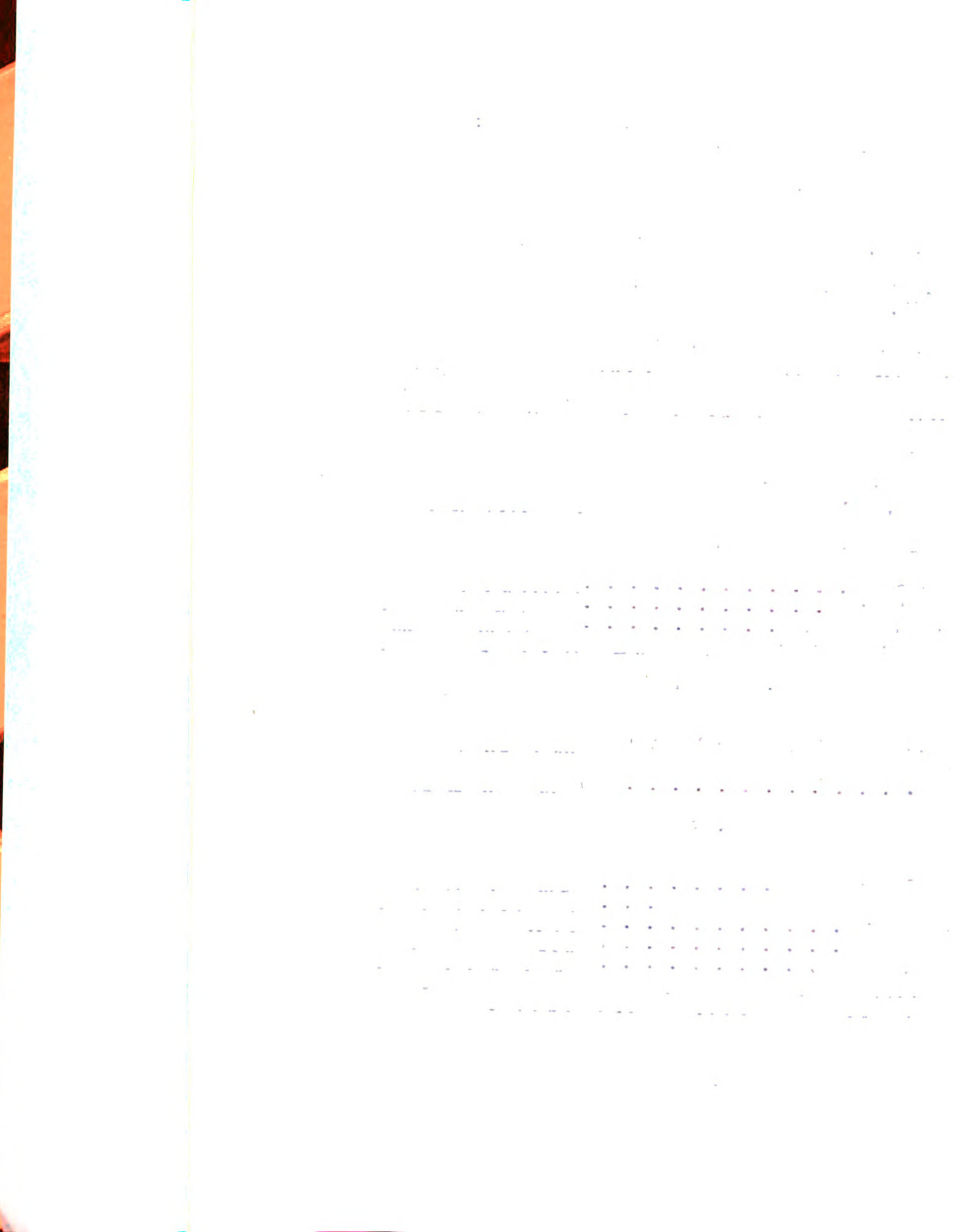
THE CREDIT PORTION OF THE FARM SURVEY ENTITLED: "CHARACTERISTICS AND USES OF PHYSICAL AND HUMAN RESOURCES IN NORTHERN MICHIGAN AGRICULTURE"

(From pages 22, 23, and 24 of the original survey)

PART X. ACQUISITION OF LAND, USES OF CREDIT, AND FINANCIAL SUMMARY.

A. Acquisition of land (ASK OF OWNERS ONLY)

Item	Acquisitions		
	(1)	(2)	(3)
1. For land purchased, (See page 3) ASK			
a. Was seller related to you? (Y = Yes, N = No)			
b. How did you finance purchase?	Check one		
(1) By cash			
(2) Mortgage			
(3) Land contract			
(4) Other (specify) _____			
2. If purchased with mortgage or land contract			
a. What was length of your loan? (yrs)			
b. What interest did you agree to pay? (%)			
3. If purchased with mortgage, who was lender?	Check one		
a. Federal Land Bank			
b. Farmers Home Administration . . .			
c. Local Bank			
d. Individual			
e. Other (specify)			



B. ASK OF ALL FAMILIES

1. Now we would like to get a picture of your use of credit during the last three years for purposes other than the purchase of land, or charge accounts.

Year	Amount	Purpose	Source	Length of Loan	Interest Rate

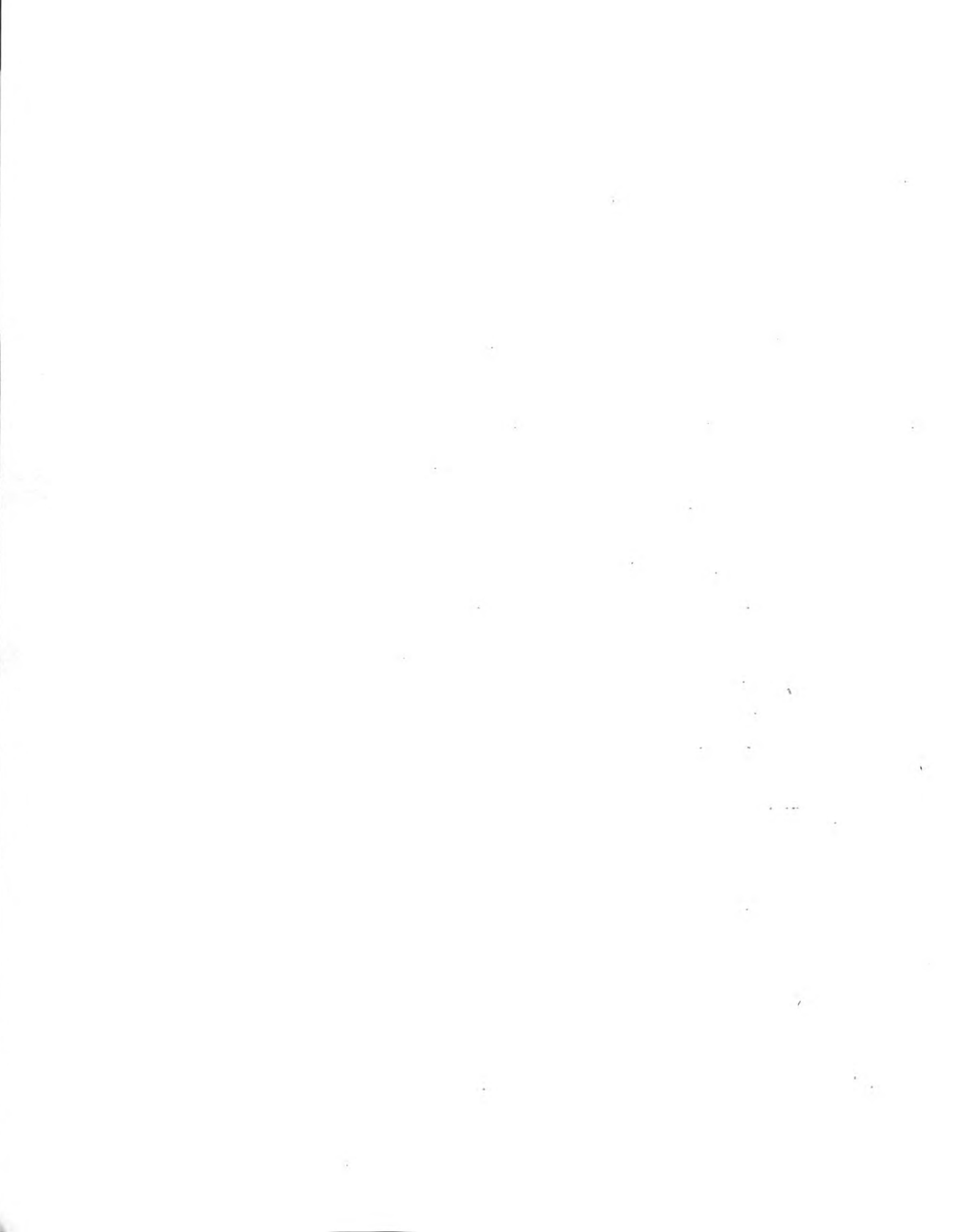
2. Have you in the past 10 years wanted to buy land for farming operations and did not because you believed or found you could not get credit? Yes() No()
Comments* _____

3. Have you in the past 10 years wanted to expand your operations (other than buying land) and did not because you believed or found you could not get credit?
Yes() No() Comments* _____

4. Are you planning to borrow money for farm purposes in the next two years? DK() Yes() No()
Comments: IF YES, for what purposes? _____

Where will you get the money? _____

*IF YES, Indicate if farmer applied for such credit.



C. FINANCIAL SUMMARY

1. Present Debt Situation - Amount Owed Amount
- a. Amount owed on farm or residence \$ _____
 - b. Amount owed on other real estate _____
 - c. Short-term farm indebtedness (machinery, livestock, etc.) _____
 - d. Short-term nonfarm indebtedness (auto, household appliances, etc.) _____
 - e. Personal notes, etc. _____
 - f. Other _____
 - g. Total (office entry) _____

2. We would like to have you estimate the value of all of your property other than this place as of today. This includes land other than this place as well as nonfarm real estate, stocks, bonds, cash, bank deposits and amounts owed you.

(Circle One)

1	Under \$500	6	5,000 - 9,999
2	500 - 999	7	10,000 - 14,999
3	1,000 - 1,999	8	15,000 and over
4	2,000 - 2,999		
5	3,000 - 4,999		

3. We would like to have you estimate the total value of all of your assets as of today.

\$ _____

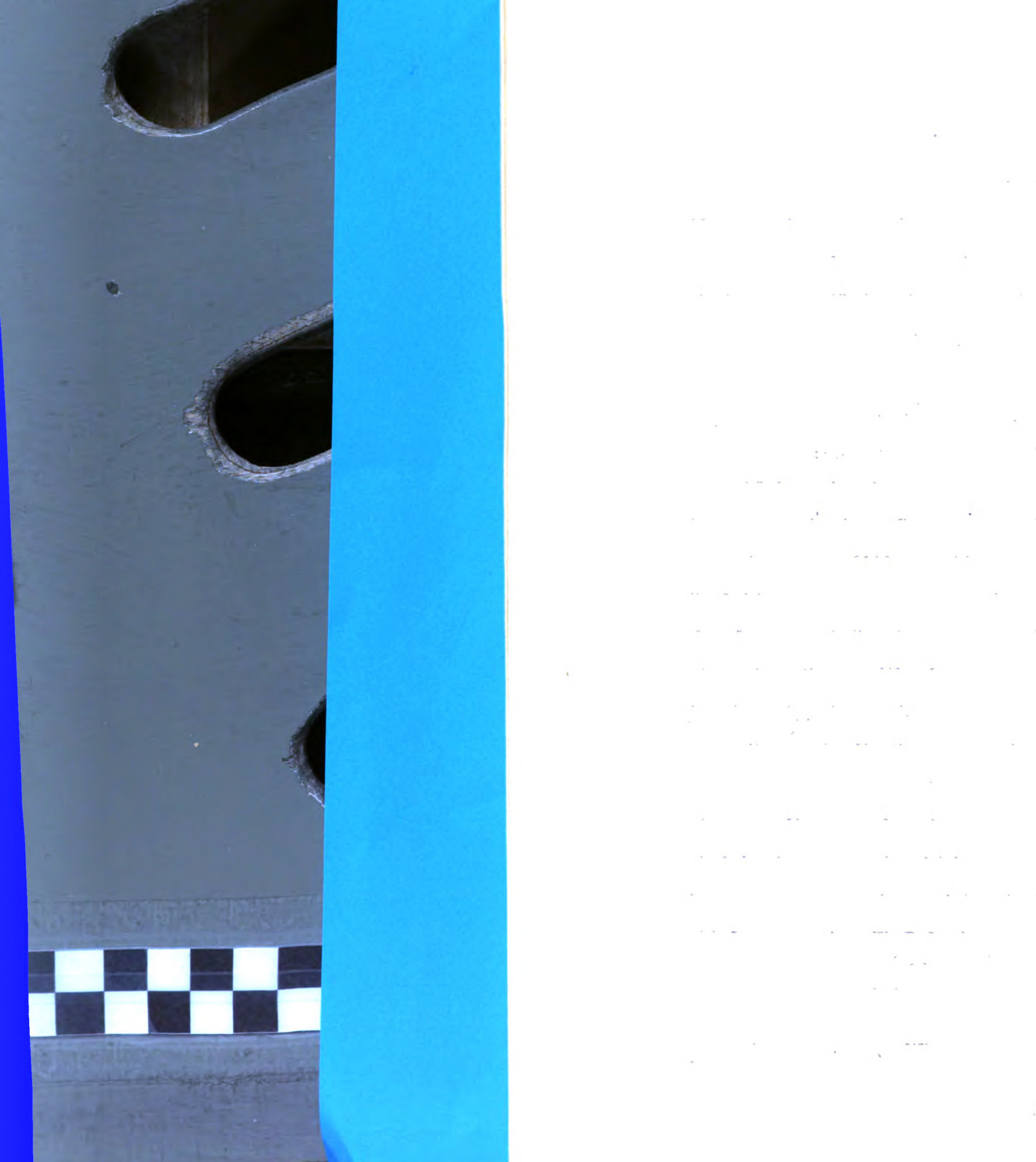
APPENDIX B

SURVEY OF CREDIT AGENCIES IN ECONOMIC AREA 4a

1. Name of credit agency _____
2. Address of credit agency _____
3. Name of respondent _____
4. Position of respondent _____
5. What percentage of the dollar volume of your loaned funds is to farmers for agricultural production purposes? _____%
6. What is the dollar volume of funds you have loaned to farmers for agricultural production purposes? \$ _____
7. Do you make real estate loans to farmers for:

Years	Stated int. rate	No. of payments
Less than 5	%	
5 to 10		
10 to 20		
20 to 30		
Over 30		
Years	Maximum money per loan	Minimum equity per loan
Less than 5	\$	
5 to 10		
10 to 20		
20 to 30		
Over 30		

8. Are the payments such that they will pay out in the stated number of years? Yes _____ No _____
9. (Ask if answer is No) How long are the extra time periods on the loans? Less than 5 _____ 5 to 10 _____
10 to 20 _____ 20 to 30 _____ Over 30 _____



10. Do you make chattel loans to farmers for:

Years	Stated int. rate	Installments per year
Less than 1		
1 to 3		
3 to 5		
Over 5		

11. Do you have a limit on size of chattel loans:

In terms of dollars? Yes _____ No _____ What? \$ _____
 In terms of equity? Yes _____ No _____ What? _____%

12. Do you make other type loans to farmers?

Type	Max. size	Length	Stated int. rates	Installments Per Year

13. Are any of the chattel loans or other types paid off by some arrangement with the firms where the farmer sells his products? (Example - getting a cut of his milk check). Yes _____ No _____

14. (If yes) What part of your loans to farmers are handled this way? _____

15. Do you consider some types of farming operations more risky than others? Yes _____ No _____. With respect to price? Yes _____ No _____. Disease? Yes _____ No _____. Natural hazards? _____

16. (If any answer to 12 is yes, ask) Which enterprises or types of farming do you consider most risky when considering a farmer for a loan? _____

17. Which do you consider has the least risk? _____

18. Do risk considerations cause you to alter equity requirements and size of loans on real estate loans? Yes _____ No _____. On chattel loans? Yes _____ No _____. On other loans? Yes _____ No _____.



19. What characteristic(s) do you consider most important when considering a farmer for an agricultural loan?

20. If you could find more farmers with these characteristics would you actively expand your agricultural loans? Yes _____ No _____.
21. (If answer is yes) Does this mean then that you would like to expand your agricultural loans? Yes _____ No _____.
22. (If answer is no) Does this mean then that you don't want any higher proportion of agricultural loans? Yes _____ No _____.
23. What information do you get about a farmer before making a real estate loan? _____
24. Before making a chattel loan? _____
25. Do you give an agricultural advice to loanees? Yes _____ No _____. If yes, to all? ____ To most? ____ To a few? ____
26. Do you give advice at any time other than when the loan is made? Yes _____ No _____. If yes, please explain: _____

27. Do you or any member of this organization make farm visits to give advice? Yes _____ No _____.
28. Is this a change in policy from ten years ago? Yes _____ No _____. (If yes) What caused the change?
29. What part of your loans to farmers for agricultural production purposes are to part-time farmers? _____
30. Do you feel that the farmers who are working off the farm part-time are generally better or worse risks with respect to agricultural loans? Better _____ Worse _____ Why? _____
31. Has there been a decline in the profitability of farming in this area? Yes _____ No _____.
32. (If answer is yes, ask 33 - 35) What, in your opinion, have been the major causes for the decline of the agricultural situation in this area? _____

33. Do you believe that the farmers' own limiting of credit use has led to the decline of the agricultural situation in this area? Yes _____ No _____.



34. Is it possible that there has been a shortage of loanable funds especially for agricultural loans, and that this has contributed to the decline of the agricultural situation in this area? Yes _____ No _____.
35. Is the available credit for agricultural loans in this area sufficient for the situation at the present time? Yes _____ No _____.
36. Is this present situation a change from conditions 10 or 15 years ago? Yes _____ No _____.
37. (If answer is yes) In what way and why? _____

38. Do you think that more credit or lower interest rates or different types of terms would have any significant influence in the improvement of agricultural conditions in this area? Yes _____ No _____.
39. Now we would like to have any details that you can give us concerning a "typical" farmer that has been rejected on a loan from you.



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