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AGRICULTURAL LENDING ATTITUDES, PRACTICES AND ACTIVITIES OF OHIO COMMERCIAL BANKERS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

Harvey Alexander Meier, B.S., M.S.

* * * * * *

The Ohio State University
1972

Approved by

[Signature]
Adviser
Department of Agricultural Economics and Rural Sociology
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CHAPTER I

INTRODUCTION

Delineation of the Problem

This research focuses on a socio-economic evaluation of the future role of commercial banks in the field of agricultural credit. It investigates this role on the basis of an examination of the attitudes of commercial bankers toward agricultural lending, including an evaluation of farm lending practices and activities of commercial banks.

A considerable amount of attention has focused on the role of banks in the field of farm finance for two reasons. First, heavy credit demands have been placed on all farm lenders by the rapidly changing nature of agriculture. Second, during the past decade commercial banks have experienced difficulty in maintaining their share of agricultural lending in terms of the changing credit needs of farmers.

---

1 In this research agriculture refers to the industry of basic food and fiber production known as farming. Agriculture and farming are therefore to be considered synonymous in meaning and will be used interchangeably in this context throughout the study.
The Changing Nature of Agriculture

Farm production units are increasing in size and declining in numbers. New technology is rapidly being adopted by most farmers as they become more specialized and their farming operations become more mechanized. Furthermore, more sophisticated farm management has become necessary as larger amounts of capital are substituted for labor.

The increased use of capital inputs (purchased off-farm inputs) such as machinery, agricultural chemicals, and fertilizer in combination with more sophisticated management means that farming is becoming more capital and management intensive. These are among the most dramatic changes taking place in agriculture. They have accounted for significant increases in production and efficiency and have resulted in an increase in the farm sector's demand for capital and credit.

Total farm debt in the United States on January 1, 1961, was $24.7 billion. By January 1, 1971, it had increased to an estimated $59.3 billion, an increase of 140 percent (Table 1). Agriculture's need for extensive financing is anticipated to continue, placing increased pressures on the institutions that supply farm credit such as commercial banks, life insurance companies, the Farm Credit System.\(^2\)

\(^2\)The Farm Credit System (FCS) is the cooperative credit system composed of the Federal Land Banks (FLB's) that extend
and the Farmers Home Administration. According to some recent projections, the estimated market value of capital in agriculture will increase from $230 billion in 1968 to about $390 billion by 1980. More significantly, the actual capital invested in agriculture by 1980 is projected to be $275 billion compared to the $190 billion invested in 1968. The additional $85 billion of capital to be required by agriculture between 1968 and 1980 is expected to come either from farmers' savings or primarily from credit sources. Furthermore, total farm debt is projected to increase from about $59 billion in 1971 to about $140 billion by 1980. Others also suggest that the demand for farm credit will continue to increase rapidly.

long-term real estate loans to farmers; the local Production Credit Associations (PCA's) that extend short- and intermediate-term credit to farmers from funds made available through the Federal Intermediate Credit Banks; and the Banks for Cooperatives that extend credit to farmer owned cooperatives. The FCS is supervised by the Farm Credit Administration, an independent federal agency.


5 Emanuel Melichar and Raymond J. Doll, "Capital and Credit Requirements of Agriculture, and Proposals to Increase Availability of Bank Credit," Fundamental Reap-
Difficulties Experienced by Commercial Banks

Traditionally, commercial banks have played an important part in financing agriculture. Among all lenders, banks rank as the leading institutional sources of short- and intermediate-term credit often referred to as farm non-real estate credit. Furthermore, the commercial banking system is strategically located to service the credit needs of agriculture. Approximately, 13,500 insured commercial banks are situated throughout the country and are readily accessible to most farmers. Consequently, most bankers appear to be in a good position to keep abreast of the changing agricultural credit needs in their communities. Additionally, among the major institutional farm lenders, commercial banks are the only institutions which are able to offer complete, "one-stop" financial services to farmers such as short-term, intermediate-term, and farm real estate credit, as well as other banking services such as checking and savings accounts, trust department services, farm record keeping services, safe deposit box facilities and farm management advisory services.

In spite of the unique position held by commercial banks in the field of farm finance, their relative importance as farm lenders is declining. Banks continue to hold
approximately one-fourth of the total volume of farm debt, but they are experiencing difficulty in providing their usual share of the total expansion in agricultural lending. Between 1961-1971, commercial bank loans to farmers in the United States increased slightly more than 132 percent compared to the increase of over 140 percent in the volume of total farm loans (Table 1).

There are several reasons which contribute to explaining the difficulty experienced by banks in keeping up with the total expansion in farm lending. First, the demand for farm loans in most rural areas has been increasing faster than deposits at many of the nation's rural banks. Consequently, many rural banks are experiencing difficulty in maintaining a competitive farm lending position because they depend to a large extent upon increases in the size of their deposits as the primary source of loanable funds. Thus, if many of the nation's rural banks are to share in meeting agriculture's projected increased demand for credit, they will be increasingly challenged to seek alternative sources of loanable funds in view of high loan-to-deposit ratios. In addition, increases in the size of individual farm loan requests frequently have exceeded increases in

---

the size of legal lending limits at many rural banks.7 In such instances, rural banks have experienced considerable difficulty in meeting the farm credit needs of all of their farm customers. There is an indication that the size of some rural banks' capital and surplus, and thereby the magnitude of their legal lending limits, has not increased sufficiently to accommodate the increasing size of farm loans demanded.

Second, competition among major institutional farm lenders has increased (Table 1). While the commercial banking system holds a major share of the total volume of farm debt, the trend in market share has shifted away from banks to the Farm Credit System agencies (Federal Land Banks and Production Credit Associations). Between 1961-1971, the 132 percent increase in bank loans to farmers was much less than the 210 percent increase in total farm loans held by the PCA's and FLB's. Also, over this same period FCS agency loans to farmers increased from 16.3 percent to 20.9 percent of the total outstanding loans held by all major farm lenders (Table 1). By comparison, bank loans to farmers as a percent of the total volume

7John A. Hopkin and Thomas L. Frey, Problems Faced by Commercial Banks of Illinois in Meeting the Financing Requirements of a Dynamic Agriculture, AEEX No. 99 (Urbana: University of Illinois, Agricultural Experiment Station, Department of Agricultural Economics, April 1969).
TABLE 1

FARM LOANS HELD BY MAJOR NON-BANK AGRICULTURAL LENDERS
IN THE UNITED STATES—A COMPARISON WITH BANKS\(^a\)

(Volume Outstanding In Millions of Dollars)

<table>
<thead>
<tr>
<th>Type of Loan and Lending Institution</th>
<th>January 1, 1961</th>
<th>January 1, 1971</th>
<th>Percent Change</th>
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<tbody>
<tr>
<td></td>
<td>Volume</td>
<td>Of Total</td>
<td>Volume</td>
</tr>
<tr>
<td></td>
<td>Percent</td>
<td></td>
<td>Percent</td>
</tr>
<tr>
<td>FARM NON-REAL ESTATE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial Banks(^b)</td>
<td>$ 4,991</td>
<td>20.2%</td>
<td>$11,102</td>
</tr>
<tr>
<td>Production Credit Associations</td>
<td>1,480</td>
<td>6.0</td>
<td>5,295</td>
</tr>
<tr>
<td>Federal Intermediate Credit Banks</td>
<td>88</td>
<td>0.4</td>
<td>220</td>
</tr>
<tr>
<td>Farmers Home Administration</td>
<td>420</td>
<td>1.7</td>
<td>795</td>
</tr>
<tr>
<td>Merchants, Dealers, Finance Companies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and Others</td>
<td>4,900</td>
<td>19.8</td>
<td>12,340(^c)</td>
</tr>
<tr>
<td>FARM REAL ESTATE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial Banks</td>
<td>$ 1,691</td>
<td>6.8%</td>
<td>$4,445</td>
</tr>
<tr>
<td>Life Insurance Companies</td>
<td>2,975</td>
<td>12.0</td>
<td>5,626</td>
</tr>
<tr>
<td>Federal Land Banks(^d)</td>
<td>2,539</td>
<td>10.3</td>
<td>7,145</td>
</tr>
<tr>
<td>Farmers Home Administration(^e)</td>
<td>484</td>
<td>2.0</td>
<td>347</td>
</tr>
<tr>
<td>Individuals and Others</td>
<td>5,131</td>
<td>20.8</td>
<td>12,024(^c)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$24,699</td>
<td>100.0%</td>
<td>$59,339</td>
</tr>
</tbody>
</table>

\(^a\)Source: American Bankers Association (Compiled from data furnished by ERS, U.S.D.A.).

\(^b\)Excludes Commodity Credit Corporation.

\(^c\)Preliminary Estimates.

\(^d\)Excludes purchase money mortgages, sales contracts and loans in foreclosure.

\(^e\)Direct loans only.
of outstanding farm loans, declined somewhat from 27.0 percent to 26.2 percent. Among all the major institutional lenders of farm non-real estate credit, Production Credit Associations have recorded the highest rate of growth in their volume of farm non-real estate credit during the period 1961-1971. PCA's increased their farm non-real estate loan portfolios 258 percent while commercial banks recorded an increase of approximately 122 percent (Table 1). Additionally, in the farm real estate loan market, Federal Land Banks recorded the highest growth rate among all major lending institutions, increasing their loans 181 percent during the period 1961-1971. By comparison, commercial banks have grown 163 percent. These developments indicate that commercial banks are having some difficulty in maintaining their traditional share of the total expansion in agricultural lending. Furthermore, the recently passed Farm Credit Act of 1971 is expected to substantially increase the competitive position of the Farm Credit System agencies. Consequently, commercial banks will continue to be challenged for their share of the farm loan market.

---

Finally, during the past ten years, credit demands from the non-farm sector in the United States have increased as dramatically as have the agricultural sector's demand for credit. Specifically, the non-farm sector has placed increased pressures on rural banks to finance business expansion and to supply consumer credit. This means that the non-farm sector is in direct competition with the farm sector for loan funds available at rural banks. This is especially true during periods of tight money, such as in 1969-70.\textsuperscript{9} Both sectors are expected to continue to place heavy credit demands on rural banks. As long as deposits remain in short supply, thereby limiting the availability of bank funds in rural areas, increased demands for credit from the non-farm sector will continue to cause rural banks to experience difficulty in keeping up with the total expansion in agricultural lending.

\textbf{The Problem—In Perspective}

A substantial amount of discussion has been developed in reference to the future role of commercial banks in the field of farm finance. This has occurred primarily because of the difficulties commercial banks are experiencing in maintaining their historical leadership role in financing

\textsuperscript{9}Brake, "Capitalizing Agriculture in Coming Years," p. 36.
agriculture. As a result, many concerned bankers and other individuals have concentrated their attention on ways to facilitate an increase in the flow of funds via the banking system to the nation's rural sectors in an effort to increase the overall availability of bank credit. Efforts to find a suitable mechanism(s) to accomplish this goal are underway. Potential changes in the structure of banking and alternative ways for rural banks to obtain additional funds by gaining access to the nation's money markets are some of the more immediate areas being explored by researchers in the field of agricultural finance.

In connection with the future role of banks in the field of farm credit, questions logically are raised with respect to the willingness and aggressiveness of bankers to lend to farmers. These questions are especially important since efforts to find ways to increase the flow of bank credit to the rural sector assume that an improvement in the flow of funds via the banking system will result in an increase in the system's response to the heavy credit demands of a changing agriculture. Associated with this, a major theme which has surfaced from discussions but which has been subtly implied throughout much of the current and past literature suggests that the future viability of rural banks, engaged in agricultural lending activities, is dependent not only upon increases in the flow of bank credit
to the rural sector, but also upon favorable attitudes of bankers toward agricultural lending. Consequently, the importance of banker attitudes in financing agriculture is frequently alluded to as commercial banks continue to be challenged to service agriculture's increased demand for credit. Some recent observations made by bankers associated with commercial bank farm lending activities are presented below:

"If the attitude of the community banker is that the increased demand for agricultural credit is too great to handle, then many of our farm loans will be lost through default—and along with this will go deposits, savings, and other business that has built and supported our rural banks in the past. On the other hand, if the attitude of the community banker is that of rendering service to his community, including a strong desire to take care of the credit needs of the locality, he will find ways to continue financing the successful agricultural enterprises, and in turn his bank will profit from it and his community will be a better place to live. 10" [Emphasis added.]

"I admit, not all rural banks need additional capital as many of the banks with the funds to loan will not loan. I do not believe there is anything in the near future to change this immobility of funds since it involves human attitudes. 11" [Emphasis added.]


11 Donald P. Woods, Testimony Before the Subcommittee on Rural Development of the Senate Committee on Agriculture and Forestry, December, 1971.
"Banks that should be important in the agriculture of their areas are pulling away—because they do not understand the trends of the times. These banks think of agriculture as dead and/or at least dying and think it not only safer but find it easier to put their money elsewhere. Those banks that are now in, or those that come into agriculture, need a positive attitude toward agriculture and need policies and people that reflect this attitude. 12" [Emphasis added.]

These observations suggest, then, that the future role of commercial banks in the field of farm credit is dependent upon favorable attitudes of bankers toward agricultural lending in addition to increases in the flow of funds to rural areas. The potential importance of these attitudes, therefore, suggests a dimension in the field of agricultural finance about which relatively little is known.

Objectives of the Research

Present knowledge in the field of agricultural finance is limited with respect to commercial banker attitudes. Consequently, much of the past and current research dealing with the role of banks in the field of farm credit appears to make the implicit assumption that the attitudes of most bankers (linked with farm lending activities) are positive or at least favorable with respect to their commitment to service the credit needs of the agricultural sector.

However, little empirical data exists to substantiate this assumption. This study, therefore, focuses upon an evaluation of the future role of commercial banks in the field of farm credit by investigating commercial banker attitudes toward agricultural lending, including an analysis of farm lending practices and activities of commercial banks. The specific objectives of this research are:

1) To determine the extent to which bankers hold favorable attitudes toward agricultural lending.
2) To determine whether significant differences exist between the farm lending attitudes of different groups of bankers.
3) To determine whether the attitudes of bankers toward farm lending are significant indicators of the commitment of their banks to production agriculture.
4) To evaluate farm lending practices and activities of commercial banks in Ohio.

Scope of the Research

There are several important reasons which encourage a better understanding of the attitudes of commercial bankers toward agricultural lending in Ohio: (1) agriculture is a major industry in the state and its future viability is to a great extent dependent upon heavy debt financing—a share of which may be handled by commercial banks depending upon
their willingness and aggressiveness to service the agricultural sector, (2) the commercial banking system is being strongly challenged by other major nonbank institutional farm lenders in Ohio to maintain its present leadership position in financing agriculture, and the response of bankers to these challenges may be reflected by their attitudes toward farm lending, and (3) substantial changes are occurring in Ohio's banking structure and the influence of these changes on the flow of bank credit to the agricultural sector may be indicative of the attitudes of bankers toward agricultural lending.

Ohio Agriculture in Perspective

There are several factors which illustrate the dynamic nature of agriculture in Ohio. First, the average investment per farm in Ohio now is $75,505 compared to $60,000 in 1967. Many Ohio farmers have an investment over $150,000 and for some farmers the investment exceeds a quarter million dollars. Total capital presently invested in Ohio farming operations is estimated at $8.3 billion, which includes investments in land, buildings, machinery and equipment. Second, new technology is rapidly being adopted by most of Ohio's farmers as they become more specialized and increase their use of mechanized inputs. Third, farms are growing in size and declining in numbers. Consistent with the decline in farm numbers there has also been an equivalent
percentage decline in the number of farm workers. Specifically, in 1960, the census indicated a total of 140,000 farms in Ohio. By 1970, the total number had declined to 111,000 farms, a reduction of nearly 21 percent. Along with this decline in farm numbers, farm size has increased—the average farm size now in Ohio is 154 acres compared to 132 acres in 1960. In addition, each commercial farm (farms with sales of $2,500 and over) now averages 209 acres compared to an average of 175 acres in 1960.

Finally, farming in Ohio, as in the United States, is becoming a more highly concentrated food and fiber industry with a major share of total production being produced by farms such as those with sales of $20,000 and over. Between 1960 and 1970, the number of farms in Ohio with sales greater than $20,000 increased by 140 percent.¹³

These developments have been accompanied by increases in both realized gross and net income per farm together with sharp rises in farm production expenses. Realized gross farm income for Ohio's 110,000 farms in 1970 was

estimated at $1.6 billion. This gross income includes not only that from sales of farm products and government payments, but also the value of home consumption of food and the gross rental value of farm dwellings. Over the past decade, realized gross farm income in Ohio has increased 32 percent compared to a 25 percent increase in realized net farm income. Moreover, realized gross income per farm increased slightly more than $5,750 ($8,490 to $14,259) or 68 percent compared to a rise in realized net income per farm of about $1,300 ($2,234 to $3,533) or 58 percent during the same period. Concomitantly, farm production expenses have also increased substantially over the same period. They account for much of the difference in the above growth rates between realized gross and net income per farm. In 1970, total production expenses incurred by Ohio farmers were nearly $1.2 billion and represented an increase of nearly 35 percent during the past ten years. These expenses accounted for 75 percent of realized gross farm income and denote a $4,385 or 70 percent increase in production expenses per farm between 1960 and 1970. As a result, farmers in Ohio have increased their dependence on debt financing. Nationally, the use of purchased farm inputs by farmers has reached 75 percent of total farm inputs and the quantity of off-farm inputs purchased by farmers is expected to continue to rise at about 2 percent
per year. Similar trends are expected to occur in Ohio.  

The above developments have resulted in major changes in the financial structure of the agricultural sector in Ohio. That is, the financing required to support the above developments, especially the rises in production expenses, has caused the farm sector to carry a rapidly growing debt load during the past decade. Between 1961 and 1971, the total volume of farm debt outstanding at all major lending institutions in Ohio increased from $492 million to $923 million (Table 2), representing an increase of nearly 88 percent. Agriculture in Ohio is expected to continue to require extensive debt financing as it becomes more con-


centrated on farms with sales of $20,000 and above, continues to substitute large amounts of capital for labor, experiences continued increases in specialization and mechanization, increases its utilization of purchased inputs, and experiences substantial rises in production expenses. Consequently, increased pressures to meet these anticipated heavy credit demands are expected to be placed on all the major farm lending institutions and especially on commercial banks who traditionally have financed a major share of the agricultural sector's debt in Ohio.

Sources of Farm Credit in Ohio

Traditionally, commercial banks have dominated the farm credit market in Ohio (Table 2). However, the trend in market share has shifted away from commercial banks and toward the Farm Credit System agencies. Between 1961 and 1971 commercial bank loans to Ohio farmers declined from 46.2 percent to 44.4 percent of the total volume of farm loans outstanding at major lending institutions in Ohio. By comparison, FCS agency loans to farmers as a percent of total farm credit held by Ohio's major institutional farm lenders increased from 33.9 percent to about 42.7 percent (Table 2). In addition, while commercial bank loans to farmers in Ohio increased almost 81 percent during the period 1961-1971, the PCA's and FLB's increased their loans to Ohio Farmers slightly more than 135 percent. Consequently,
<table>
<thead>
<tr>
<th>Type of Loan and Lending Institution</th>
<th>January 1, 1961</th>
<th>January 1, 1971</th>
<th>Percent Change 1971 From 1961</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Volume</td>
<td>Percent Of Total</td>
<td>Volume</td>
</tr>
<tr>
<td>FARM NON-REAL ESTATE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial Banks</td>
<td>$114,774</td>
<td>23.3%</td>
<td>$191,559</td>
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<tr>
<td>Production Credit Associations</td>
<td>79,308</td>
<td>16.1</td>
<td>177,901</td>
</tr>
<tr>
<td>Federal Intermediate Credit Banks</td>
<td>2,017</td>
<td>0.4</td>
<td>1,771</td>
</tr>
<tr>
<td>Farmers Home Administration</td>
<td>5,858</td>
<td>1.2</td>
<td>9,441</td>
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<tr>
<td>FARM REAL ESTATE</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Commercial Banks</td>
<td>$112,370</td>
<td>22.9%</td>
<td>$219,214</td>
</tr>
<tr>
<td>Life Insurance Companies</td>
<td>82,780</td>
<td>16.8</td>
<td>103,864</td>
</tr>
<tr>
<td>Federal Land Banks</td>
<td>87,333</td>
<td>17.8</td>
<td>215,252</td>
</tr>
<tr>
<td>Farmers Home Administration</td>
<td>7,334</td>
<td>1.5</td>
<td>4,179</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$491,774</td>
<td>100.0%</td>
<td>$923,181</td>
</tr>
</tbody>
</table>

aSource: American Bankers Association (Compiled from data furnished by ERS, U.S.D.A.).

bExcludes Commodity Credit Corporation.

cExcludes Purchase Money Mortgages, Sales Contracts and Loans in Foreclosure.

dDirect Loans Only.
commercial banks have lost ground to both the Production Credit Associations and Federal Land Banks in both the farm non-real estate and farm real estate credit markets respectively. Specifically, between 1961-1971, the PCA's increased their loans to Ohio farmers 124 percent compared to the 67 percent increase recorded by commercial banks. Furthermore, in 1961, the ratio of PCA loans to bank loans was approximately 69 percent; by 1971 it had increased to 93 percent. During the past decade, the Federal Land Banks in Ohio increased their farm real estate loans to Ohio farmers 147 percent; by comparison commercial banks increased their farm real estate loan volume only 95 percent. Additionally, the ratio of Federal Land Bank loans to commercial bank farm real estate loans was about 78 percent in 1961 and by 1971 it had increased to slightly more than 98 percent. Thus, the PCA's and FLB's rank as the banking system's strongest institutional competitors.

As a result of the rapid growth rate and increased market share recorded by the Production Credit Associations and Federal Land Banks, the commercial banking system in Ohio is being strongly challenged to maintain its leadership role in financing agriculture. Furthermore, the above competitive challenges are expected to become even greater during the 1970's.
Changes in Ohio's Banking Structure

In recent years, the structure of the commercial banking system in Ohio has undergone substantial change. This structural change is largely due to substantial increases in registered multi-bank holding company activities, bank mergers, and branch banking.

Ohio is the only state in the Fourth Federal Reserve District which allows registered bank holding companies to operate. At year-end 1970, registered bank holding company affiliates were permitted to operate in 45 of Ohio's 88 counties. According to the Bank Holding Company Act of 1956, a registered bank holding company was defined as any company that directly or indirectly owns, controls, or holds with power to vote 25 percent or more of the voting shares of two or more banks. Registered bank holding company activity is regulated by the Board of Governors of the Federal Reserve System, and registered bank holding company acquisitions are limited in most instances to companies which are closely related to the banking business.

Formulation of registered bank holding companies and

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17 This definition was broadened under the Bank Holding Company Act Amendment (Public Law 91-607, December 31, 1970) to include companies controlling only one bank.
their resultant acquisitions in Ohio have increased substantially, especially since 1964. Between 1964 and 1969, four new registered bank holding companies were established and 15 bank acquisitions were consummated. Specifically, in 1964, there were two registered bank holding companies in Ohio which controlled 24 banks and 51 branches. At year-end 1969, the number of registered bank holding companies had increased to six and they controlled 39 banks with 177 branches. As a result, the number of total banking offices controlled by registered bank holding companies in the state increased from 75 offices in 1964 to 216 at year-end 1969. At the start of 1964 there were 1,422 banking offices in Ohio; by 1969 the number had increased to 1,733. By comparison, then, the share of total banking offices in Ohio controlled by registered bank holding companies increased from 5.3 percent in 1964 to 12.5 percent in 1969.

In 1970, registered bank holding company activity in Ohio expanded more rapidly than during any previous year. Formation of two new registered bank holding companies and

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19 Total banking offices include the main office of a bank plus all branches.
the acquisition of 19 additional banks was approved by the Board of Governors of the Federal Reserve System. As a result, increases in the number of banks and branches, and increases in the share of bank deposits and loans under the control of registered bank holding companies in Ohio were substantially greater in 1970 than in any previous year of the past decade. Between 1969-1970, the number of banking offices controlled by registered bank holding companies increased from 216 to 316, or by nearly 50 percent, which was more than double the annual rate of increase recorded in any previous year. Almost one-fourth of this increase in the number of offices controlled by registered bank holding companies in 1970 was accounted for by the two new registered bank holding company formations indicated above. Additionally, at year-end 1970, the 316 banking offices controlled by registered bank holding companies accounted for 19 percent of the total 1,807 banking offices in the state. Concomitantly, the share of total bank deposits in Ohio accounted for by registered bank holding companies increased from 17.5 percent to 23.4 percent during the 1969-1970 period. Nearly one-half of the increase in the amount of deposits under the control of registered bank holding companies during 1970 was attributed to the two new registered bank holding company formations. By comparison, the relative share of all bank loans in the state held by
registered bank holding companies rose from 17.6 percent to 22.9 percent over the same period. As a result of the above developments, registered bank holding company activity in Ohio is anticipated to expand more rapidly during the 1970's. Consequently, additional changes in Ohio's banking structure can be expected.

Bank mergers in the state have also contributed to changes in the structure of banking in Ohio. In a merger, a smaller bank generally is absorbed by a larger bank and assumes the identity of the larger bank. Often the relationship between the two banks is established on a head office-branch basis. That is, the larger bank usually represents the head office with the smaller bank acting as a branch office.

Bank merger activity has been largely responsible for the decline in the total number of banks in the state. Between 1960 and 1970, the number of banks in Ohio declined by 12 percent from 590 to 519. Bank mergers have occurred more frequently than have registered bank holding company formations and acquisitions during the past decade. But, the pace of merger activity in Ohio since 1965 has slowed considerably as a result of substantial increases in registered bank holding company activity. Between 1960-1970,

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approximately 87 bank mergers took place in Ohio. Of these 87 bank mergers, 58 were consummated during the 1960-1965 period; in contrast, 29 bank mergers were consummated between 1966-1970. Bank merger activity is expected to continue to be strong in Ohio, but registered bank holding company activity is expected to increase much more rapidly. 21

Finally, branch banking activity has increased substantially in the state of Ohio. Ohio banking laws prohibit statewide branching to the extent that a bank's branching activity must be restricted to only one county. However, in some instances, a bank in Ohio may be allowed to establish branches in more than one county, providing that its head office is located in a city which extends into two or more counties.

Between 1960-1970, the total number of banking offices in the state increased from 1,190 to 1,807 or 52 percent. Nearly all of the increase in the number of banking offices is attributed to increases in the number of branches. Branches increased by almost 116 percent, from 600 to 1,293, between 1960 and 1970. As bank merger and registered bank holding company activity expands in Ohio, additional increases

21 Ware, "Changes in Bank Structure Over the Decade of the Sixties."
in branching during the 1970's can be expected to take place accordingly.\(^2\)

The above developments have created some concern about the effects of changes in the banking structure on agricultural lending. Specifically, questions have been raised with respect to the influence of bank mergers and registered bank holding company formations and acquisitions on the flows of bank credit to Ohio's agricultural sector. Furthermore, as a result of the changes in Ohio's banking structure, some observers have suggested that the performance of the merged or acquired banks may be strongly influenced by changes in management philosophy, bank size, legal lending limits, or competition with other banks in their areas. Consequently, a study was made by the Federal Reserve Bank of Cleveland to determine the effects, if any, of changes in bank structure on the flows of bank credit to agriculture in Ohio.\(^3\)

Results of the Federal Reserve Bank's study indicated that changes in bank structure in Ohio (specifically bank merger and registered bank holding company acquisitions)\(^4\)

\(^2\) Ware, "Changes in Bank Structure Over the Decade of the Sixties."

did not significantly alter the flow of bank credit to the agricultural sector. That is, that the flow of bank loans to farmers was not materially affected by these structural ownership changes. This may be partially indicative of the attitudes of Ohio bankers toward agricultural lending. The author of the study concluded: "The structural change in bank ownership does not appear, on average, to have improved the servicing of farmers' growing need for borrowed funds, which have resulted from increased capitalization and farm consolidation. This requires a greater bank utilization of loan participation arrangements, access to additional funds, and an increased awareness of farm capital needs at the local level." Thus, the findings of the Federal Reserve Bank's study and its author's conclusions suggest, then, that the degree of future participation by commercial banks in financing agriculture may depend upon the aggressiveness and willingness of bankers to service agriculture as well as upon facilitating ample flows of bank credit to the rural sector.

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Summary

The basic difficulties commercial banks have experienced in keeping up with the total expansion in agricultural lending were introduced in Chapter I. As a result of these difficulties, a substantial amount of attention has focused upon the aggressiveness and willingness of commercial bankers to finance agriculture. Recent observations made by some agricultural bankers suggest that banker attitudes in the field of farm credit constitute an important dimension of agricultural lending. The objectives of this study are to examine the attitudes of bankers toward agricultural lending and to determine the relationship, if any, between the attitudes of bankers and the farm lending commitment of their banks. In addition to investigating the agricultural lending attitudes of bankers, this study will evaluate farm lending practices and activities of Ohio commercial banks.
CHAPTER II

CONCEPTUAL FRAMEWORK FOR ANALYSIS

Attitudes and Behaviors

Some Conceptual Considerations

The Concept of Attitude

Following the definition of the attitude concept advanced by several prominent social psychologists and sociologists, an attitude will be conceptualized in this research as an expression of belief involving an individual's evaluative feelings of pro or con, positive or negative with respect to some object such as an institution, person, ideal or experience. Furthermore, an attitude may be reflected by the individual's tendency to respond toward or away from a specific object based upon the degree of positive or negative affect that has been associated with that specific object.¹

The Verbal Attitude—Behavior Controversy

With respect to attitudes and behavior, social psychologists historically have focused a substantial amount of attention on attitudes and behavioral relationships. Behavior is defined as the manner of acting in a given situation and often the term is used interchangeably with the word action. Many social psychologists have postulated the existence of a relationship between an individual's attitudes and his behavior. However, a review of social psychology literature reveals two divergent viewpoints regarding attitude-behavior relationships.

One is that an individual's behavior (action) is functionally related to his verbal attitudes (verbal expressions) toward a general stimulus, specific object, or class of objects. The other viewpoint discounts the assumption that verbal attitudes and behavior are closely or functionally related.

Verbal attitudes refer to the postulated influence of an individual's attitudes upon both his verbal expressions

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and actions. That is, an individual's verbal expressions are indicators of his attitudes which therefore are presumed to be closely related to his behavior (actions). As a result, an individual's attitudes toward an object(s) can be measured by his verbal responses to an attitude scale(s) resulting in the use of these verbal measures as predictors of an individual's behavior (action). Presented below is a summary of this viewpoint:

Most of the investigators whose work we have examined make the broad psychological assumption that since [verbal] attitudes are evaluative predispositions, they have consequences for the way people act toward others, for the programs they actually undertake, and for the manner in which they carry them out. Thus, [verbal] attitudes are always seen as precursors of behavior and as determinants of how a person will actually behave in his daily affairs.4

Social psychologists making the above assumption have further argued that a high degree of consistency between verbal attitudes (words) and behavior (acts) is socially significant. The following statement is indicative of this viewpoint:

A high degree of consistency between words and acts enables men to participate in organized social life with good confidence that others will do what they say they will do, and will be where they say they will be. Valid prediction of behavior is not a mere luxury of morality, but a vital social necessity.

Every man is under compulsion to keep his promises, to make his acts correspond with verbal expressions. He constantly watches others to see that they do likewise.

The matching of opinions with more effortful behavior is not left to chance. Our children are given careful training in 'truthful' promises. They are impressed with the social importance of keeping promises. They are trained in rehearsing directions received from parents and policed to see that they follow these directions correctly. It is probably this acknowledged training which gives us all the confidence that verbal behavior on surveys very frequently predicts action in real life. No one can lie with impunity, that is without anxiety, to a surveyor.

Contrary to the above viewpoints, it has been argued that attempts to predict specific behavior (action) particularly on the basis of verbal measures alone have usually led to non-supportive results because there are some other variables (factors) such as personal (other attitudes held by the individual; competing motives; verbal, intellectual, and social skills; and activity levels) and situational (actual or considered presence of certain people; alternative behaviors available; unforeseen extraneous events; expected and/or actual consequences of various acts) which strongly influence an individual's observable behavior (action). The implication is that

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6Wicker, "Attitudes versus Actions," pp. 65-69, 75-76;
verbal attitude-behavior consistency cannot be maintained. Furthermore, it has been argued that even if behavior is predicted using verbal measures, it may be only partially related to verbal attitudes. That is, people may verbally express the same amount of feeling toward a specific object and perhaps act differently toward it. More specifically, people may not respond to a situation or to a stimulus as they say they would due to restraints of the social system. For example, an individual's behavior may be dependent upon the behavior of other people, what others are doing or might do, or it may be controlled by another person as, for instance in the case of an employee-employer relationship. The above arguments suggest that attitude-behavior consistency cannot be maintained only on the basis of verbal attitudinal measurement, but must also depend upon the measurement of personal and situational variables (factors) as well.

Consequently, some researchers have attempted to

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A.W. Wicker, "The Relationship Between Attitudes and Behavior as a Function of Specificity of the Attitude Object" (unpublished manuscript, University of Wisconsin, 1969)


operationalize and to test the contributions of several other factors in order to predict behavior. One theory advanced was "rather than viewing [a verbal] attitude toward a stimulus object as a major determinant of behavior with respect to the object, the theory identifies three kinds of variables that function as the basic determinants of behavior: (1) attitudes toward the behavior; (2) normative beliefs (both personal and social); and (3) motivation to comply with norms." Tests of this theory, however, have received only moderate support.

Considerably more research is needed before the problem of verbal attitude-behavior consistency or inconsistency, whichever may be the case, can be unequivocably resolved. Some researchers have alluded to the possibility that a considerable amount of evidence supporting a close relationship between verbal responses and actions has been acquired but has not been published because researchers and journal editors have not considered such findings interesting enough for publication. Also, it has been suggested

9 Fishbein, Attitude and the Prediction of Behavior, p. 490.
10 Mitchell and Biglan, "Instrumentality Theories," p. 444.
that publication of such data is needed to correct the impression among various social psychologists that verbal attitude-behavior inconsistency is the more common phenomenon. 12

The conceptual position to be adopted in this research with respect to the relationship between verbal attitudes and behaviors will employ the concept of attitude presented above. The assumption will be made that verbal measures are valid predictors of behavior and that verbal attitude-behavior consistency can be maintained. This postulate will be tested by measuring the attitudes of commercial bankers toward a class of objects. Verbal responses to attitude scales will be used as the criterion for measurement and these responses will be evaluated on a comparative basis with respect to empirically established farm lending commitments. Acknowledging the possibility that variables (factors) other than the attitudes of bankers may also contribute to explaining the farm lending commitment of banks to agriculture, attempts will be made to identify and evaluate such variables where appropriate.

The Service Aspect Of Banking

The primary service performed by commercial banks is the extension of bank credit. In addition to making loans, many commercial banks provide their customers with a wide range of related banking services which can be distinguished as "routine" and "specialized." Routine banking services include such activities as the clearing of checks, the provision of checking and savings accounts, the provision of safe deposit box facilities, the holding of a customer's securities and other valuables in safekeeping, collections, and the provision of bank account records. Specialized banking services can be defined to include trust department services, financial advisory services, credit cards, automated payroll accounting services, and other computerized management accounting services. These types of services tend to be more complex than the routine services and often require special adaptation to the individual customer. While routine services have customarily been made available to most depositors, the provision of specialized customer banking services has increased substantially in recent years throughout the banking industry. As a result, many banks now promote themselves as "full service banks" with respect to the provision of both routine and specialized customer banking services. In fact, most bankers no longer tend to view themselves or their banks primarily as
"money lenders" or as "money service centers," but rather as providers of all types of financial services with the consequent view that their banks represent financial or business service centers.13

In this research commercial banking will be conceptualized as a service industry. The banking services, including credit, which commercial banks are able to provide to their customers will be viewed as the basic product of the banking industry. In the context of this study, the concept of banking as a service industry will constitute the basic framework for an evaluation of the future role of commercial banks in lending to agriculture.

Factors Indicative of the Farm Lending Commitment of Banks to Agriculture

Most commercial banks located in rural areas lend and provide related banking services to their farm customers to some extent.14 A review of the literature in the


fields of agriculture finance and banking revealed several important factors which appear to be indicative of the farm lending commitment of banks to agriculture. In this research, commitment will be conceptualized as the allocation of a bank's loan resources by bankers for purposes of extending agricultural credit. The literature reviewed shows that bankers place considerable emphasis upon their judgment and appraisal of the risks and returns associated with the extension of bank credit to a prospective borrower. In most instances, where the risks and returns are judged to be acceptable, bankers are inclined to approve the loan request and consequently allocate the appropriate amount of resources which may be required to meet the borrower's credit needs. Research indicates that there are several basic credit decision-making factors which are considered by bankers in arriving at their ultimate credit extension decision. The economic viability of the industry in which an individual or firm is operating,


the managerial ability of the principals of the business or of the individual applying for a loan, the type or kind of credit required by a prospective borrower, and the credit risk associated with lending stand out as important credit decision-making factors which bankers customarily consider in terms of their appraisal of the risks and returns associated with a particular loan request. Among these factors, the ability of management is reported to be the leading credit decision-making factor. However, it should be recognized that by no means is the management factor independent of the other credit decision-making factors in arriving at the ultimate credit decision. The final decision to allocate bank credit to an individual borrower or to a business firm is based significantly upon bankers' judgment of the inter-relationships among all of the above credit decision-making factors.


Research in the field of agricultural finance also cites the adequacy of correspondent banking credit service arrangements between city and rural banks as an important indicator of the farm lending commitment of banks to agriculture. Also, the extent to which banks adequately provide farmers with specialized banking services is cited as an indication of the involvement of banks in agricultural lending activities.\textsuperscript{22}

The following theoretical position is offered for each of the factors cited above as a possible means for predicting the farm lending commitment of banks to agriculture.

**Economic Viability of the Industry**

In order to avoid undue risk and the possibility of unnecessary losses, most bankers tend to cautiously approach the extension of credit to customers operating in an industry which is not considered to be economically sound. More significantly, the consideration of the

present and future economic viability of the industry in which a prospective borrower or company is operating is an important phase of the decision-making process of extending bank credit.

According to many observers, the economic function and importance of an industry, the trends of an industry, the cyclical fluctuations of an industry, the general position of an industry in the economy's business cycle, and the advancement of technology within an industry are important factors which often are considered by bankers in their judgment and appraisal of the economic viability of an industry. More specifically, if the economic function of an industry's business firms does not benefit the economy in terms of the production or distribution of needed goods or services—then bank loans in that industry may not aid the overall credit structure of the economy. Furthermore, bank loans in an industry which is considered to be unstable in terms of cyclical fluctuations with respect to its position in the economy's business cycle, may be slow in terms of repayment. Also, rapid technological innovations in a particular industry may be indicative of future economic obsolescence with the consequent undesirability at some future date of current bank loans made

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in that industry. Finally, the commitment of bank funds to firms in "stagnant" industries may result in potentially unnecessary losses. 24 Although an exact appraisal of the economic viability of any industry may seldom be possible, the above considerations suggest its importance in the credit decision-making process. Logically, if bankers feel that an industry is economically viable, they will be inclined to make loans to firms operating within that industry.

The economic viability of the industry of basic food and fiber production which is commonly referred to as production agriculture or farming, can be evaluated within the context of the above framework. If bankers, for example, feel that agriculture is economically progressive, efficient in terms of the production of food and fiber, relatively stable, and not subject to problems of economic obsolescence due to rapid technological farming innovations then they probably will be inclined to perceive the industry to be economically viable. Thus, it should follow logically that the probability of allocating resources to agricultural lending activities will be high among those bankers who perceive agriculture to be an economically sound industry.

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Consequently, it will be argued in this research that the commitment of banks to agriculture is a function of bankers' judgment and appraisal of the economic viability of the agricultural industry. The hypothesis for testing may be stated as follows: **Bankers who have a high positive attitude toward farming as an economically viable industry will exhibit a high commitment to agricultural lending.** This hypothesis is based upon the assumption that bankers who favorably appraise farming to be an economically sound industry will tend to allocate a greater proportion of the resources of their banks to farm lending activities as compared to bankers who do not judge the agricultural industry to be an economically sound industry.

**The Credit Needs of Prospective Borrowers**

A basic step in the formulation and subsequent implementation of a bank's lending policies involves the bank management's assessment of the needs of the credit market or community to be served by their banks. More specifically, bankers' appraisal, judgment and knowledge of the credit needs of actual and potential borrowers is an

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25 In the context of this study, bank management refers to that individual or group of individuals who determine major lending and operating policies, and are responsible for making the major decisions for a bank. Usually, bank management consists of a board of directors and/or the major officers of a bank.
important aspect of banking in terms of making policy
decisions concerning loan portfolio composition, as well
as for purposes of determining a bank's liquidity needs
and investment policy. Moreover, once bankers have
assessed their customers' credit needs they are then faced
with the task of deciding how to allocate their available
resources between liquid assets, loans and investments.
The allocation of a bank's resources or funds constitutes
an important area of decision-making in banking. It is
directly related to loan policy formulation and implemen-
tation in terms of the kinds of credit and the types of
loans a commercial bank intends to emphasize in its loan
portfolio composition.

With respect to liquid assets, all banks are legally
required to maintain a certain amount of their resources
in cash or near-cash form to provide for primary, legal
or required and secondary reserves. A portion of the liquid
reserves are necessary to ensure sufficient liquidity to
meet the deposit withdrawal demands of customers. Further-
more, banks maintain a certain proportion of their finan-
cial resources in the form of cash or liquid assets for
purposes of meeting operating expenses, as well as the
future demand for loans. These liquidity reserve require-
ments constitute one of the most significant institutional

constraints under which commercial banks must operate. Also, it should be recognized that the amount of funds which a bank may allocate to agricultural lending is limited by the above constraints. Nevertheless, once a bank's liquidity reserve requirements have been met, most banks are encouraged to make the best possible use of the remaining residual financial resources in terms of providing income for a bank.\textsuperscript{27}

Research indicates that the most important use of a bank's residual resources is satisfying the credit needs of the bank's customers.\textsuperscript{28} More significantly, lending is regarded as the most profitable aspect of the banking business in terms of achieving the best available rate of return on the use of a bank's residual resources.\textsuperscript{29} In fact, the rates of return realized on loans traditionally have been well above those realized on longer-term investments.\textsuperscript{30} As a result, bank management places considerable emphasis upon determining the proportion of residual resources that will be allocated to the loan portfolio,

\textsuperscript{27}The American Bankers Association, \textit{Bank Management}, p. 105.


\textsuperscript{29}Robinson, \textit{The Management of Bank Funds}, pp. 129-130.

\textsuperscript{30}Robinson, \textit{The Management of Bank Funds}, p. 131.
as well as upon the determination of the subsequent allo-
cation of these resources among competing loans such as
commercial and industrial, consumer, real estate, agricul-
tural, individual, and other loans to financial institu-
tions.\textsuperscript{31} These types of loans are typical examples of the
most common credit needs of a bank's actual or potential
customers.

With respect to the kinds of agricultural credit
required by a bank's actual and prospective borrowers, farm
loans are most commonly classified as either short-term
or long-term in the minds of both the borrowers and lenders.
Long-term loans to farmers are usually secured by real
estate mortgages and are used for such purposes as the
purchase of land, buildings, installation of irrigation
systems and similar expenses. These types of long-term
loans are commonly designated as farm real estate loans.
Short- and intermediate-term loans usually consist of sea-
sonal or working capital loans for purposes of purchasing
seed, feed, fertilizer and the employment of labor, as
well as for purposes of purchasing farm machinery and
equipment, property improvements and breeding livestock.
These types of loans are frequently referred to as farm

\textsuperscript{31}Wilbur A. Rapp, "Resource Administration: Trends
in Bank Loans," Savings and Lending Institutions: Text
and Readings (Columbus: The Ohio State University, Depart-
ment of Business Administration, 1969), p. 4-5.
non-real estate loans or "other loans to farmers." The above two general classifications of agricultural credit will be used throughout the remainder of this research.

While an individual bank may have the ability or capacity to make farm non-real estate and farm real estate loans, as well as commercial and industrial, consumer, real estate, individual, and other loans to financial institutions, this by no means implies that a bank in fact will make them all. Research shows, that in terms of making decisions regarding the types of credit to be emphasized in a particular bank's loan portfolio, that bankers place considerable emphasis upon their judgment and appraisal of factors such as the risks and profitability associated with various categories of loans, as well as upon the competitive position of their bank with other banks and financial institutions located in their lending area.\(^\text{32}\) Although, this list of factors is not exhaustive, it is indicative of some of the more important considerations which have been emphasized by bankers in terms of their preferences among loan types. For purposes of this study, it will be reasoned that bankers' judgment and appraisal of the aforementioned factors is indicative of their attitudinal preferences for various kinds of loans.

within their loan portfolio composition. Thus, if bankers' perceive farm non-real estate-and farm real estate loans to be profitable investment alternatives, as well as acceptable risks in comparison to other investment opportunities, it should follow logically that they will be inclined to service the credit needs of their farm customers. Furthermore, an individual bank is often challenged by savings and loan associations as well as by other commercial banks located in its service area for farm and non-farm customer deposits. Also, the Farm Credit System's agencies actively compete with commercial banks for farm loans. If bankers feel that the income earning capacity of their banks can be enhanced by responding to these competitive challenges, then, it is logical to expect that bankers will be motivated to commit a proportion of their banks' residual resources to agricultural lending. Consequently, it will be argued that the commitment of banks to agriculture is a function of the attitudes of bankers toward extending farm non-real estate credit and farm real estate credit, respectively. The hypothesis for testing with respect to farm non-real estate credit may be stated as follows: Bankers who have a high positive attitude toward extending farm non-real estate credit will exhibit a high commitment to agricultural lending. This hypothesis is based upon the assumption that bankers who judge and appraise farm non-real estate loans as desirable
investment alternatives will tend to channel a greater proportion of their banks' residual resources into farm non-real estate loans than will bankers who do not view farm non-real estate loans as desirable investment alternatives. The hypothesis for testing with respect to farm real estate credit may be stated as follows: Bankers who have a high positive attitude toward extending farm real estate credit will exhibit a high commitment to agricultural lending. The assumption made above for farm non-real estate credit applies for farm real estate credit as well.

It also should be recognized that mainly for liquidity reasons, commercial banks traditionally have emphasized short and intermediate term credit (seasonal working capital and machinery and equipment loans) versus long term credit (real estate mortgages) in lending to farmers as well as to other credit-using groups because of the greater risk associated with the lengthened maturities of long term loans. This suggests that bankers prefer short and intermediate term loans over long term loans. Thus, it should follow logically that the attitudes of bankers toward servicing the short and intermediate term farm non-real estate credit needs of farmers will differ from

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their attitudes toward servicing long-term farm real estate credit needs. The hypothesis for testing may be stated as follows: The attitudes of bankers toward extending farm non-real estate credit are significantly different from their attitudes toward extending farm real estate credit.

**Business Management Ability**

Traditionally, bankers have placed considerable emphasis upon their judgment and appraisal of the managerial ability of the principals of a business in arriving at their final decision to grant or to decline a loan application. Research indicates that the ability of management is one of the most important factors considered by bankers in making a decision to extend credit to a business enterprise. More specifically, bankers are inclined to associate profitable business ventures with high levels of management ability, and reason, under these conditions, that the probability of most loans being repaid is quite high among those firms which are well managed.

With respect to financing agriculture, bankers consider the management of the farm business to be very important

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Furthermore, the risk a lender takes in financing a particular farming operation is believed to be strongly related to the farmer's managerial ability.\footnote{I. W. Duggan and Ralph V. Battles, Financing The Farm Business (New York: John Wiley & Sons, Inc., 1950), pp. 72-73.} As a result, bankers place considerable emphasis upon appraising the managerial ability of an actual or prospective farm borrower in terms of evaluating whether or not the loan applicant is an effective farm business manager.

The two types of management which are most frequently considered by bankers in appraising a farmer's managerial ability are farm management and financial management. Farm management refers to the farmer's decision-making ability to organize and to operate his farm in the most efficient and profitable manner possible with respect to the production and marketing of his farm output. More specifically, the operational-efficiency decision-making aspect of farm management involves making decisions of how to combine the various factors of production on the farm, how to use the land, how to harvest the crops or how to
handle the livestock, as well as how to do the work associated with each enterprise. Organizational decisions are concerned with personnel and resource allocations. Furthermore, an important aspect of farm management involves the farmer's ability to effectively communicate his decisions to his employees who will eventually put them into action. Financial management refers to the farmer's ability to finance his farm in terms of making the optimum use of his available capital and credit, as well as to his ability to manage his cash flows, to record business transactions, and to safeguard the financial position of the business as an ongoing concern over a long period of time. It should be emphasized that these two types of management are not independent of one another, but that there is some overlapping from one to the other. Research suggests that the success of a farming operation is directly related to the management effectiveness of a farm operator both in terms of his farm management ability, as well as in terms of his financial management ability.\(^{38}\)

Based upon the above discussion it will be argued that the commitment of banks to agriculture is a function of bankers' judgment and appraisal of the management effectiveness of farmers. The hypothesis for testing may be stated as follows: Bankers who have a high positive attitude toward farmers as effective managers will exhibit a high commitment to agricultural lending. If bankers favorably appraise the managerial ability of farmers both in terms of their ability as farm managers and as financial managers, then, logically it should follow that bankers will perceive farmers as effective managers. Consequently, it will be argued that the probability of bankers allocating a larger proportion of the resources of their banks to farm lending activities is significantly greater among those bankers who favorably appraise the management effectiveness of farmers than among those bankers who do not judge farmers as effective managers.

Specialized Banking Services

There are several motivations which have encouraged commercial bankers to provide their customers with a wide range of specialized banking services in addition to the routine services which arise out of the normal activity of a customer's banking relationship. These motivations include the desire of bankers to increase bank income, to adequately service the business and financially related
service needs of customers, to promote the public relations image of their banks, to obtain new deposits and new business from old customers, to attract new customers and new deposits, and to retain existing customers who may otherwise be lost to competitors offering a wide range of specialized services. Also, the provision of new and specialized banking services is indicative of product differentiation and product innovation in the banking industry. Furthermore, many observers consider a bank's provision of semi-unique and highly specialized customer banking services to be its main channel for aggressive competition within the banking industry. The above motivations and competitive factors suggest, then, that both a commercial bank and its customers stand to benefit from the provision of specialized banking services.

With respect to providing specialized banking services to farmers, many observers suggest that there is no banking service today from which the farmer cannot benefit.

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40 Hodgman, Commercial Bank Loan and Investment Policy, p. lll.

This is indicative of the fact that many bankers no longer tend to view a farmer's banking needs in terms of credit alone, but that they also are viewing his banking needs in terms of being a potential user of specialized banking services as well. This also implies that bankers must feel that the farm customer relationship in bank lending offers opportunities for other kinds of profitable business as well. More specifically, many banks, particularly in rural areas, employ full or part time agricultural or farm loan specialists. Their principal function is to provide financial advisory services, as well as farm management consulting services to actual and prospective farm customers. Farmers also are frequently provided with a variety of other specialized banking farm business services such as electronic and farm record keeping services, estate planning and trust services, and specialized tax management services.


As indicated previously, the desire of bankers to adequately service the business and financially related service needs of their customers constituted an important motivation which encouraged their provision of specialized customer banking services. Consequently, it will be argued that the adequacy of the specialized banking services which commercial banks provide to their farm customers is partially indicative of their commitment to agriculture. 44

For purposes of this study, it will be reasoned that the attitudes of bankers toward the adequacy of their banks' specialized farm customer services are indicative of the commitment of their banks to agriculture. If bankers are positively motivated to adequately service their farm customers' specialized business service needs, then it should follow logically that their banks will exhibit a strong commitment to agricultural lending. The hypothesis for testing may be stated as follows: Bankers who have a high positive attitude toward the adequate provision of specialized farm business services will exhibit a high commitment to agricultural lending.

44 Adequacy, used in this context, refers to the extent to which bankers perceive the business service needs of their farm clientele to be satisfied through the provision of specialized farm customer banking services.
The Credit Risk Associated With Lending

The most obvious risk in banking is the credit risk associated with lending. Credit risk refers to the possibility that a particular loan may not be repaid in accordance with its terms and consequently will result in a loss to a bank. Nearly all credit extensions involve some risk of loss and although there are some credit risks which carry a very small possibility of a loss, there also are others that may be too great for an individual bank to assume. However, a bank that attempts to avoid all credit risks or as many of them as possible may not be adequately serving the credit needs of its area. Conversely, a bank which takes excessive credit risks or accepts them without knowing their full extent, may incur large losses which may jeopardize its financial condition. As a result, bankers are encouraged to maintain a constructive attitude and a constructive approach toward the credit risks involved in lending in terms of meeting the credit needs of prospective borrowers, as well as for purposes of protecting and benefiting the owners of their banks. It should be noted that bankers often attempt to protect the owners of their banks against unforeseen losses by asking their bor-

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46 Davis and Gee, Analyzing Financial Statements, p. 3.
rowers to pledge assets (collateral) to secure their borrowings. More specifically, collateral is taken to minimize the risk of loss to the bank should the income or profits of the borrower fail to develop in sufficient quantity to repay a loan for reasons which neither the bank or the borrower can foresee. 47

Research further indicates that the lending capacity of a particular bank is influenced by the attitudes of bankers toward risk, which is somewhat indicative of the type of loan or kind of credit bankers are willing to extend, as well as the total loan volume they are willing to carry. 48

With respect to financing agriculture, it will be argued that the commitment of banks to agriculture is a function of the attitudes of bankers toward the credit risk involved in lending to farmers. This argument is based upon the assumption that where the credit risk associated with farm lending is perceived to be acceptable, bankers will allocate a significantly greater proportion of their banks' resources to farm lending activities than will those bankers who perceive the credit risk associated with agricultural lending to be unacceptable. The hypothesis

47 Crosse, Management Policies for Commercial Banks, p. 197.
48 Hodgman, Commercial Bank Loan and Investment Policy, p. 8.
for testing may be stated as follows: Bankers who have a high positive attitude toward the credit risk associated with lending to farmers will exhibit a high commitment to agricultural lending.

Correspondent Banking Credit Service Arrangements

In the unit banking system which prevails throughout most of the United States many rural banks maintain correspondent banking relationships with commercial banks located in the major cities of their state or with city banks located in major financial centers of regional areas. Rural banks maintain these arrangements for purposes of obtaining specialized managerial and customer services which usually cannot be facilitated through their own resources. Some of the typical services which rural banks may obtain from their city correspondents are: check clearing, investment advice, safekeeping of securities, assistance with accounting and management problems, computer services - both internally and externally, and credit services with respect to assisting rural banks to meet excessive loan demand. In exchange for these services, rural banks maintain demand balances on deposit with their correspondent banks.

Traditionally, correspondent banking credit service arrangements between city and rural banks have played an important role in the financing of agriculture. More specifically, many rural banks supplement their own resources through farm loan participation arrangements with their correspondent banks. These arrangements are primarily consummated for purposes of accommodating farm loan requests which exceed the legal lending limit of the rural bank. Typically, loans of this type are referred to as "overline" loans. Under these circumstances, a rural bank usually will extend funds for the loan up to its legal limit, and will ask its correspondent to supply the remainder of the overline funds requested. As a result, a rural bank is provided with an important source of bank credit or funds available outside of its own community, since city bank participations in farm loans channel urban funds into farm lending. Research shows that rural

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50 Laws governing national and state banks impose legal lending limits which result in fixing the maximum amount of credit that a bank may extend to an individual borrower. Legal lending limits are designed to protect a bank from serious financial difficulty should an individual borrower fail to meet his debt obligation. The legal lending limit for a national bank is 10 percent of the bank's capital and surplus (except for livestock loans which may go up to 25 percent). Similar criteria also apply for state banks, except that the legal lending limits often vary among states.

51 Melichar and Doll, "Capital and Credit Requirements of Agriculture and Proposals to increase Availability of Bank Credit," p. 6.
bankers rank overline loan participation as the most frequently used correspondent banking credit service. Furthermore, rural bankers regard the handling of overline loans as the most important credit service rendered by their correspondents. Also, participations sometimes are used to obtain credit from correspondents even in instances where overlines are not involved. And lastly, research indicates that loans made by a correspondent directly to a rural bank's farm customers constitute another frequently used correspondent banking credit service.

According to many observers, the effectiveness of the farm lending programs of many rural banks is significantly enhanced through their maintenance of adequate correspondent banking farm credit service arrangements. Furthermore, others indicate that the incidence of overline farm loan requests is expected to grow substantially in the future as farms increase in size and require larger

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52 Gary L. Benjamin, Correspondent Banking In Illinois: Results of Survey (Urbana: University of Illinois, Department of Agricultural Economics, April, 1971), p. 3.

53 Melichar and Doll, "Capital and Credit Requirements of Agriculture and Proposals to Increase Availability of Bank Credit," p. 110.

54 Benjamin, Correspondent Banking in Illinois, p.4.

55 Walton and Cooper, "How to Get Funds For Agricultural Lending;" Knight, Harms and Walton, "Maximizing Your Correspondent Bank Relationship."
amounts of capital and credit to facilitate their operation. They project correspondent banking credit, as a source of outside funds, to become increasingly important to rural banks in terms of their ability to meet anticipated increases in farm loan demand.

The above observations suggest, then, that a particular rural bank's commitment to financing agriculture may be significantly related to the adequacy of the farm credit services which it is able to obtain from its correspondent banks. Adequacy, used in this context, refers to the extent to which a rural bank's outside farm credit service needs are being met via the correspondent banking system. In this research, it will be argued that the commitment of banks to agriculture is partially a function of the adequacy of correspondent banking farm credit service arrangements. For purposes of this research, it will be reasoned that the attitudes of bankers toward the correspondent banking system in terms of satisfying the farm credit service needs of rural banks are indicative of the adequacy of farm credit service arrangements between city correspondents and rural banks. The hypothesis for testing may be stated as follows: Bankers who have a high positive attitude toward the adequacy of correspondent banking farm

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Credit service arrangements will exhibit a high commitment to agricultural lending. If bankers think that their correspondent banking farm credit service arrangements are adequate, then, it follows logically that they should be able to service loan requests which exceed the legal lending limits of their banks. Additionally, they also should be able to provide their farm customers with other credit services available through their correspondents. Consequently, under these circumstances, the commitment of banks to agriculture should be significantly enhanced as compared to situations wherein bankers perceive correspondent banking farm credit service arrangements to be inadequate.

The Conceptual Model

Following the theoretical position provided above for the economic viability of an industry, the credit needs of prospective borrowers, business management ability, specialized banking services, the credit risk associated with lending, and correspondent banking credit service arrangements, these factors will be hypothesized as valid indicators of the commitment of banks to agriculture. They will be designated as the farm lending attitudinal variables utilized in this research. More specifically, it will be assumed in this study that a positive relationship exists between the attitudes of bankers and the commitment
of their banks to agricultural lending. Thus, if bankers have high positive attitudes toward the economic viability of the agricultural industry, the extension of farm non-real estate and farm real estate credit respectively, the effectiveness of farmers as managers, the adequate provision of specialized farm business services, the credit risk associated with agricultural lending, and the adequacy of correspondent banking farm credit service arrangements, then, it should follow logically that their banks will exhibit a strong commitment to agricultural lending. Consequently, the major hypothesis to be tested in this research may be stated as follows: The attitudes of commercial bankers are significant indicators of the farm lending commitment of their banks to agriculture.

Conceptually, the central equation of the model to be utilized in this research to predict the commitment of banks to agricultural lending may be stated as follows:

\[ C = f(A_1), \]

where \( C \) = commitment and \( A_1 \) denotes the farm lending attitudinal variables elaborated above.

**Summary**

The following is a summary of the hypotheses to be subjected to testing. They are concerned with the relationship between the attitudes of bankers toward each of the farm lending attitudinal variables and the commitment
of banks to agriculture. The hypotheses are:

1. Bankers who have a high positive attitude toward farming as an economically viable industry will exhibit a high commitment to agricultural lending.

2. Bankers who have a high positive attitude toward extending farm non-real estate credit will exhibit a high commitment to agricultural lending.

3. Bankers who have a high positive attitude toward extending farm real estate credit will exhibit a high commitment to agricultural lending.

4. The attitudes of bankers toward extending farm non-real estate credit are significantly different from their attitudes toward extending farm real estate credit.

5. Bankers who have a high positive attitude toward farmers as effective managers will exhibit a high commitment to agricultural lending.

6. Bankers who have a high positive attitude toward the adequate provision of specialized farm business services will exhibit a high commitment to agricultural lending.
7. Bankers who have a high positive attitude toward the credit risk associated with lending to farmers will exhibit a high commitment to agricultural lending.

8. Bankers who have a high positive attitude toward the adequacy of correspondent banking farm credit service arrangements will exhibit a high commitment to agricultural lending.

The major hypothesis to be tested in this research was stated as follows:

9. The attitudes of commercial bankers are significant indicators of the farm lending commitment of their banks to agriculture.
CHAPTER III

METHODOLOGY

A technique frequently used by researchers to measure attitudes involves the development and administration of Likert-type attitudinal scales.¹ This technique was utilized to provide insight into the future role of commercial banks in the field of farm credit in terms of measuring the attitudes of commercial bankers toward several specific farm lending attitudinal variables.

Farm Lending Attitudinal Variables

The specific farm lending attitudinal variables utilized in this research as focal points for the prediction of the commitment of commercial banks to agricultural lending were: the future economic viability of the agricultural industry, the future extension of farm non-real estate credit, the management effectiveness of farmers, the adequacy of banking farm business services, the adequacy of the correspondent banking system's farm credit services, the credit risk associated with agricul-

tural lending, and the future extension of farm real estate credit.

**Operationalization of Farm Lending Attitudinal Variables**

Likert-type attitudinal scales are constructed of statements or items to which individuals having different attitudes will, if given the opportunity, respond differently. These statements or items should represent the entire attitude continuum: from complete acceptance of the item or statement to its complete rejection.\(^2\) Verbal responses to these items constitute the criterion for attitude measurement. To facilitate the measurement of the agricultural lending attitudes of bankers the farm lending attitudinal variables were operationalized in terms of their basic components or indicators which could most effectively be utilized as reference points for the elaboration of attitudinal scale statements. Presented below is an operationalization of the farm lending attitudinal variables used in this study.

**The Future Economic Viability of The Agricultural Industry**

The agricultural industry was defined as the industry of basic food and fiber production known as farming. The

\(^2\)Ferguson, *Personality Measurement*, p. 84.
operationalization of this variable focused upon the attitudes of commercial bankers toward the future of farming as an economically viable non-financial sector of private enterprise activity.

The nature and economic importance of the agricultural industry, future trends of the industry, future occupational opportunities in the industry, the general stature of the industry in the economy, and the advancement of technology within the industry constituted selected indicators for the measurement of this variable. These indicators formed the basis for creating general statements about the future economic viability of the agricultural industry. It was reasoned that by asking bankers to respond to general statements that they would be provided a better opportunity to express their general attitudes about the future economic viability of the agricultural industry.

**Future Extension of Farm Non-Real Estate Credit and the Future Extension of Farm Real Estate Credit**

In the previous chapter it was argued that the attitudes of bankers toward extending farm credit may differ in terms of providing farmers with farm non-real estate credit versus farm real estate credit, respectively. In order to measure the attitudes of bankers toward the future extension of these two types of farm credit and
to test for any measurable differences between bankers' attitudes, farm non-real estate credit and farm real estate credit were isolated as separate farm lending attitudinal variables.

These two attitudinal variables refer to the traditional types of farm loans which are extended to farmers. Farm non-real estate credit consists of short-term (less than 1 year) and intermediate-term loans (usually 10 years or more) secured by a mortgage on the farm property. In this research farm non-real estate credit was defined as all loans to farmers that were not secured by real estate, including loans for household and personal expenditures. Farm real estate credit was defined as all loans to farmers secured by farmland, including farm residential and other improvements.

The operationalization of these two attitudinal variables centered upon the future farm credit service commitment of banks in the fields of farm non-real estate and farm real estate credit, respectively. Commitment was defined in the context of the willingness of bankers to provide farmers with farm non-real estate credit and farm real estate credit in the future.

To measure the attitudes of bankers toward these two farm lending attitudinal variables considerable emphasis was placed upon selected indicators of future commitment.
which were common to the operationalization of both variables. The indicators utilized in this research as specific points of reference for the development of attitudinal scale statements were: the profitability of extending farm credit, the effect of competition on banks' future farm credit service commitment to farmers, and bank management's farm lending objectives with respect to providing farmers with farm credit. These indicators should provide measures of the attitudes of bankers toward providing farmers with farm non-real estate credit and farm real estate credit in the future.

The Management Effectiveness of Farmers

Farm management and financial management constituted the two basic components which formed the basis for the operationalization of the management effectiveness of farmers.

Farm management was broadly defined in terms of the decisions that affect the profitability of the farm business together with getting things done by the coordination of all resources through the processes of organizational and operational planning, directing and controlling of the farm business.

Financial management was broadly defined in terms of financing the farm and operation of the business, recording business transactions, and safeguarding the financial
position of the farm business as an on-going concern over a long period of time.

These two components were utilized for purposes of developing attitudinal scale statements which could be effectively used to measure the attitudes of bankers toward the management effectiveness of farmers.

**The Adequacy of Banking Farm Business Services**

Banking farm business services were broadly defined in terms of services such as farm record keeping services, estate planning and trust department services, farm management consulting services, specialized tax management services, and agricultural loan or farm specialist services. The operationalization of banking farm business services focused upon the attitudes of bankers toward the adequacy of the banking business services available to their farm customers. Adequacy refers to the extent to which the existing banking farm business services are perceived as meeting the business service needs of farmers.

To measure the attitudes of bankers toward the adequacy of banking farm business services attitudinal scale statements were formulated with respect to business services in general. Consequently, bankers were asked to respond to statements about services in general rather than to respond to statements about specific services. It was reasoned that bankers would, therefore, have a better
opportunity to express their attitudes toward the general adequacy of the existing banking farm business services available to their farm clientele.

The Adequacy of the Correspondent Banking System's Farm Credit Services

Correspondent banking farm credit services were defined in terms of participation lending arrangements, discount loans and direct loans to banks or to farmers. The operationalization of correspondent banking farm credit services focused upon the attitudes of bankers toward the adequacy of the correspondent banking system in terms of existing farm credit service arrangements between correspondent banks and banks involved in agricultural lending activities. Adequacy refers to the extent to which the existing correspondent banking system's farm credit services are perceived as meeting the outside farm credit service needs of commercial banks.

To measure the attitudes of bankers toward the correspondent banking farm credit services, statements were elaborated with respect to the adequacy of correspondent banking farm credit services in general. The rationale for not specifying specific services was that bankers would have a better opportunity to exhibit their general attitudes toward the overall adequacy of farm credit service arrangements between correspondent banks and commercial
The Credit Risk Associated With Agricultural Lending

The credit risk associated with agricultural lending was defined as the extent to which a bank may incur a possible loss on a farm loan on the basis of a farmer's failure to repay the loan in accordance with its terms. Personal factors, financial factors, and economic factors are indicative of basic credit factors which frequently are analyzed in assessing the nature of the risk involved in the extension of credit. These three basic credit factors formed the indicators for the operationalization of the credit risk associated with agricultural lending. The indicators utilized in this research for purposes of elaborating statements to measure this attitudinal variable were: the willingness and ability of a borrower to meet his financial obligations, the integrity of the borrower, the financial strength of the borrower, and the economic conditions under which the borrower is operating.

Empirical Measure of Farm Lending Emphasis

The ratio of total farm loans to total loans in the sample banks' loan portfolios was denoted as the dependent variable in this research. This variable is frequently defined as an empirical indicator of the
emphasis placed upon farm lending by commercial banks.³

It is argued that this ratio is a reflection of a bank's allocation of its loan resources to farm lending activities and, therefore, is a valid empirical measure of the farm lending commitment of banks to agriculture. To measure this variable, data were collected from each commercial bank sampled in this research with respect to the total dollar volume of all loans and of all farm loans outstanding as of December 31, 1970. The ratio was then computed for each bank by dividing the total dollar volume of farm loans outstanding by the total dollar volume of all loans outstanding as of the above date. The mathematical notation for this ratio is: \[ \frac{\text{Total Farm Loans}}{\text{Total Loans}} \].

Attitudinal Scale Construction

Likert-type attitudinal scales were utilized in this research to measure the agricultural lending attitudes of commercial bankers. These were developed in the following manner. A theoretical base was formulated for each farm lending attitudinal variable and the resultant concepts of theory were used in terms of constructing the attitudinal scales. More specifically, the concepts of theory constituted the basis for the identification of those components or indicators which could be used as reference points for

the elaboration of attitudinal scale statements. These basic components and indicators were presented in the above operationalization of the farm lending attitudinal variables utilized in this research.

The basic assumptions which are usually made in the construction of Likert-type attitudinal scales are that each statement in an attitudinal scale cover the entire attitude continuum, that specific points on a scale can be indicated by alternative responses to each statement, and that an individual's attitude can be determined on the basis of a summation of his responses to all statements in the attitudinal scale.\(^4\) It is argued that these assumptions were basically satisfied in this research with respect to the development of attitudinal scales.

Several alternative responses to each statement were allowed in the constructed attitudinal scales. These alternative responses consisted of "strongly agree," "agree," "undecided," "disagree," and "strongly disagree." These responses should provide measures of the attitude continuum represented by each statement. Specifically, the alternative responses to each of the items in the constructed attitudinal scales were weighted according to the assignment of an arbitrary system of weights from one to five. This method of arbitrary weighting is commonly applied by sociologists and others to facilitate analysis

of attitudinal scales.\textsuperscript{5}

Since an individual's verbal responses to the items in an attitudinal scale constitute the criterion for attitude measurement, his resultant attitude is determined by the addition of the numerical values (weights) which are associated with each of his responses to all statements in the scale. This technique is referred to as the method of summated ratings. The final attitudinal scale score approximates an average estimate of the individual's attitude obtained from the application of several different statements, each one of which is designed to extend the entire length of the attitude continuum.\textsuperscript{6}

The Likert-type attitudinal scales developed in this research to measure the farm lending attitudes of bankers were: the Future Economic Viability of the Agricultural Industry Scale, The Future Extension of Farm Non-real Estate Credit Scale, The Management Effectiveness of Farmers Scale, The Adequacy of Banking Farm Business Services Scale, The Adequacy of the Correspondent Banking System's Farm Credit Services Scale, The Credit Risk Associated with Agricultural Lending Scale, and The Future Extension of Farm Real Estate Credit Scale. These 7 scales constituted the attitudinal measures of the 7

\textsuperscript{5}Ferguson, \textit{Personality Measurement}, pp. 131-132.

\textsuperscript{6}Ferguson, \textit{Personality Measurement}, p. 124.
farm lending attitudinal variables.

It was hypothesized that a positive relationship would occur between each of the farm lending attitudinal variables and the dependent variable which was denoted as the ratio of total farm loans to total loans for each of the banks sampled in this research. As a result, each of the attitudinal scales developed in this research were weighted accordingly. The weighting of these scales is presented in Table 3.

In order to facilitate the editing of statements making up the attitudinal scales and to determine the reliability of the attitudinal scales, the scales were pre-tested on a group of 40 Ohio urban bankers. The pre-test was used to determine whether the terminology of the statements in the original scales was consistent with the purposes to be served by the final scales and to assure the appropriateness of the alternative responses allowed for in each of the original scales' respective statements. Furthermore, it was used to aid in the detection of ambiguous statements and to elicit comments and questions about any ambiguities which had not been discovered in the original development of the scales. Finally, the pre-test was used for purposes of eliminating

7The pre-test group of 40 Ohio urban bankers was surveyed in November, 1971. This group of bankers was not included in the final sample of surveyed banks.
TABLE 3
WEIGHTING VALUES OF CONSTRUCTED ATTITUDE SCALES

<table>
<thead>
<tr>
<th>Scale</th>
<th>Positive Items</th>
<th>Negative Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Future Economic Viability of the Agricultural Industry</td>
<td>SA 5 A 4 U 3 D 2 SD 1</td>
<td>SA 5 A 4 U 3 D 2 SD 1</td>
</tr>
<tr>
<td>The Future Extension of Farm Non-Real Estate Credit</td>
<td>5 4 3 2 1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td>The Management Effectiveness of Farmers</td>
<td>5 4 3 2 1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td>The Adequacy of Banking Farm Business Services</td>
<td>5 4 3 2 1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td>The Adequacy of the Correspondent Banking System's Farm Credit Services</td>
<td>5 4 3 2 1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td>The Credit Risk Associated with Agricultural Lending</td>
<td>5 4 3 2 1</td>
<td>2 3 4 5</td>
</tr>
<tr>
<td>The Future Extension of Farm Real Estate Credit</td>
<td>5 4 3 2 1</td>
<td>2 3 4 5</td>
</tr>
</tbody>
</table>

*Positive items are those statements phrased so that agreement with them indicates a favorable attitude on the underlying attitude continuum.

*Negative items are those statements phrased so that agreement with them indicates an unfavorable attitude on the underlying attitude continuum.
those statements which did not differentiate well in terms of measuring the attitudes of bankers toward the specific farm lending attitudinal variables under analysis.

Survey Questionnaire Design and Sampling Procedure

In this research a mail survey questionnaire was designed for final data collection purposes. The initial part of the survey questionnaire consisted of the 7 Likert-type attitudinal scales presented in Table 3.\(^8\) Several additional questions immediately followed the attitudinal scales. These questions were included in the questionnaire to obtain financial information as well as detailed information about the farm lending practices and activities of the banks sampled in the study. Furthermore, a number of these questions were designed to provide insight into the reasoning behind the agricultural lending attitudes of bankers. Some of the questions which completed the survey questionnaire constituted adaptations of questions used in the 1967 agricultural credit situation survey which was conducted by the Agricultural Committee of the American Bankers Association. Others were patterned after questions included in the Federal Reserve System's 1966 agricultural loan survey. Finally, some questions were modifications of those utilized in a recent survey of correspondent

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\(^8\)These 7 attitudinal scales accounted for 80 Likert-type statements in the final data collection process.
banking in the State of Illinois.\(^9\)

Together with the 7 Likert-type attitudinal scales, 29 additional questions completed the survey questionnaire. A copy of the questionnaire is presented in Appendix I. The survey questionnaire was printed by a professional printer on yellow paper in order to attract attention to the basic document, and for easy reference for possible follow up phone interviews or letters. Questions dealing with common factors were grouped together in order to minimize any possibility of confusion or misinterpretation by the respondents. Each of the attitudinal scales was preceded by a brief definitional statement of specific terms included in the wording of certain items in order to avoid problems of statement misinterpretation. Finally, for those questions immediately following the attitudinal scales the respondents were instructed to move to another question in instances where a specific question(s) did not apply to their bank. Dependent upon the nature of the question and where appropriate, the specific question to which the respondents were to proceed was often indicated.

The survey questionnaire developed in this research for data collection purposes was mailed early in January of 1972 to all banks in Ohio located outside the major

\(^9\)Benjamin, Correspondent Banking in Illinois: Results of Survey.
metropolitan cities of Akron, Cincinnati, Cleveland, Columbus, Dayton, Toledo, and Youngstown. Banks located in the metropolitan cities were excluded from the survey because it was reasoned that they served primarily as correspondents for banks directly involved in farm lending activities and because their urban setting probably did not encourage direct farm lending practices. A total of 472 banks received the questionnaire.

The survey was endorsed by the Ohio Bankers Association, and the questionnaires were accompanied by a letter written by the President and Executive Vice President of the Ohio Bankers Association. An attempt was made to mail the questionnaire to the chief executive officer or to a senior lending officer in each of the banks sampled in the research. A post paid business return envelope was included with each questionnaire in order to increase the overall response rate. A follow up mailing was conducted approximately three weeks after the original mailing.

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10 Mr. Robert E. Hall and Mr. O.E. Anderson, President and Executive Vice President, respectively, of the Ohio Bankers Association.

11 More than 50 percent of the respondents to the questionnaire were on the Board of Directors of their banks. The number of respondent bankers broken down by their official titles was: Presidents-69; Executive Vice Presidents-43; Vice Presidents-39; Assistant Vice Presidents-19; Cashiers-42, and others-24.
Determination of the Reliability of Attitudinal Scales

The technique of internal consistency item analysis was used in this study to determine the reliability of the constructed attitudinal scales. This technique is frequently used by researchers to generate the values necessary for an internal consistency item analysis of a Likert-type attitudinal scale. As a result, a program which facilitates item analysis was utilized in this research to analyze each of the items in the scales submitted to the pre-test group of bankers and to analyze the scale items used in the final data collection process.\(^\text{12}\)
The values used directly in the program's item analysis include, for the entire attitudinal scale, a split-half correlation and a corrected split-half correlation, and for each item a scale value difference, a critical ratio for the scale value difference, and a maximum possible scale value difference ratio. The program also computes means and standard deviations for each item in a scale. The function of each of the program's major statistics and their corresponding interpretation is discussed below.

The program computes the scale value difference for each of the scales' items which is the difference between

the low-half mean and the high-half mean for each item. This difference is computed on the basis of total scores for the items in the attitudinal scale under analysis. The scale value difference is interpreted as a measure of internal consistency and the higher the value the more consistent the item is with other items in the attitudinal scale.\textsuperscript{13}

A critical ratio for the scale value difference is computed and this ratio can be interpreted as a close approximation to a "t" score. The critical ratio is the statistic which is used to test the null hypothesis that the computed scale value difference is equal to zero in the population from which the sample is drawn.\textsuperscript{14}

The maximum possible scale value difference computed by the program is the difference between the low-half mean and the high-half mean for items made on the basis of responses to individual items. It is interpreted as a measure of the discriminating power of an individual item when it is considered independently of other items in the attitudinal scale.\textsuperscript{15}

The scale value difference ratio is the ratio of the

\textsuperscript{13} P.T. Cleaver, "Item Analysis Routine," p. 7.
\textsuperscript{14} P.T. Cleaver, "Item Analysis Routine," p. 7.
\textsuperscript{15} P.T. Cleaver, "Item Analysis Routine," p. 7.
scale value difference to the maximum possible scale value difference.\textsuperscript{16} It represents the maximum discriminating power of an item when the item is combined with the other items in the attitudinal scale.

The split-half correlation is a measure of the overall internal consistency of the items in the attitudinal scale.\textsuperscript{17} The program sums all odd numbered items for each respondent and this sum is defined as $X$. Even numbered items are then summed for each respondent and this sum is defined as $Y$. A product-moment correlation is then computed using $X$ and $Y$ for the total sample and is defined as the split-half correlation.

The corrected split-half correlation is a value computed by the Spearman-Brown prophecy formula. The corrected split-half correlation is an estimate of what the correlation would have been had the attitude scale not been divided as was the case in the computation of the split-half correlation.\textsuperscript{18}

Each of the final attitudinal scales developed for data collection purposes are presented below. Discussion of the results of internal consistency item analysis for the pre-test group precedes the presentation of the final

\textsuperscript{16}P.T. Cleaver, "Item Analysis Routine," p. 7.
\textsuperscript{17}P.T. Cleaver, "Item Analysis Routine," p. 8.
\textsuperscript{18}P.T. Cleaver, "Item Analysis Routine," p. 8.
internal consistency item analysis used to assess the reliability of the scales used in the data collection process. An asterisk denotes items or statements retained for further analysis. The complete results of internal consistency item analysis are presented in Appendix II.

**Development of The Future Economic Viability of The Agricultural Industry Scale**

Using the operational definition of the agricultural industry, an attitudinal scale was developed to measure the attitudes of commercial bankers toward the future of farming as an economically viable non-financial sector of private enterprise activity. Statements were elaborated in terms of future economic, technological, and occupational aspects of the agricultural industry. Additional statements were formulated with respect to the efficiency, importance and future trends of the industry.

The original attitudinal scale consisted of 12 items which were submitted to the pre-test group of 40 Ohio bankers. Internal consistency item analysis yielded a split-half correlation of .6906 and a .8170 corrected split-half correlation. The strongest discriminating items were retained and resubmitted for further analysis. As a result, the 10 item reconstructed scale had a split-half and corrected split-half correlation of .7390 and .8499 respectively. The increase in correlation was probably due to the
removal of uncorrelated statements.

The final attitudinal scale submitted for data collection purposes consisted of 10 items. The Future Economic Viability of the Agricultural Industry scale is presented below:

The Future Economic Viability of
The Agricultural Industry Scale

1.* Agriculture is not an economically progressive industry.
2. During the next ten years farming opportunities will increase considerably.
3.* Agriculture is an inefficient industry.
4.* Agriculture offers good opportunities for young people today.
5.* Agricultural technological advancement will not increase substantially in the future.
6.* Agriculture is a vital industry for this state's economy.
7.* The future of farming as an occupation is bleak.
8.* There are fewer opportunities for farmers to earn satisfactory incomes than for other occupational groups.
9.* Agriculture will play an important role in the future of this state's economy.
10.* Agriculture is a dying industry.

*Items retained for further analysis.

The 10 item future economic viability of the agricultural industry scale was submitted to the bankers sampled
in the final data collection process and subjected to item analysis. The results yielded a split-half correlation of .6180 and a .7639 corrected split-half correlation. The strongest discriminating items were retained and the scale was resubmitted for item analysis. The results of the item analysis yielded split-half and corrected split-half correlations of .6973 and .8217 respectively. This increase was due to the removal of one statement which probably did not correlate well with the other statements. Thus, 9 items were retained for further analysis.

**Development of The Future Extension of Farm Non-Real Estate Credit and The Future Extension of Farm Real Estate Credit Scales.**

The basic component inherent to the development of the future extension of farm non-real estate credit and the future extension of farm real estate credit scales was commitment. Commitment was defined in terms of the willingness of bankers to provide farmers with farm non-real estate and farm real estate credit in the future. It was argued that the attitudes of bankers toward providing farmers with farm non-real estate credit in the future may be different from their attitudes toward providing farmers with farm real estate credit in the future. To test this hypothesis required the development and administration of two separate but closely related attitudinal scales regarding the attitudes of bankers toward providing farmers
with farm non-real estate and farm real estate credit respectively. Selected indicators of commitment common to the development of both scales were: the attitudes of bankers about the profitability of farm lending, the effect of competition on banks' future farm credit service commitment to agriculture, and bank management's farm lending objectives with respect to providing farmers with farm credit in the future. These indicators were utilized as specific points of reference for the development of statements in each of the scales. In order to facilitate analysis, the two attitudinal scales were constructed as similarly as possible. Statements were phrased almost identically in each of the developed scales. The difference between the two constructed scales was that one group of items focused upon farm non-real estate credit while the other group of items focused upon farm real estate credit.

Each of the original scales consisted of 24 statements. Both preliminary scales were presented to the pre-test group of 40 Ohio bankers. Following internal consistency item analysis, the future extension of farm non-real estate credit scale was reduced to 9 items having significant discriminating power. Item analysis of the strongest discriminating items yielded a split-half correlation of .7438 and a .8531 corrected split-half correlation.
In comparison, internal consistency item analysis reduced the original future extension of farm real estate credit scale to 10 significant discriminating statements. Item analysis of these statements resulted in split-half and corrected split-half correlations of .6960 and .8208 respectively.

In order to maintain reasonable similarity for purposes of comparative analyses between the final attitudinal scales utilized for data collection purposes, the above scales were reconstructed in the following manner. The 9 item future extension of farm real estate credit scale was retained for further analysis. It should be noted that 7 of these 9 statements were similar to 7 of the 10 statements which discriminated significantly in the future extension of farm real estate credit scale. It was reasoned that the disparity between the discriminating items of the two original scales was probably a circumstantial reflection of the group selected for pre-test purposes. Consequently, the 3 discriminating items of the original future extension of farm real estate credit scale which did not discriminate well in the preliminary future extension of farm non-real estate credit scale were added to the 9 items in the latter's final scale. Similarly, one additional statement was added to the 10 statement future extension of farm real estate credit scale. As a result,
the final future extension of farm non-real estate credit scale and the future extension of farm real estate credit scale consisted of 12 and 11 statements respectively.

The final attitudinal scales utilized in the data collection process are presented below. The Future Extension of Farm Non-Real Estate Credit scale appears first. It is immediately followed by the Future Extension of Farm Real Estate Credit scale.

The Future Extension of Farm Non-Real Estate Credit Scale

1.* I would prefer not to make non-real estate farm loans to farmers.

2.* Alternative investments are more profitable than investments in non-real estate farm loans.

3.* Competition in the non-real estate farm credit field will impede this bank's future commitment to agriculture.

4. Commercial banks should continue to be the leaders in extending non-real estate farm credit.

5.* Most of this bank's management goals are not designed to fulfill non-real estate farm credit needs.

6.* Non-real estate loans made to borrowers other than farmers are more desirable than non-real estate farm loans.

7.* I believe that this bank should de-emphasize non-real estate farm credit in the future.

8.* Non-real estate farm lending is really not very profitable.

9.* Most of the management in this bank responds to the non-real estate farm credit needs of its farm customers.
10.* Opportunities for our bank to increase its return on investment in non-real estate farm loans are very limited.

11.* Our competition for non-real estate farm loans should be permitted to take over the non-real estate farm loan market.

12.* Agricultural bankers will probably decrease their non-real estate farm loan commitment in the future.

* Items retained for further analysis.

The 12 item future extension of farm non-real estate credit scale was submitted to the sample population of bankers and subjected to item analysis. Internal consistency item analysis yielded a split-half correlation of .5995 and a .7496 corrected split-half correlation. The most significant discriminating statements were selected and the attitudinal scale was resubmitted for further item analysis. The results yielded split-half and corrected split-half correlations of .6981 and .8222 respectively. The increase in correlation was probably due to the removal of one uncorrelated item. As a result, 11 items were retained for further analysis.

The Future Extension of Farm Real Estate Credit scale is presented below:

The Future Extension of Farm Real Estate Credit Scale

1.* I would prefer not to make farm real estate loans to farmers.

2.* Alternative investments are more profitable than investments in farm real estate loans.
3.* Competition in the farm real estate credit field will impede this bank's future commitment to agriculture.

4.* Most of this bank's management goals are not designed to fulfill farm real estate credit needs.

5.* Non-farm real estate loans made to borrowers other than farmers are more desirable than farm real estate loans.

6.* I believe that this bank should de-emphasize farm real estate credit in the future.

7.* Farm real estate lending is really not very profitable.

8.* Most of the management in this bank responds to the farm real estate credit needs of its farm customers.

9.* Opportunities for our bank to increase its return on investment in farm real estate loans are very limited.

10.* Our competition for farm real estate loans should be permitted to take over the farm real estate loan market.

11.* Agricultural bankers will probably decrease their farm real estate loan commitment in the future.

* Items retained for further analysis.

The 11 item farm real estate credit scale which was designed to evaluate the future of farm real estate lending was presented to the subject population of bankers and evaluated in terms of internal consistency item analysis. The results yielded split-half and corrected split-half correlations of .7514 and .8581 respectively. All 11 statements were retained for further analysis.

As a result of internal consistency item analysis, the final two scales constructed to measure the attitudes of bankers toward providing farmers with farm non-real
estate credit and farm real estate credit in the future were identical in terms of the statements retained for further analysis.

**Development of the Management Effectiveness of Farmers Scale**

Farm management and financial management were the two basic components used in the operationalization of the management effectiveness of farmers. As a result, a scale was developed utilizing farm management and financial management as specific reference points for the formulation of attitudinal scale statements.

The original management effectiveness of farmers scale consisted of 30 statements and was presented to the pre-test group of bankers. Item analysis yielded split-half and corrected split-half correlations of .9336 and .9657 respectively. The strongest discriminating statements were retained and resubmitted for internal consistency item analysis. The reconstructed scale consisted of fifteen items and had a split-half correlation of .9257 and a .9614 corrected split-half correlation.

The Management Effectiveness of Farmers scale is presented below:

**Management Effectiveness of Farmers Scale**

1. Most farmers effectively delegate responsibility to their employees.
2.* Most farmers budget their resources quite well.
3.* Most farmers effectively implement farm management policies to increase productivity.
4.* Most farmers plan their operations efficiently.
5. Few farmers satisfy their income expectations.
6.* Most farmers effectively implement financial management policies.
7.* Most farmers are effective decision-makers.
8.* Most farmers are skilled in the application of financial management tools to decision-making problems.
9.* Most of our farm customers are skillful businessmen.
10.* Most farmers are ineffective financial managers.
11.* Most farmers direct their employees effectively.
12.* Most farmers manage their farms efficiently.
13.* Most farmers use up-to-date farming practices.
14.* Most farmers efficiently allocate enough of their decision-making time to farm management.
15.* Most farmers are not competent managers.

* Items retained for further analysis.

The 15 item management effectiveness of farmers scale utilized for data collection purposes was evaluated using the technique of internal consistency item analysis. The results yielded a split-half correlation of .7933 and a .8847 corrected split-half correlation. The strongest discriminating items were retained and resubmitted for item analysis. Internal consistency item analysis resulted in split-half and corrected split-half correlations of .8179
and .8998 respectively. The increase in correlation was probably due to the elimination of two uncorrelated statements. Thus, 13 statements were retained for further analysis.

**Development of The Adequacy of Banking Farm Business Services Scale**

Adequacy of banking farm business services was operationally defined in terms of the extent to which existing banking business services are perceived as meeting the business service needs of farmers. As a result, a preliminary scale was developed and statements were elaborated in terms of the adequacy of existing banking business services available to farmers.

The initial scale consisted of 14 items and was presented to the pre-test group of 40 Ohio bankers.

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19 The disparity between the resulting corrected split-half correlation for the pre-test group and the final surveyed group of bankers was probably a reflection of the characteristics of the sampled pre-test group of bankers in conjunction with the particular attitudinal variable being measured. Because the pre-test group constituted urban bankers, they probably had less experience than the final surveyed group of bankers in lending to farmers on a direct basis. Therefore, the pre-test group's appraisal of the management effectiveness of farmers probably was not entirely based upon first hand information about farmers' farm and financial management ability. This may have caused the generation of a response set in regard to their answers to the statements designed to measure attitudes toward the management effectiveness of farmers. Under these circumstances, the resulting disparity which occurred between the corrected split-half correlation for the pre-test group of bankers and the final surveyed group of bankers was an expected difference.
Internal consistency item analysis of the 14 items yielded a split-half correlation of .3677 and a .5377 corrected split-half correlation. The strongest discriminating items were retained and resubmitted for item analysis. The resulting 7 item scale produced split-half and corrected split-half correlations of .7552 and .8605 respectively. The increase in split-half correlation is probably due to the removal of 7 uncorrelated items.

Of the 7 non-discriminating statements, 2 were reworded and maintained within the scale. These 2 items were made similar to the strongest discriminating items in the original scale. The final reconstructed scale consisted of 9 statements. The Adequacy of Banking Farm Business Services scale is presented below:

**Adequacy of Banking Farm Business Services Scale**

1.* Most farmers are not able to obtain all of the business services they should be receiving from our bank.

2.* Our farm clientele is being serviced adequately through our business services.

3.* Our banking business services are not meeting the needs of our farm customers.

4.* I feel fairly well satisfied with the business services we offer our farm customers.

5.* Our existing banking business services do not greatly increase the farmer's effectiveness as a decision maker.

6.* Most farmers have to go outside the banking system to obtain the business services they require.
7. The business services of this bank basically satisfy the needs of our farm customers.

8. Most farmers have to do without many banking business services.

9. The banking business services offered to farmers are very insufficient.

* Items retained for further analysis.

The 9 item adequacy of banking farm business services scale was submitted to the sample population of bankers and subjected to internal consistency item analysis. The results yielded a split-half correlation of 0.8572 and a 0.9231 corrected split-half correlation. All 9 items were retained for further analysis.

**Development of the Adequacy of the Correspondent Banking System's Farm Credit Services Scale**

The operationalization of the adequacy of the correspondent banking system's farm credit services focused upon the extent to which farm credit services provided by correspondent banks are perceived as meeting the outside farm credit service needs of commercial banks involved in agricultural lending activities. As a result, 29 attitudinal scale statements were elaborated to measure the attitudes of bankers toward the adequacy of the correspondent banking system's farm credit services.

The original 29 statement scale was presented to the pre-test group of bankers and then subjected to item analysis. The results yielded a split-half correlation of
.9279 and a .9626 corrected split-half correlation. The strongest discriminating items were retained and resubmitted for item analysis. The resulting 10 item scale had split-half and corrected split-half correlations of .9413 and .9698 respectively. The increase in correlation is probably due to the elimination of uncorrelated statements.

The Adequacy of the Correspondent Banking System's Farm Credit Services scale is presented below:

The Adequacy of The Correspondent Banking System's Farm Credit Services Scale

1.* The effectiveness of most agricultural banks in servicing farmers is not enhanced through the existing correspondent banking system.

2.* Most correspondent bankers understand agricultural bankers' needs for lending assistance.

3.* Most agricultural banks have limited access to correspondent banking credit services.

4.* Correspondent banks show only a nominal interest in assisting agricultural banks in meeting their farm loan demand.

5.* Most correspondent bankers understand the credit service needs of agricultural banks.

6.* The correspondent banking system is not satisfactorily meeting the credit service demand of agricultural banks.

7.* The correspondent banking system is ineffective in providing financial service to agricultural banks.

8.* The existing correspondent banking system does not adequately assist agricultural banks in supplying loanable funds to farmers.

9.* The correspondent banking system adequately serves
agricultural banks in areas where deposits are in short supply.

10.* Most agricultural banks are unable to obtain the credit services they need from their correspondent banks.

* Items retained for further analysis.

The 10 item adequacy of the correspondent banking system's farm credit services scale was submitted to the sample population of bankers and then subjected to internal consistency item analysis. The results of item analysis yielded a split-half correlation of .9108 and a .9533 corrected split-half correlation. All 10 statements were retained for further analysis since they had significant discriminating power.

Development of The Credit Risk Associated With Agricultural Lending Scale

The credit risk associated with agricultural lending was operationally defined as the extent to which a bank may incur a possible loss on a farm loan in terms of a farmer's failure to repay the loan in accordance with its terms. Selected indicators of agricultural lending credit risk were: the willingness and ability of a borrower to meet his debt obligations, the integrity of the borrower, the financial strength of the borrower, and the economic conditions under which the borrower is operating. Using these indicators as reference points, statements were elaborated to measure the attitudes of bankers toward
the credit risk involved in lending to farmers. Additional statements were added pertinent to the influence of the risk associated with farm lending on a bank's liquidity position and with respect to the risk associated with various types of farm credit.

The original scale consisted of 23 statements and was presented to the pre-test group of 40 Ohio bankers. Item analysis yielded a split-half correlation of .7484 and a .8561 corrected split-half correlation. The strongest discriminating items were selected and resubmitted for internal consistency item analysis. The 13 item reconstructed scale had a .9114 split-half correlation and a .9536 corrected split-half correlation. The increase in correlation was probably due to the removal of non-correlating statements.

The final thirteen item Credit Risk Associated with Agricultural Lending scale is presented below:

**The Credit Risk Associated with Agricultural Lending Scale**

1.* Most of our farm clientele make a sincere effort to meet financial obligations as scheduled.

2.* Most of our farm customers tend to take too many financial chances.

3.* Most farmers are able to recover from an unexpected drop in income.

4.* Farm real estate loans are high risk investments.
5.* The unstable economic situation of farming makes farmers poor risks.

6.* The risks assumed in most farm loans are basically equivalent to the risks assumed in other types of loans.

7.* The risks in farm credit are higher than in non-farm credit.

8.* Most farmers follow ethical business practices.

9.* Alternative investments are better risks than investments in farm loans.

10.* The risks assumed in farm credit are too high to justify lending to farmers in the future.

11.* The debt servicing ability of most of our farm borrowers is comparable to other people in this community.

12.* The risks involved in farm credit require that our bank maintain a highly liquid position.

13.* Non-real estate farm loans are high risk investments.

* Items retained for further analysis.

The 13 item credit risk associated with agricultural lending scale was submitted to the subject population of bankers and evaluated using internal consistency item analysis. The results yeilded split-half and corrected split-half correlations of .7159 and .8344 respectively. All 13 items were retained for further analysis.

20 The disparity between the resulting corrected split-half correlation for the pre-test group and the final surveyed group of bankers was probably a reflection of the characteristics of the sampled pre-test group of bankers in conjunction with the particular attitudinal variable being measured. Since the pre-test group constituted urban bankers, they probably had less experience than the final surveyed group of bankers in lending to farmers on a direct
Discussion of the Reliability and Validity of the Constructed Attitudinal Scales

The attitudinal scales developed to measure the attitudes of bankers toward the farm lending attitudinal variables utilized in this research were formulated on the basis of the creation of a theoretical base for each of the attitudinal variables. This theoretical base was used as a reference point for the elaboration of items within each of the constructed scales. The technique of utilizing theoretical concepts as the basis for the development of a measuring instrument is defined as construct validation. Construct validation procedures are frequently utilized by social scientists as a means for validating a given measuring instrument in terms of the instrument's measurement of what was intended to be measured. Consequently, the basic reason for developing a theoretical base in this research was to support the

basis. Therefore, the pre-test group's perception of the credit risk associated with lending to farmers probably was not based entirely upon first hand information. This may have resulted in generating a response set with respect to their answers to the attitudinal scale statements designed to measure attitudes of bankers toward the credit risk associated with agricultural lending. Under these circumstances, the resulting disparity between the corrected split-half correlation for the pre-test group of bankers and the final surveyed group of bankers was an expected difference.

validity of the constructed farm lending attitudinal scales.

To facilitate interpretation of items in each of the scales, bankers were asked to respond to the statements in the context of the experience of their banks in the field of farm credit. Furthermore, each of the scales was preceded by a brief definitional statement of specific terms included in the wording of certain items. This procedure was used to assist the respondents in their interpretation of specific scale items, reduce the possibility of statement misinterpretation, and to add additional support to the validity of the scales in terms of their measurement of what was intended to be measured. This procedure was followed in the administration of the attitudinal scales to both the pre-test group of bankers and to the subject population of bankers sampled for data collection purposes.

The pre-test group of 40 Ohio bankers was asked to indicate any problems of interpretation encountered in responding to the original attitudinal scale statements. These bankers were also asked to make comments in instances where they felt that the wording of individual statements was not clear. No problems of interpretation or clarity, in the wording of the individual statements, were reported. Therefore, it was assumed that the statements were at least reliable to the extent that they posed no apparent
problems in terms of interpretation and phraseology.

Internal consistency item analysis was the technique used in this research to measure the reliability of the responses of both the pre-test group and the subject population to the statements in the constructed scales. As indicated earlier, this technique is frequently used by researchers in the measurement of the reliability of Likert-type attitudinal scales. The findings of item analysis for the pre-test group were essentially reproduced in the item analysis of the final scales submitted to the subject population of bankers sampled in this research. As a result, it is argued that the attitudinal scales developed in this research are reliable measures of the attitudes of bankers toward the farm lending attitudinal variables under analysis.

Techniques for Analysis

Step-wise multiple regression and correlation and one-way analysis of variance constituted the basic techniques of analysis utilized in this study.

It was assumed that the Likert-type attitudinal scales developed in this research would produce interval level data. Other researchers have indicated that in instances where a response to one question is considered to be equivalent to a response to another question that the interval
level data assumption is valid. Therefore, it was argued that an individual's response of strongly agree to one attitudinal scale statement was equal to a response of strongly agree to another attitudinal scale statement. This argument applies equally well to all other possible responses in terms of the alternative responses which were allowed to each of the statements in the constructed attitudinal scales utilized in this research. As a result, the interval level data assumption permitted the use of parametric statistical techniques of analysis.

Multiple Regression Analysis

Step-wise multiple regression and correlation analysis was used as a test of the major hypothesis developed in this study. Regression analysis served as a test of the relative importance of the farm lending attitudinal variables that were hypothesized to explain the established emphasis placed upon farm lending by commercial banks. As indicated earlier, the dependent variable was denoted as the ratio of total farm loans to total loans at each of the banks sampled in this research. More specifically, it was argued that this ratio was a reflection of a bank's allocation of its loan resources to farm lending and,

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therefore, constituted a valid empirical measure of the farm lending commitment of banks to agriculture.

A program written for step-wise multiple regression and correlation analysis was utilized in this study to determine the explanatory power of the independent farm lending attitudinal variables with respect to the commitment of banks to agricultural lending.  

Analysis of Variance

The technique of one-way analysis of variance was used to determine whether or not the attitudes of bankers toward the farm lending attitudinal variables utilized in this research differed between groups of bankers in regard to established farm loan commitments. This parametric statistical technique is frequently used by researchers for purposes of testing for differences between samples or groups with respect to the analysis of a particular dependent variable.  

The assumptions which are usually made in using analysis of variance are normality, independent random samples, and equal population standard deviations. These

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23 Jon Cunningham, "OSU/Economic Regression Program Operating Instructions" (C6.02.033, Columbus: The Ohio State University, College of Administrative Science, 1969).

assumptions were basically satisfied in this study since the entire population constituted the nature of the sample.

The total sample of surveyed banks was divided into two groups: those representing agricultural banks and those representing non-agricultural banks. These two groups of banks were designated as high and low farm loan to total loan commitment groups respectively. Agricultural banks are defined as banks with farm loan to total loan ratios of 25 percent or more. Thus, agricultural bankers represent those surveyed banks with farm loan to total loan ratios of 25 percent or more. All other surveyed bankers were defined as non-agricultural bankers in this research. These classifications are used throughout the remainder of this study. Analysis of variance was utilized to determine whether or not the attitudes of agricultural bankers representing the high commitment group of banks were significantly different from the attitudes of non-agricultural bankers representing the low commitment group of banks. The analysis was applied with respect to each of the farm lending attitudinal variables used in the research. The summated values of each of the attitudinal scales constituted the interval level data used for the measurement of the attitudes of bankers toward the farm

lending attitudinal variables. A program written for one-way analysis of variance was utilized to determine if any significant differences existed between the attitudes of agricultural bankers and non-agricultural bankers toward each of the farm lending attitudinal variables.²⁶

²⁶ Terry Scott, "Analysis of Variance for one-way Design - (BMDOIV)" (C6.05.002, Columbus: The Ohio State University, College of Administrative Science, 1967).
CHAPTER IV

ANALYSIS OF FARM LENDING PRACTICES AND
ACTIVITIES OF COMMERCIAL BANKS IN OHIO

As reported previously, the mail survey questionnaire
developed in this research included 29 questions in addition
to the 7 Likert-type attitudinal scales constructed for the
measurement of the attitudes of bankers toward agricul-
tural lending. These 29 questions were designed to obtain
financial information as well as information about farm
lending practices and activities of commercial banks in
Ohio. An analysis of the information obtained from the
responses of bankers to these questions is presented in
this chapter.

Survey Response Rate

A total of 276 banks, or nearly 59 percent of the 472
banks receiving the mail questionnaire responded to the
survey. Of these banks, eighty-six percent, or 236 returned
questionnaires usable for purposes of analysis. The 236
usable questionnaires accounted for 50 percent of the total

1 The survey questionnaire is presented in Appendix I.
These 29 additional questions immediately follow the 7
Likert-type agricultural lending attitudinal scales.
number of questionnaires mailed to banks in the survey. A descriptive profile of these banks is presented below.

**Descriptive Profile of Respondent Banks**

**General Characteristics**

A. Of the 236 respondent banks, 56 percent (132 in number) were state banks, while the remaining 44 percent (104 in number) were national banks.

B. Of the 132 banks, 47 percent, (62 in number) were Federal Reserve System member banks, while the remaining 53 percent (70 in number) were non-member banks.

All of the 104 national banks were members of the Federal Reserve System as required by law.

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2 A state bank is a commercial bank which has been organized according to the laws of a state and is chartered by the state in which it is located to operate as a banking business. State banks are under the control of a State Banking Department. They are subject to examination by state authorities and are governed by state laws. State banks have the option of joining or declining to join the Federal Reserve System. A national bank is a commercial bank which has been organized with the consent and approval of the Comptroller of the Currency and is chartered by the Federal government to carry on the business of banking. National banks are under the control of the Comptroller of the Currency. They also are subject to examination by the Comptroller of the Currency. All national banks are required by law to be members of the Federal Reserve System and they also are required by law to be members of the Federal Deposit Insurance Corporation.
C. Branches were operated by 58 percent (137 in number) of the respondent banks. Large banks with deposits of $10 million and over accounted for 84 percent of the total number of banks operating branches.

D. Approximately 16 percent of the respondent banks (37 in number) had been involved in a merger during the past ten years. A similar proportion (38 banks) had been involved in a holding company acquisition over the same period.

**Distribution by Proportion of Farm Loans and Deposit Size**

The distribution of the respondent banks by the ratio of total farm loans to total loans revealed that 66 banks, or 28 percent of all banks in the sample were agricultural banks which means that they had farm loan to total loan ratios of 25 percent or more (Table 4). These agricultural banks were primarily smaller in terms of deposit size. Of the 66 agricultural banks, 26 held year-end 1970 deposits of $5 to $10 million and 30 held deposits of less than $5 million. Agricultural banks accounted for 68 percent of all respondent banks with year-end 1970 deposits of

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3As was reported previously, banks with agricultural loan to total loan ratios of 25 percent or more were defined as agricultural banks. All other banks were defined as non-agricultural banks.
### Table 4

**Distribution of Responding Ohio Commercial Banks by Ratio of Total Farm Loans to Total Loans, and Deposit Size of Bank, December 31, 1970**

<table>
<thead>
<tr>
<th>Deposit Size of Bank</th>
<th>Less than $5 Million</th>
<th>$5.0 to $9.9 Million</th>
<th>$10.0 to $19.9 Million</th>
<th>Over $20 Million</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Banks</td>
<td>Percent</td>
<td>Number of Banks</td>
<td>Percent</td>
<td>Number of Banks</td>
</tr>
<tr>
<td>Less than 5.0%</td>
<td>3</td>
<td>6.8%</td>
<td>4</td>
<td>7.4%</td>
<td>13</td>
</tr>
<tr>
<td>5.0% to 14.9%</td>
<td>4</td>
<td>9.1%</td>
<td>13</td>
<td>24.1%</td>
<td>21</td>
</tr>
<tr>
<td>15.0% to 24.9%</td>
<td>7</td>
<td>15.9%</td>
<td>11</td>
<td>20.4%</td>
<td>13</td>
</tr>
<tr>
<td>25.0% and over a</td>
<td>30</td>
<td>68.2%</td>
<td>26</td>
<td>48.1%</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>100.0%</td>
<td>54</td>
<td>100.0%</td>
<td>55</td>
</tr>
</tbody>
</table>

aBanks with farm loan to total loan ratios of 25 percent and over are defined as agricultural banks. All other banks are defined as non-agricultural banks.
under $5 million and for 48 percent of the respondent
banks with deposits of $5 to $10 million. Conversely, non-agricultural banks predominantly comprised the larger banks responding to the survey. They accounted for 85 percent of the banks reporting $10 to $20 million on deposit and 98 percent of the banks reporting $20 million and over on deposit at year-end 1970.

Financial Profile and Distribution of Farm Loan Volume

All respondent banks averaged nearly $20 million on deposit at year-end 1970 (Table 5). Nearly 63 percent of their deposits were in interest bearing accounts such as time and savings deposits. Furthermore, farm loans outstanding averaged about $1.1 million per bank and farm loan to total loan ratios averaged approximately 17 percent. By comparison, agricultural banks averaged approximately $6.5 million on deposit with an average of slightly more than 62 percent of their deposits in interest bearing accounts. These banks averaged about $1.4 million in outstanding farm loans per bank with farm loan to total loan ratios averaging nearly 39 percent. The median data for all of the items in Table 5 were lower than the mean data with the exception of the ratio of total time and savings deposits to total deposits. These differences exist because several large banks responded to the survey.
### TABLE 5
GENERAL PROFILE OF RESPONDING OHIO COMMERCIAL BANKS, DECEMBER 31, 1970

<table>
<thead>
<tr>
<th></th>
<th>All Banks</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean ($000 Omitted)</td>
<td>Median ($000 Omitted)</td>
<td>Average Of All Agricultural Banks&lt;sup&gt;a&lt;/sup&gt; ($000 Omitted)</td>
</tr>
<tr>
<td><strong>General</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Deposits</td>
<td>$19,899</td>
<td>$12,077</td>
<td>$6,488</td>
</tr>
<tr>
<td>Total Assets</td>
<td>22,668</td>
<td>13,485</td>
<td>7,294</td>
</tr>
<tr>
<td>Total Loans</td>
<td>11,815</td>
<td>6,917</td>
<td>3,716</td>
</tr>
<tr>
<td>Total Capital and Surplus&lt;sup&gt;b&lt;/sup&gt;</td>
<td>1,884</td>
<td>1,133</td>
<td>668</td>
</tr>
<tr>
<td><strong>Farm Loans:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real Estate</td>
<td>547</td>
<td>384</td>
<td>649</td>
</tr>
<tr>
<td>All Other</td>
<td>523</td>
<td>354</td>
<td>723</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$1,070</td>
<td>$874</td>
<td>$1,372</td>
</tr>
</tbody>
</table>

**Ratios**

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Time and Savings Deposits to Total Deposits</td>
<td>62.5%</td>
<td>63.8%</td>
<td>62.3%</td>
</tr>
<tr>
<td>Total Loans to Total Deposits</td>
<td>58.3%</td>
<td>58.9%</td>
<td>56.7%</td>
</tr>
<tr>
<td>Total Farm Loans to Total Loans</td>
<td>17.4%</td>
<td>11.9%</td>
<td>38.7%</td>
</tr>
</tbody>
</table>

<sup>a</sup>Banks with farm loan to total loan ratios of 25 percent and over.

<sup>b</sup>Includes undivided profits and equity reserves.

<sup>c</sup>Excludes loans guaranteed by the Commodity Credit Corporation.
Consequently, the distributions for all of the items were skewed to the right with the exception of the total time and savings deposit to total deposit ratio.

With regard to farm loan volume, the 236 respondent banks accounted for a total farm loan volume of $252.5 million at year-end 1970, or about 62 percent of the estimated total volume of farm loans outstanding at all commercial banks in Ohio (Table 6). Categorized by the two major classifications of farm loans, the 236 banks accounted for nearly 65 percent of the total outstanding farm real estate loans and approximately 59 percent of the outstanding farm non-real estate loans at all banks in Ohio at year-end 1970. Agricultural banks accounted for 36 percent of the total outstanding farm loan volume reported by all respondent banks. In addition, 41 banks with farm loan to total loan ratios between 15 and 25 percent accounted for 24 percent of the total volume of farm loans held by all surveyed banks at year-end 1970. Thus, these 41 banks together with the 66 agricultural banks held 60 percent of the total farm loan volume reported by all banks responding to the survey. Finally, large banks held a higher dollar volume of farm loans per bank than did smaller banks. The average dollar volume of farm loans outstanding at the 138 banks with $10 million and over on deposit was slightly more than $1.2 million while the
### TABLE 6

**DISTRIBUTION OF FARM LOAN VOLUME OUTSTANDING AT RESPONDING OHIO COMMERCIAL BANKS BY RATIO OF TOTAL FARM LOANS TO TOTAL LOANS, AND DEPOSIT SIZE OF BANK, DECEMBER 31, 1970**

*(Volume Outstanding in Thousands of Dollars)*

<table>
<thead>
<tr>
<th>Deposit Size of Bank</th>
<th>Ratio of Total Farm Loans to Total Loans</th>
<th>Less than $5 Million</th>
<th>$5.0 to $9.9 Million</th>
<th>$10.0 to $19.9 Million</th>
<th>Over $20 Million</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Less than 5.0%</td>
<td>$227 .8%</td>
<td>$627 1.1%</td>
<td>$3,479 6.2%</td>
<td>$31,228 27.6%</td>
<td>$35,561 14.1%</td>
</tr>
<tr>
<td></td>
<td>5.0% to 14.9%</td>
<td>1,109 4.1</td>
<td>5,746 10.3</td>
<td>14,870 26.4</td>
<td>44,050 38.9</td>
<td>65,775 26.1</td>
</tr>
<tr>
<td></td>
<td>15.0% to 24.9%</td>
<td>3,103 11.4</td>
<td>9,725 17.4</td>
<td>18,992 33.7</td>
<td>28,786 25.4</td>
<td>60,606 23.9</td>
</tr>
<tr>
<td></td>
<td>25.0% and over b</td>
<td>22,809 83.7</td>
<td>39,696 71.2</td>
<td>18,959 33.7</td>
<td>9,142 8.1</td>
<td>90,606 35.9</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>$27,248 100.0%</td>
<td>$55,794 100.0%</td>
<td>$56,300 100.0%</td>
<td>$113,206 100.0%</td>
<td>$252,548 100.0%</td>
</tr>
</tbody>
</table>

*aExcludes loans guaranteed by the Commodity Credit Corporation.*

*bBanks with farm loan to total loan ratios of 25 percent and over are defined as agricultural banks. All other banks are defined as non-agricultural banks.*
average dollar volume of farm loans outstanding at the 98 banks with less than $10 million on deposit was $874,000.

The historical 5-year trend in the volume of farm credit held by the respondent banks was reported to have increased by 55 percent of the surveyed bankers, whereas 23 percent indicated that the trend in the volume of farm credit held by their banks had experienced little or no change. Conversely, 51 of the bankers (22 percent) reported that their banks had experienced a decline in farm loan volume over the past five years. Slightly more than two-fifths of these 51 bankers cited increased competition from Production Credit Associations and Federal Land Banks as the most important factor contributing to a decrease in the farm loan volume of their banks. A decline in the demand for farm credit in their service area was cited by 12 of the 51 bankers as the most important reason for the decrease in farm loan volume. A few bankers indicated that their communities had steadily become urbanized over the past few years with the consequent reduction in farming activity in their area. More profit on other types of loans, increased competition from other lenders, and lack of resources to service farm credit needs were not reported to be as important as the above factors in contributing to the decline in farm loan volume experienced
by the 51 respondent banks.\textsuperscript{4}

\textbf{Loan-to-Deposit Ratios}

The distribution of respondent banks by loan-to-deposit ratio and by deposit size of bank indicated that 82 percent of all banks had year-end 1970 loan-to-deposit ratios of 50 percent or higher, while nearly 47 percent had ratios of 60 percent or more (Table 7). The average year-end 1970 loan-to-deposit ratio for all banks was 58.3 percent. Agricultural banks had a slightly lower average loan-to-deposit ratio of 56.7 percent. Also, slightly more than 52 percent of the very small banks with deposits under $5 million had loan-to-deposit ratios of 60 percent or higher. By comparison, nearly 51 percent of the very large banks with $20 million and over in deposits had similar loan-to-deposit ratios. Thus, the very small banks appear to be just as aggressive as the very large banks in terms of their lending practices. In fact, small banks with less than $5 million on deposit accounted for the largest percentage of all banks with loan-to-deposit ratios of 70 percent or higher.

Of the 236 respondent bankers, 82 percent reported the average annual loan-to-deposit ratio of their banks,

\textsuperscript{4}Source: Data obtained from the responses of bankers to question 7 of the survey questionnaire presented in Appendix I.
<table>
<thead>
<tr>
<th>Deposit Size of Bank</th>
<th>Less than $5 Million</th>
<th>$5.0 to $9.9 Million</th>
<th>$10.0 to $19.9 Million</th>
<th>Over $20 Million</th>
<th>All Banks</th>
<th>Agricultural Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td><strong>Under 40.0%</strong></td>
<td>9.1</td>
<td>9.3</td>
<td>1.8</td>
<td>1.2</td>
<td>4.7</td>
<td>9.1</td>
</tr>
<tr>
<td><strong>40.0% to 49.9%</strong></td>
<td>11.4</td>
<td>14.8</td>
<td>14.5</td>
<td>12.0</td>
<td>13.1</td>
<td>15.2</td>
</tr>
<tr>
<td><strong>50.0% to 59.9%</strong></td>
<td>27.2</td>
<td>31.5</td>
<td>45.6</td>
<td>36.2</td>
<td>35.6</td>
<td>28.7</td>
</tr>
<tr>
<td><strong>60.0% to 69.9%</strong></td>
<td>31.8</td>
<td>37.0</td>
<td>34.5</td>
<td>42.2</td>
<td>37.3</td>
<td>39.4</td>
</tr>
<tr>
<td><strong>70.0% and over</strong></td>
<td>20.5</td>
<td>7.4</td>
<td>3.6</td>
<td>8.4</td>
<td>9.3</td>
<td>7.6</td>
</tr>
<tr>
<td><strong>Average Loan-to-</strong></td>
<td><strong>59.9%</strong></td>
<td><strong>56.3%</strong></td>
<td><strong>57.4%</strong></td>
<td><strong>59.4%</strong></td>
<td><strong>58.3%</strong></td>
<td><strong>56.7%</strong></td>
</tr>
<tr>
<td><strong>Deposit Ratio</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

^aBanks with farm loan to total loan ratios of 25 percent and over.
while 70 percent reported their banks' seasonal high and seasonal low loan-to-deposit ratios.\textsuperscript{5}

Survey results show that the mean average annual loan-to-deposit ratio was approximately 58.5 percent. Approximately 47 percent of the respondent bankers felt that the average annual loan-to-deposit ratio of their banks would increase during the next 1-5 years while 37 percent reported that it would tend to remain stable at its present level. Only 2 percent indicated that they expected the average annual loan-to-deposit ratio of their banks to decline. The remaining 14 percent of the respondents did not provide a projection for the future trend of their banks' average annual loan-to-deposit ratio.

The mean seasonal high loan-to-deposit ratio was 61.8 percent and the mean seasonal low loan-to-deposit ratio was 55.3 percent. Survey results revealed that the seasonal high loan-to-deposit ratio tended to occur most frequently between the spring and summer months of April through September while the seasonal low loan-to-deposit ratio tended to occur most often during the period October through March.

Very little variation was observed between banks of different deposit size in terms of their reported average

\textsuperscript{5}Source: Data obtained from the responses of bankers to question 5 of the survey questionnaire presented in Appendix I.
annual, seasonal high and seasonal low loan-to-deposit ratios. For example, banks with deposits of less than $5 million tended to have loan-to-deposit ratios similar to those maintained at banks with $20 million and over in deposits. This evidence adds additional support to the data presented in Table 7, which suggested that small banks may be just as aggressive as large banks in their lending practices.

With respect to agricultural banks, their peak activity in agricultural lending is directly linked to agriculture's seasonal production period. Typically, this period occurs during the spring and the summer months of the year. Consequently, loan-to-deposit ratios at agricultural banks often tend to be higher at midyear than at year-end. Survey results show that the mean of the seasonal high loan-to-deposit ratio reported by agricultural banks was 62.3 percent, while the mean of the seasonal low loan-to-deposit ratio was 54.4 percent. Therefore, the average year-end loan-to-deposit ratio of 56.7 percent presented for agricultural banks in Table 7 can be interpreted as a close approximation of their average loan-to-deposit ratio at its seasonal low. At mid-year this ratio probably would be higher because at year-end many of the production loans made during the season usually have been paid off and new applications for the following seasonal production period have not yet been made.
Legal Lending Limitations

Legal loan limits were estimated by multiplying the total capital and surplus account for each respondent bank at year-end 1970 by 10 percent. Following these computations, the distribution of the respondent banks by

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6 Differences exist between state banks in Ohio and national banks both in terms of the capital accounts included for the computation of their respective legal loan limits as well as the maximum amount of credit that each type of bank can extend to any one borrower at any given time. Therefore, the estimated legal loan limit represents a composite estimate for both state and national banks. A state bank in Ohio is required by law not to extend credit to, or to hold the obligations of any one borrower at any time which in total exceed 10 percent of the bank’s capital and surplus which includes paid in capital, surplus, and capital securities such as notes, debentures, and other obligations issued by the bank. With regard to farm credit, these restrictions do not apply to obligations representing loans secured upon improved farm property with buildings. In Ohio, state banks may lend up to a maximum of 80 percent of the appraised value of improved farm property and under these conditions, state banks may lend an unlimited amount to any one borrower at any given time. National banks are required by law not to extend credit to or hold the obligations of any one borrower at any time which in total exceed 10 percent of their capital, surplus, undivided profits, capital reserves (that portion of undivided profits which has not been allocated to dividends or surplus but which has been set aside for contingencies, for emergency purposes, or for a bank’s future building expansion), reserves for bad debt losses on loans, and other reserves on loans and securities. Consequently, the legal loan limits of the national banks operating in Ohio may tend to be somewhat higher than the limits of state banks. With respect to farm credit and in contrast to state banks in Ohio, national banks are allowed by law to lend up to a maximum of 25 percent of capital, surplus, undivided profits, capital reserves and total reserves on loans and securities to any one borrower at any time for livestock loans. However, national banks cannot lend an unlimited amount to any one borrower at any given time for loans secured upon improved farm property with buildings.
legal loan limits and deposit size indicated that increases in bank size were accompanied by increases in legal loan limits (Table 8). Approximately 27 percent of the 236 banks responding to the survey had a legal loan limit of less than $50,000 while only slightly more than 6 percent could make loans to individuals in excess of $500,000. Moreover, only about 9 percent of all banks with $5 to $10 million on deposit could make loans to an individual borrower in excess of $100,000. There were no banks with under $5 million in deposits that could make loans in excess of $100,000. Conversely, nearly 53 percent of the banks with $10 to $20 million on deposit and all of the banks with $20 million and over on deposit could make loans to individuals exceeding $100,000. Of the 66 agricultural banks, about 64 percent could not make loans to an individual borrower in excess of $50,000 while only 24 percent could make loans between $50,000 and $100,000. The average legal loan limit for agricultural banks was $50,751.

Consequently, because of the magnitude of their legal lending limits some agricultural and non-agricultural banks have experienced difficulty in meeting the farm credit needs of all of their farm customers. Survey results revealed that in 1970, 9 percent of the respondent banks (22 in number) reported receiving at least one loan
<table>
<thead>
<tr>
<th>Legal Loan Limit&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Total</th>
<th>Less than $5 Million</th>
<th>100.0%</th>
<th>$5.0 to $9.9 Million</th>
<th>100.0%</th>
<th>$10.0 to $19.9 Million</th>
<th>100.0%</th>
<th>Over $20 Million</th>
<th>100.0%</th>
<th>All Banks</th>
<th>100.0%</th>
<th>Agricultural Banks&lt;sup&gt;b&lt;/sup&gt;</th>
<th>100.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under $50,000</td>
<td></td>
<td>97.7</td>
<td>100.0%</td>
<td>38.9</td>
<td>100.0%</td>
<td>0.0</td>
<td>100.0%</td>
<td>0.0</td>
<td>100.0%</td>
<td>27.1</td>
<td>100.0%</td>
<td>63.6</td>
<td></td>
</tr>
<tr>
<td>$50,000 to $99,999</td>
<td></td>
<td>2.3</td>
<td>100.0%</td>
<td>51.9</td>
<td>100.0%</td>
<td>47.3</td>
<td>100.0%</td>
<td>0.0</td>
<td>100.0%</td>
<td>23.3</td>
<td>100.0%</td>
<td>24.3</td>
<td></td>
</tr>
<tr>
<td>$100,000 to $199,999</td>
<td></td>
<td>0.0</td>
<td>100.0%</td>
<td>9.2</td>
<td>100.0%</td>
<td>49.1</td>
<td>100.0%</td>
<td>25.3</td>
<td>100.0%</td>
<td>22.5</td>
<td>100.0%</td>
<td>10.6</td>
<td></td>
</tr>
<tr>
<td>$200,000 to $499,999</td>
<td></td>
<td>0.0</td>
<td>100.0%</td>
<td>0.0</td>
<td>100.0%</td>
<td>3.6</td>
<td>100.0%</td>
<td>56.6</td>
<td>100.0%</td>
<td>20.8</td>
<td>100.0%</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>$500,000 and over</td>
<td></td>
<td>0.0</td>
<td>100.0%</td>
<td>0.0</td>
<td>100.0%</td>
<td>0.0</td>
<td>100.0%</td>
<td>18.1</td>
<td>100.0%</td>
<td>6.3</td>
<td>100.0%</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>Average Legal Loan Limit</td>
<td></td>
<td>$25,607</td>
<td></td>
<td>$59,668</td>
<td></td>
<td>$105,712</td>
<td></td>
<td>$347,501</td>
<td></td>
<td>$165,278</td>
<td></td>
<td>$50,751</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>Legal loan limits were estimated for state and national banks respectively. For state banks, the legal loan limit was estimated by multiplying each respondent state bank's capital and surplus by 10 percent. For national banks, the legal loan limit was estimated by multiplying each respondent national bank's capital, surplus, undivided profits, capital reserves, reserves for bad debts, and reserves for other loans and securities by 10 percent. State banking laws in Ohio prohibit the inclusion of undivided profits and capital reserves in the estimation of a state bank's legal loan limit.

<sup>b</sup>Banks with farm loan to total loan ratios of 25 percent and over.
application from acceptable farm borrowers which exceeded their legal loan limit (Table 9). Similarly, 12 percent of the surveyed banks (28 in number) reported receiving at least one such application in 1971. Overline farm loan applications totaled over $4 million in 1970 with an average of $184,000 per bank; in 1971, farm loan applications exceeding legal loan limits totaled more than $5 million with an average of $180,000 per bank.

Overline farm loan applications numbered 99 in 1970 and 137 in 1971. Banks with under $10 million in deposits received the highest percentage of overline farm loan applications. During 1970, nearly 60 percent of the individual overline farm loan requests were received by 13 banks with under $10 million in deposits, while in 1971, about 65 percent of the overline farm loan applications were received by 16 banks of similar deposit size. Moreover, agricultural banks accounted for about 77 percent of the banks which had received overline farm loan applications in 1971 and held deposits of under $10 million. Similarly, about 81 percent of the banks with under $10 million in deposits which had received applications exceeding their legal lending limits in 1971 were agricultural banks. Furthermore, in both 1970 and 1971 at least half of the agricultural banks receiving overline farm loan requests were under $5 million in deposit size.
### TABLE 9
**OVERLINE FARM LOAN APPLICATIONS REPORTED BY RESPONDING OHIO COMMERCIAL BANKS 1970 and 1971**

<table>
<thead>
<tr>
<th>Banks Reporting One or More Overline Farm Loan Applications</th>
<th>1970</th>
<th>1971</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Banks</td>
<td>22</td>
<td>28</td>
</tr>
<tr>
<td>Percent of all Surveyed Banks</td>
<td>9.3%</td>
<td>11.9%</td>
</tr>
<tr>
<td>Total Dollar Volume of Overline Loan Requests</td>
<td>$4,057,000</td>
<td>$5,049,000</td>
</tr>
<tr>
<td>Average Amount per Bank</td>
<td>$184,000</td>
<td>$180,000</td>
</tr>
</tbody>
</table>

#### Percentage Disposition of Total Dollar Volume

| Entire Farm Loan Referred to Correspondent Bank | 33.3% | 21.7% |
| Farm Loan Handled on Participation Basis with Correspondent Bank: |      |      |
| Volume Retained by Originating Bank               | 16.5  | 22.5  |
| Volume Assumed by Correspondent Bank               | 25.2  | 13.7  |
| Farm Loan Funds Obtained from Other Local Banks (excluding correspondents) | 1.5  | 2.7  |
| Farm Loans Lost to Other Lenders or Never Granted | 23.5 | 39.4 |

Total: 100.0% 100.0%

---

*aSource: Data obtained from the responses of bankers to question 27 of the survey questionnaire presented in Appendix I.*
These findings suggest that some of the very large farm borrowers in Ohio who require in excess of $50,000 or $100,000 in credit to finance their agricultural expenses and capital items probably have not been able to obtain all of their financing through their local bank because their total farm borrowings have exceeded the legal loan limit of their local banks. The survey findings indicated that this has been a problem for at least some of the agricultural and non-agricultural surveyed banks. Moreover, the survey results indicated that this was particularly an important problem faced by some of the smaller banks, especially some agricultural banks, which were heavily committed to agricultural lending.

Customarily, banks accommodate overline farm loan applications by making arrangements with a correspondent bank to handle the loan on a participation basis or for a correspondent to handle the entire amount of the loan on a direct basis. In some instances, banks with overline farm loan applications may also make arrangements with other local banks in their service area (excluding correspondents) to share in financing an overline loan request. The above procedures often facilitate the retention of farm loans, which exceed the legal loan limit of an individual bank, within the banking system.

With respect to the disposition of the overline farm
loan applications received by the respondent banks, the survey results indicated that approximately 77 percent of the total dollar volume was retained within the banking system in 1970 (Table 9). A lower proportion (60 percent) of the total dollar volume was retained within the banking system in 1971. In contrast, about 23 percent of the total dollar volume of overline farm loan applications was lost to other lenders or never granted in 1970, while an even higher percentage (about 40 percent) was lost or not granted in 1971. These findings indicate that at least some of the banks are experiencing difficulty in meeting all of the credit demands of their farm customers because of the magnitude of their legal loan limits. It may also be a problem of inadequate or underdeveloped correspondent banking farm credit service arrangements.

One possibility for alleviating the problem of overline loans for at least some of the surveyed agricultural and non-agricultural banks might be to lower the legal restriction on the amount of capital and surplus that a bank can loan to an individual borrower. For example, the 10 percent legal lending limit restriction might be raised to a higher percentage which would enable banks to increase the amount of credit they could lend to, or the amount of obligations they could hold of any one borrower at any given time.
Survey results revealed that about 15 percent of the 236 survey bankers felt that the present 10 percent legal lending limit restriction should be liberalized.\(^7\) Of these bankers, 18 or nearly half represented agricultural banks. Overall, 20 bankers represented state banks while 15 represented national banks. State banks represented by agricultural bankers numbered 14 and 4 of the agricultural bankers represented national banks. Some of the bankers representing state banks indicated that it would be desirable to include undivided profits and capital reserves, reserves for bad debt losses and other reserves for loans and securities in the computations of their legal loan limits. Also, some of the bankers representing banks with high agricultural lending commitments indicated that a more liberalized legal lending limit restriction would enable their banks to provide increased service to their farm loan customers and also would enable their banks to increase their competitiveness in the farm loan market. Finally, some of the bankers representing national banks reported that a more liberalized policy with respect to the maximum amount of credit their banks could extend on farm real estate loans would be desirable.

Overall, more than one-fourth of the agricultural

\(^7\)Source: Data obtained from the responses of bankers to question 29 of the survey questionnaire presented in Appendix I.
bankers indicated that the 10 percent legal lending limit restriction should be liberalized. Also, based upon the remarks of some of the survey respondents, it appears that a uniform legal lending limit restriction which applies to both state and national banks would be desirable. However, most of the surveyed bankers indicated that the present legal lending limit restriction of 10 percent should not be liberalized. In general, most bankers reported that the 10 percent limit should not be changed because it requires a bank to spread the risk associated with lending among a large number of bank customers, rather than allowing the risk to be concentrated among a few borrowers.\(^8\) Thus, while some bankers favored a change in the present 10 percent legal lending limit restriction, most bankers felt that it should remain

\(^8\)The risk assumed by a bank in terms of protecting its solvency and liquidity position, should a borrower default, is usually higher when extremely large amounts of bank credit are concentrated in the hands of one or a few individual borrowers. Consequently, bankers generally prefer to spread this risk among a large number of borrowers by not allocating an extremely large portion(s) of the loan resources of their banks to one or a few individual loan customers. Therefore, while most of the respondent bankers did not favor a change in the 10 percent legal lending limit restriction, this finding should not be interpreted as an indication of the credit risk associated with lending to farmers or other groups of individuals. But rather, it should be interpreted within the context of bankers' preferences for diversifying the loan portfolios of their banks for purposes of protecting their banks' financial position.
at its present level in order to protect the solvency or liquidity position of their banks.

Service Area and Competition

The approximate radius of the service area which accounted for 75 percent of each bank's total direct farm loan business averaged about 16 miles for all surveyed banks. This indicates the proximity of the respondent banks to their farm loan customers. The service area of most of the surveyed banks also included at least one other competing financial institution. There were 219 banks which reported the presence of at least one or more other commercial banks within their service area. At least one savings and loan association was located within the service area of 212 of the banks. Similarly, 188 banks had at least one Production Credit Association main office or branch office located within their service areas, while 136 banks shared service areas with at least one Federal Land Bank office. Thus, most of the respondent banks were competing with other financial institutions for deposits and loans within their farm loan business service area.

The average direct farm loan business service area for banks with under $5 million in deposits was 13 miles, while the service area of banks with $20 million and over in deposits averaged 18 miles. Banks with $5 to $10 million and banks with $10 to $20 million in deposits had average service areas very similar to the average for all surveyed banks.
Financial Condition of Farmers

Approximately three-fourths of all the surveyed bankers reported that the average net worth position (debt-to-worth ratio) of their farm customers had improved during the past five years. Of these bankers, nearly one-fourth reported a substantial increase in their farm customers' average net worth position. Conversely, 20 percent of the respondents indicated that the average net-worth position of their farm customers had remained stable while less than 3 percent reported that it had deteriorated over the past few years. By comparison, 85 percent of the agricultural bankers reported that the average net worth position of their farm customers had improved while only 12 percent indicated that it had remained stable over the last five years. None of the agricultural bankers reported a decline in the average net worth position of their farm customers.10

The debt-to-worth ratio reflects a creditor's contribution to capital as compared to that of a borrower. It is usually viewed as an indicator of a borrower's financial leverage and as a partial indicator of the potential risk involved in the extension of credit. A debt-to-worth ratio of less (greater) than 1.0 indicates that a borrower's

10 Source: Data obtained from the responses of bankers to question 8c of the survey questionnaire presented in Appendix I. Approximately 3 percent of the respondents did not respond to this question.
net worth exceeds (is less than) the amount of borrowed funds. In general, the lower (higher) the debt-to-worth ratio the lower (higher) the financial leverage and the lower (higher) the potential risk to a creditor should the business fail. Normally, bankers prefer a borrower to have more money invested (capital) in his business than his creditor's combined contributions to capital. Bankers interpretation of this ratio also includes a consideration of the overall quality of the assets owned by a business.

The above findings imply that most of the respondent bankers felt that the equity positions of their farm customers had increased relative to their creditor's contribution to capital over the past five years. This would tend to indicate that most of the farm customers of the surveyed banks were not as highly leveraged now as they were five years ago. However, research indicates that during the past decade Ohio farmers in general have made greater use of financial leverage in terms of expanding farm size (total assets) and financing operational expenses, and that much of the expansion in farm size has been achieved with greater leverage from the increased use of credit, as well as from a somewhat larger cash flow per farm.\(^\text{11}\)

Therefore, the above findings might suggest that highly

\(^{11}\)Gady, "Changing Financial Structure of Agriculture in Ohio."
leveraged farmers may not be seeking credit from banks but rather from other sources of farm credit, or that at least the farm lending programs of some banks may not include the extension of bank credit to existing or potentially highly leveraged farm customers.

Overall, the results imply that the current extension of bank credit to most of the farm customers of the surveyed banks is probably an acceptable credit risk because only a small percentage of the bankers reported a decline in the five year trend of their farm customers' average net worth position while most of the surveyed bankers reported that it had improved. Also, these findings probably are partially indicative of bankers' overall appraisal of the quality of the assets owned by their farm customers.

With respect to the extent to which the farm customers of the surveyed banks were able to meet their debt repayment commitments during the past year (1971), bankers reported that 77 percent of their farm borrowers were able to meet their debt commitments with no financial difficulties while 17 percent met their credit obligations but only with considerable difficulty.\(^{12}\) Approximately 5 percent of the farm borrowers of the respondent banks were unable

\(^{12}\) These are average figures computed for all respondent survey banks. Data obtained from the responses of bankers to question 8a of the survey questionnaire presented in Appendix I.
to meet their debt obligations during the year ending 1971 while 1 percent failed to meet their debt repayment commitments and were forced to terminate their farming operations because of financial difficulties. For comparative purposes, it should be noted that the percentage (1) of farm borrowers who had to quit farming because of financial difficulties is below the percentage (4) projected by bankers on a national scale for 1970.¹³ The above findings suggest that the general financial condition of most of the surveyed banks' farm customers is relatively sound with respect to their debt servicing ability.

Some of the most important reasons which explained why some farm borrowers failed to meet their credit obligations or met their debt payments only with considerable difficulty were reported by survey bankers as follows:¹⁴ poor financial and farm management ability, low market prices for crops and livestock resulting in low returns, unfavorable weather causing low output, the cost-price squeeze, and disease (especially corn blight) were the most frequently mentioned reasons in descending order of

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¹⁴Data obtained from question 8b of the survey questionnaire presented in Appendix I. The responses of bankers were open-ended and were coded on a somewhat subjective basis.
response. Other reasons cited were: wide fluctuations in income associated with the increased costs of farm inputs, overextension in terms of debt obligations, and the inefficiency of small farming operations. On the whole, however, bankers felt that an unsatisfactory level of management ability was the most important factor contributing to their farm customers' failure to meet their debt repayment commitments as scheduled. This is clearly indicative of the importance bankers attach to the managerial ability of farmers in terms of the success or failure of their farming operations.

Relative Importance of Five Types of Bank Loans

Five loan categories were ranked by the surveyed bankers in terms of the emphasis they felt that their banks were now giving, and were planning to give to these five types of loans over the next 1-5 years.15 The findings indicated that the surveyed banks do not place a high priority on farm loans (Table 10). Approximately 73 percent of the respondent bankers ranked consumer instalment credit first or second. Residential mortgages were ranked first or second by about 51 percent of the surveyed bankers. In

15Source: Data obtained from the responses of bankers to questions 9 and 10 of the survey questionnaire presented in Appendix I.
TABLE 10

PERCENTAGE DISTRIBUTION OF SURVEYED BANKS BY PRESENT AND PROJECTED RANKINGS OF THE RELATIVE IMPORTANCE OF FIVE TYPES OF BANK LOANS

<table>
<thead>
<tr>
<th>Type of Bank Loan</th>
<th>Present Rankings&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Projected Rankings (Next 1-5 Years)&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First</td>
<td>Second</td>
</tr>
<tr>
<td>Consumer Instalment Credit</td>
<td>56.8%</td>
<td>16.1%</td>
</tr>
<tr>
<td>Residential Mortgages</td>
<td>24.2%</td>
<td>27.1%</td>
</tr>
<tr>
<td>Farm Non-Real Estate Loans</td>
<td>3.8%</td>
<td>16.1%</td>
</tr>
<tr>
<td>Farm Real Estate Loans</td>
<td>4.7%</td>
<td>14.0%</td>
</tr>
<tr>
<td>Commercial and Industrial Loans</td>
<td>5.9%</td>
<td>21.2%</td>
</tr>
<tr>
<td></td>
<td>55.1%</td>
<td>16.4%</td>
</tr>
<tr>
<td>Residential Mortgages</td>
<td>21.2%</td>
<td>26.0%</td>
</tr>
<tr>
<td>Farm Non-Real Estate Loans</td>
<td>3.6%</td>
<td>12.5%</td>
</tr>
<tr>
<td>Farm Real Estate Loans</td>
<td>5.4%</td>
<td>13.1%</td>
</tr>
<tr>
<td>Commercial and Industrial Loans</td>
<td>5.4%</td>
<td>20.6%</td>
</tr>
</tbody>
</table>

<sup>a</sup>Data obtained from the responses of bankers to question 9 of the survey questionnaire presented in Appendix I.

<sup>b</sup>Data obtained from the responses of bankers to question 10 of the survey questionnaire presented in Appendix I.
contrast, farm non-real estate loans and farm real estate loans were ranked third, fourth, or fifth by approximately 75 percent of the respondents. Commercial and industrial loans were ranked first or second by about 27 percent of the bankers while they were ranked third, fourth, or fifth by approximately 67 percent of the surveyed bankers. Those bankers ranking commercial and industrial loans first or second predominantly represented larger banks with $10 million and over in deposits, while those ranking these types of loans third, fourth, or fifth represented smaller banks with under $10 million in deposits. Because of their size, large banks would be expected to accommodate commercial and industrial loans more readily than smaller banks. Also, the larger banks probably were geographically located in more urban-industrial areas than were the smaller banks.

For comparative purposes and on a general basis, the above rankings appear to be consistent with the 1970 and 1971 average loan portfolio compositions of Ohio Federal Reserve System member banks as reflected by member bank operating ratios computed for 335 such banks. The operating ratios indicate the average distribution of member bank loans as a percentage of gross loans.

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The high priority which was given to consumer instalment credit is probably a reflection of the high returns which are associated with the extension of this kind of credit. Residential mortgages were probably ranked high because they also offer a good rate of return and because most of the surveyed banks had high time and savings deposits to total deposit ratios. As this ratio increases, the tendency for banks to invest in longer term loans increases, since the maximum volume of real estate loans a bank can handle is calculated as an exact percentage of its time and savings deposits. At year-end 1970, the surveyed banks had average time and savings deposits to total deposit ratios of approximately 63 percent (Table 5). Additionally, the higher priorities given to consumer instalment credit and residential mortgages as compared to farm non-real estate and farm real estate loans may also mean that the surveyed banks associate a comparatively higher degree of risk, lower turnover rate, and lower rate of return with the two types of farm loans.

Rankings very similar to those above were also projected for consumer instalment credit, residential mortgages, farm non-real estate and farm real estate loans, and commercial and industrial loans during the next 1-5 years (Table 10). Thus, it would appear that most of the surveyed banks will continue to place less importance on
farm loans as compared to consumer instalment credit and residential mortgages.

Most agricultural bankers ranked the five loan categories very similar to the rankings made by all surveyed bankers. In addition, similar rankings for the five loan categories were projected for the next 1-5 years, with the exception of farm real estate loans, which tended to be ranked above residential mortgages and farm non-real estate credit.

**Agricultural Lending Activity During The Next 1-5 Years**

Approximately 43 percent of the surveyed bankers reported that their banks intended to increase their present volume of farm non-real estate loans over the next 1-5 years (Table 11). A somewhat smaller proportion, about 36 percent, indicated that their banks planned to increase their farm real estate loan volume. Conversely, about 41 percent of the respondent bankers reported that their banks intended to implement little or no change in their volume of farm non-real estate credit while approximately 47 percent of the surveyed bankers indicated similar intentions with respect to farm real estate credit. Only a small percentage of the bankers anticipated a decrease in the volumes of these two types of farm loans.
### TABLE 11
INTENTIONS OF RESPONDING OHIO COMMERCIAL BANKS WITH REGARD TO AGRICULTURAL LENDING DURING THE NEXT 1-5 YEARS³

<table>
<thead>
<tr>
<th>Agricultural Lending Intentions</th>
<th>Farm Non-Real Estate Loans (Percent)</th>
<th>Farm Real Estate Loans (Percent)</th>
<th>Total Farm Loans (Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase Volume</td>
<td>42.8%</td>
<td>35.6%</td>
<td>49.2%</td>
</tr>
<tr>
<td>Decrease Volume</td>
<td>1.7</td>
<td>3.0</td>
<td>.8</td>
</tr>
<tr>
<td>Implement Little or No Change in Present Volume</td>
<td>40.7</td>
<td>46.6</td>
<td>35.2</td>
</tr>
<tr>
<td>Unknown or Not Reported</td>
<td>14.8</td>
<td>14.8</td>
<td>14.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

³Source: Data obtained from the responses of bankers to question 11 of the survey questionnaire presented in Appendix I.

Overall, approximately 50 percent of the respondent bankers indicated that their banks would increase their total farm loan volume in the future while about 35 percent reported that their banks intended to implement little or no change in their present total volume of farm credit. Less than 1 percent of the surveyed bankers reported that their banks would decrease their total volume of farm loans. However, a high proportion, 58 percent, of the smaller banks with under $10 million in deposits planned to increase
their total volume of farm loans compared to 43 percent of the banks having deposits of $10 million and over. This implies that future increases in farm loan volumes probably will be observed more among the smaller surveyed banks than among the larger banks.

Thus, because only about one-half of the respondent banks planned to increase their present total volume of farm credit in the future, it appears that the present share of the farm loan market held by all of the surveyed banks probably will not increase materially. Also, this may be partially indicative of the future commitment of the surveyed banks to financing agriculture.

Direct versus Indirect Farm Lending Practices

Survey results indicated that during the year ending 1971, approximately 91 percent of the surveyed banks' total volume of outstanding farm non-real estate loans was made directly to farmers while the remaining 9 percent was handled indirectly through sources such as machinery dealers and feed and fertilizer dealers.\textsuperscript{17} Agricultural banks made 94 percent of their farm non-real estate loans

\textsuperscript{17}Indirect lending implies, for example, a situation where a machinery dealer originates a loan to a farmer for the purchase of a tractor and then the dealer sells the contract to a bank with the normal discount and recourse agreements.
directly to farmers with the balance, 6 percent, handled on an indirect basis.

As bank size increased the percentage of farm non-real estate loans made on an indirect basis also increased. At the extremes, banks with under $5 million in deposits handled only 4 percent of their loans indirectly through dealers compared to 15 percent which was handled in a similar manner by banks of $20 million and over in deposit size. For banks with $5 to $10 million in deposits, 6 percent of their farm non-real estate loans was handled on an indirect basis while those banks having $10 to $20 million on deposit handled 7 percent of their loans through dealers. Thus, most of the farm non-real estate loans held by the surveyed banks were made directly to farmers with the exception of some of those held by the very large respondent banks of $20 million and over in deposit size.

Bank Agricultural Specialists

Nearly one-fourth of the surveyed banks (57 in number) had at least one individual on their staff who specialized in working with farmers on bank matters (Table 12). A full-time agricultural or farm loan specialist was employed by 8 of these banks. The other 49 banks reported that one or more of their staff members spent at least part of their time on agricultural matters. On a part-time basis, the amount of time devoted to farm lending activities
<table>
<thead>
<tr>
<th>Deposit Size of Bank</th>
<th>Less than $5 Million</th>
<th>$5.0 to $9.9 Million</th>
<th>$10.0 to $19.9 Million</th>
<th>Over $20 Million</th>
<th>All Banks</th>
<th>Agricultural Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Items</td>
<td>Number of Banks</td>
<td>Percent</td>
<td>Number of Banks</td>
<td>Percent</td>
<td>Number of Banks</td>
<td>Percent</td>
</tr>
<tr>
<td>Banks Employing At</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Least One or More</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agricultural Spec-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>ialists</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-Time</td>
<td>0</td>
<td>0.0%</td>
<td>1</td>
<td>1.9%</td>
<td>6</td>
<td>7.2%</td>
</tr>
<tr>
<td>Part-Time</td>
<td>7</td>
<td>15.9%</td>
<td>11</td>
<td>20.4%</td>
<td>7</td>
<td>12.6%</td>
</tr>
<tr>
<td>Banks Not Employing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A Full-or Part-Time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agricultural</td>
<td>37</td>
<td>84.1%</td>
<td>42</td>
<td>77.7%</td>
<td>47</td>
<td>85.5%</td>
</tr>
<tr>
<td>Specialist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>100.0%</td>
<td>54</td>
<td>100.0%</td>
<td>55</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

\(^a\)Source: Data obtained from the responses of bankers to question 13 of the survey questionnaire presented in Appendix I.

\(^b\)Confidential.
ranged from 5 percent to 75 percent and averaged approximately 35 percent.

The larger respondent banks ($10 million and over in deposits) employed 62 percent of the agricultural specialists. In fact, approximately 50 percent of the agricultural specialists were with banks having deposits of $20 million and over. These 83 banks employed 6 full-time farm specialists and accounted for 24 of the part-time specialists. In contrast, none of the 44 very small respondent banks with under $5 million in deposits employed a full-time agricultural specialist. However, 7 of these banks did report a part-time specialist on their staff.

Approximately three-fourths of the respondent banks (179 in number) did not employ an agricultural specialist at the time of the survey (Table 12). Of these 179 banks, 118 reported that the employment of an agricultural specialist was not foreseeable in the next 1-5 years and 55 banks were uncertain about their plans in this area. Only 6 banks, none of whom were agricultural banks, indicated that they probably would employ a full or part-time farm specialist within the next 1-5 years. These 6 banks were among the larger respondent banks since they

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13 Source: Data obtained from the responses of bankers to question 14 of the survey questionnaire presented in Appendix I.
held deposits in excess of $10 million. Thus, it appears that there probably will be only a small increase, if any, in the present number of agricultural specialists employed by all of the surveyed banks. If an increase does occur, however, it most likely will be observed among the larger banks probably with deposits of $10 million and over.

Of the 173 banks which did not intend to employ, or were uncertain about the employment of an agricultural specialist in the future, 51 were agricultural banks and 122 were non-agricultural banks. Surveyed bankers representing these two groups of banks were asked to indicate what the major reasons of their banks were for not employing an agricultural or farm specialist at the present time or in the foreseeable future.

Approximately 50 percent of the agricultural bankers reported that their bank was not large enough to justify employing an agricultural specialist on a full or part-time basis. This group of bankers represented banks whose deposit size ranged from a low of approximately $2 million in deposits to a high of about $12 million in deposits at year-end 1970. A substantially lower proportion, about 15 percent, reported that their bank could not justify the additional expense of employing a specialist. Only 4 agricultural bankers indicated that there was no need for their bank to employ a farm specialist because several of the
officers of their banks had agricultural backgrounds and were, therefore, quite familiar with financing agriculture. Finally, 7 bankers reported that the farm loan volume activity of their banks was not large enough to warrant employing a specialist. The farm loan volume outstanding at these banks at year-end 1970, which would be higher at midyear during the peak activity period in agricultural lending, ranged from a low of about $1 million to a high of approximately $3 million. There were 7 agricultural bankers which did not report the major reasons why their banks did not employ a full or part-time agricultural specialist.

For comparative purposes, it should be noted that at least 10 of the 15 agricultural banks, which had a full or part-time staff member working with farmers on bank matters, held outstanding farm loans at year-end 1970 which ranged from approximately $1.1 million to about $2 million. These 10 banks also held deposits which ranged from about $5 million to approximately $11 million.

Approximately 30 percent of the non-agricultural bankers indicated that farming had declined in their service areas or that the demand for farm loans in their area was not great enough for their bank to justify employing a full or part-time agricultural specialist. Approximately 26 percent of the bankers representing non-agricultural banks reported that the volume of farm credit in their bank
was too low while about 12 percent indicated that the size of their bank was a factor prohibiting the employment of a farm specialist. About 8 percent of the non-agricultural bankers reported that the management of their banks had enough experience to adequately handle banking matters of an agricultural nature. Approximately 7 percent of the bankers indicated that their bank did not need to employ an agricultural specialist while approximately 4 percent cited cost as the major factor influencing the decision of their banks not to employ a specialist. Approximately 12 percent of the non-agricultural bankers did not report the major reasons why their banks presently were not employing a farm specialist or were not planning on doing so within the foreseeable future.

Approximately 16 percent, or 19 of the 122 agricultural bankers, which had cited lack of demand, bank size, no need, or insufficient farm loan volumes as major reasons for not employing a full or part-time agricultural specialist, represented banks which held year-end 1970 farm loan volumes which ranged from a low of about $1.1 million to a high of nearly $4.5 million. These 19 banks also held year-end 1970 deposits which ranged from approximately $9 million to over $100 million. By comparison, at least 29 of the 42 non-agricultural banks which had a full or part-time staff member working with farmers on bank matters,
held outstanding farm loans which ranged from about $1 million to approximately $3 million. These 29 banks also held deposits which ranged from about $9 million to over $60 million.

Thus, there appears to be very little difference between deposits (bank size) and farm loan volumes held by agricultural and non-agricultural banks which employed a full or part-time farm specialist(s) and some of the agricultural and non-agricultural banks which indicated that they could not justify the employment of a specialist because of bank size, low farm loan volumes, lack of farm loan demand, or insufficient need.

Financial Statement Analysis of Farm Loan Applications

Surveyed bankers reported that approximately 80 percent of their farm loan customers are required to submit a financial statement (net worth) at least once a year while only 22 percent are asked to provide an operating statement.19 Only 6 percent are required to submit either a farm budget

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19Source: Data obtained from the responses of bankers to question 15 of the survey questionnaire presented in Appendix I. Approximately 5 percent of the survey respondents did not indicate the proportion of their farm customers required to submit a financial statement while 25 percent did not report the proportion of their farm borrowers required to provide an operating statement. Approximately 30 percent of the surveyed bankers did not indicate the percentage of their farm loan customers required to submit farm budgets and cash flow schedules respectively.
or cash flow schedule respectively. As bank size increased the proportion of the farm loan customers of the surveyed banks who were required to submit an operating statement, farm budget, and cash flow schedule also increased. The very large banks with $20 million and over in deposits required about 30 percent of their farm borrowers to submit an operating statement. These banks also required approximately 7 percent and 9 percent of their farm loan customers to provide a farm budget and cash flow schedule respectively. In contrast, the very small survey banks with under $5 million in deposits required only 12 percent of their farm borrowers to submit an operating statement while about 2 percent were asked to provide

20A financial statement (net worth) is a statement which illustrates, at a given time, the nature and amounts of all assets owned, the nature and amount of all debts owed (liabilities), and the form and amount of the remaining equity of the owner or owners in the assets of a business. An operating statement (profit and loss statement) is a statement showing the nature and amounts of a firm's income and expenses and the resultant net profit or loss over a specified period of time. A farm budget is a device utilized for farm production analysis and usually is a written plan for future actions including the anticipated results. It is a summation of all expected products (or increased inventories) times their respective price less the summation of all items used in the production process times their prices for a given time period and provides an estimate of the expected returns associated with the farming operation. A cash flow schedule summarizes an individual's or business firm's operating receipts, capital sales, operating expenses, capital expenditures, family expenditures, money borrowed, and repayments of borrowed money for purposes of estimating the amounts and timing of borrowings as well as the availability of repayment funds.
either a farm budget or cash flow schedule regularly. Agricultural banks required 84 percent of their farm borrowers to submit a financial statement, 9 percent an operating statement, 4 percent a farm budget, and 3 percent a cash flow schedule.

Thus, most of the farm loan customers of the respondent banks were required to submit a financial statement (net worth) as part of their loan application. Conversely, most farm borrowers were not required to provide the surveyed banks with either an operating statement, a farm budget, or a cash flow schedule. These findings suggest that the surveyed bankers may place more importance on evaluating the equity positions of their farm borrowers, probably for collateral purposes and for satisfying bank examiners, over the evaluation of the income producing ability of a farm borrower's farming operation. Finally, the fact that a higher proportion of the larger banks' farm borrowers were required to submit an operating statement, a farm budget, and a cash flow schedule, as compared to the farm borrowers of the smaller respondent banks, implies that the larger banks probably place more emphasis upon the quantitative analysis of a farming operation. This is not surprising, since large banks have more total customers than smaller banks, and they presumably do not know all of their customers as intimately as smaller banks.
Therefore, the large banks would be expected to place more emphasis on an analysis of accounting records. Also, the larger surveyed banks probably were dealing with larger farming operations which because of their capital and credit requirements required larger farm loans resulting in the application of more sophisticated credit analysis procedures.

**Specialized Banking Farm Business Services**

Approximately 6 percent of the 236 surveyed banks (14 in number) reported that they were offering at least one computer customer service to farmers or to agriculturally related business firms. Nearly 71 percent of these 14 banks held deposits of $10 million or over. Of these 14 banks, 3 offered both a farm record keeping service and a computer service to agribusiness firms such as payroll, accounts receivable, or inventory control, 10 offered only a farm record keeping service and 1 offered only an agribusiness oriented computer customer service. Additionally, two of the banks which presently were not offering a computer service to agribusiness firms reported that they planned to do so within the next 1-5 years.

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21 Surveyed banks were asked to indicate whether they offered an agribusiness oriented computer customer service in addition to a farm record keeping service in order to determine the scope of their computer customer service activities.
Of the 222 surveyed banks, which presently were not offering computer customer services to farmers or agribusiness firms, 32 banks or slightly more than 14 percent indicated that they intended to offer at least one computer customer service to farmers or to agriculturally related business firms within the next 1-5 years. More than one-half of these banks had deposits in excess of $10 million. Of these 32 banks, 14 planned to offer both a farm record keeping service and a computer service to agribusiness firms, 12 intended to offer only farm record keeping and the remaining 6 planned just to offer an agribusiness oriented computer customer service.

Approximately 22 percent of the 236 surveyed banks (52 in number) reported that they were offering at least one or more special business services (other than computer) such as estate planning, trust, tax or farm management consultation to farmers. Approximately 85 percent of these banks held deposits in excess of $10 million. In fact, nearly 70 percent held deposits of $20 million and over. Of these 52 banks, 37 offered estate planning; 41 offered other trust department services; 21 offered farm management consultation service; and 6 offered some sort of tax service. During the next 1-5 years, only 7 of the respondent banks reported that they planned to offer farmers at least one or more of the above four types of services which they
presently were not offering to farmers. Finally, of the 184 banks which presently were not offering any of the above types of service to their farm customers, only 9 indicated that they planned to offer at least one or more of the above special business services to farmers over the next 1-5 years.

These findings indicate that a low proportion of all the respondent banks are presently offering special business services to farmers. Most of the banks currently offering some type of special banking farm business service predominantly represented the larger survey banks with $10 million and over in deposits. The survey findings suggest that very little change can be expected to take place during the next 1-5 years in the present number of respondent banks offering estate planning, trust department, farm management consulting, or tax services to farmers. However, at least some additional survey banks are planning to offer a computer service to farmers or to agribusiness firms in the future. On balance, the change, if any, that does occur in the number of surveyed banks offering special banking farm business services to farmers in the future probably will be observed among larger banks.

**Agricultural Financing Difficulty**

A high proportion of the surveyed banks, more than 90 percent, reported that they had experienced no difficulty
in obtaining funds from their own resources for purposes of meeting the financial requirements of their regular farm customers. In contrast, approximately 6 percent of the respondent banks (15 in number) had experienced some difficulty in obtaining enough funds to meet the credit demands of their regular farm customers. The majority of these 15 banks were relatively small, with 1970 year-end outstanding farm loan volumes under $1 million. However, there were at least 6 banks which held outstanding farm loans of $1 million or higher and 4 of these banks were agricultural banks. As a group, the 15 banks accounted for more than 5 percent of the total volume of farm loans held by all of the surveyed banks. These banks also had relatively high loan-to-deposit ratios indicating that they were probably following aggressive lending policies. Nearly 50 percent of the banks had loan-to-deposit ratios in the 50 to 60 percent range with the remaining banks having ratios of 60 percent and higher. Furthermore, many of the banks were aggressively seeking time deposits which constitute a major source of loanable funds. At the time of the survey, more than 75 percent of these 15 banks were paying the maximum rate of 4.5 percent for savings deposits and nearly 50 percent were paying the maximum rate of 5.75

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22Source: Data obtained from the responses of bankers to question 23 of the survey questionnaire presented in Appendix I.
percent for other time deposits such as certificates of deposit. Additionally, these rates were equal to or greater than the rates paid for similar time deposits by most of the other surveyed banks.

**Correspondent Banking Activity**

Survey results revealed that very few of the respondent banks had obtained outside farm loan funds from correspondent banks. During the years ending 1970 and 1971, only 18 or about 8 percent of the surveyed banks had originated and consumated farm loan participation agreements with their correspondents. Of these banks, 15 had obtained additional funds to accommodate their farm customers in 1970, while 16 of the banks had obtained additional financing during 1971 (Table 13). The outstanding participation loans originated by reporting banks in 1970 numbered 26 and totaled nearly $2 million, for an average of $74,576 per loan.\(^{23}\) The dollar amount of these loans accounted for about three-fourths of 1 percent of the value of all farm loans held by all respondent banks at year-end 1970. Similarly, in 1971, 30 participation loans were originated by the 16 reporting banks. These loans totaled about $2.4 million, with an average loan of $78,500. Of

\(^{23}\) Of the 26 loan participation agreements that were consummated during 1970, 13 carried over to and through 1971.
### TABLE 13
FARM PARTICIPATION LENDING BY VOLUME OF FARM LOANS OUTSTANDING
1970 and 1971

<table>
<thead>
<tr>
<th>Volume of Farm Loans Outstanding at Reporting Banks</th>
<th>Total Number of Surveyed Banks with Farm Loans</th>
<th>Number of Banks Reporting</th>
<th>Number of Participations Originated</th>
<th>Amount Held by Reporting Bank</th>
<th>Amount Held by Correspondent Bank</th>
<th>Total Value</th>
<th>Average Value Per Participation Loan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than $500,000</td>
<td>73</td>
<td>1</td>
<td>2</td>
<td>$ 15,000</td>
<td>$ 20,000</td>
<td>$ 35,000</td>
<td>$ 17,500</td>
</tr>
<tr>
<td>$500,000 to $999,999</td>
<td>62</td>
<td>5</td>
<td>10</td>
<td>306,000</td>
<td>838,000</td>
<td>1,144,000</td>
<td>114,400</td>
</tr>
<tr>
<td>$1,000,000 and over</td>
<td>101</td>
<td>9</td>
<td>14</td>
<td>481,300</td>
<td>278,700</td>
<td>760,000</td>
<td>54,285</td>
</tr>
<tr>
<td>Total</td>
<td>236</td>
<td>15</td>
<td>26</td>
<td>$ 802,300</td>
<td>$1,136,700</td>
<td>$1,939,000</td>
<td>$ 74,576</td>
</tr>
<tr>
<td>1971</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than $500,000</td>
<td>73</td>
<td>3</td>
<td>3</td>
<td>$ 195,000</td>
<td>$ 90,000</td>
<td>$ 285,000</td>
<td>$ 95,000</td>
</tr>
<tr>
<td>$500,000 to $999,999</td>
<td>62</td>
<td>3</td>
<td>5</td>
<td>198,000</td>
<td>427,000</td>
<td>625,000</td>
<td>125,000</td>
</tr>
<tr>
<td>$1,000,000 and over</td>
<td>101</td>
<td>10</td>
<td>22</td>
<td>1,062,800</td>
<td>382,200</td>
<td>1,445,000</td>
<td>65,681</td>
</tr>
<tr>
<td>Total</td>
<td>236</td>
<td>16</td>
<td>30</td>
<td>$1,455,800</td>
<td>$ 899,200</td>
<td>$2,355,000</td>
<td>$ 78,500</td>
</tr>
</tbody>
</table>

aData obtained from the responses of bankers to question 25 of the survey questionnaire presented in Appendix I.

bOf the 26 loan participation agreements that were consummated during 1970, 13 carried over to and through 1971.
the total dollar amounts originated by the surveyed banks in 1970 and 1971, the amounts held by correspondent banks for these two years were approximately $1.1 million and $.9 million respectively.

Most of the participation loans outstanding at the respondent banks during 1970 and 1971 were initiated by banks with total farm loan portfolios exceeding $1 million. In addition, the majority of these banks had loan-to-deposit ratios of 50 percent or higher indicating aggressive lending policies. Most of them also had legal loan limits of under $100,000 (Table 14). More than one-half of the 18 banks (10 in number) had originated participation loans in 1970 or 1971 to accomodate loan requests from acceptable farm borrowers which had exceeded their legal loan limit. Also, 8 agricultural banks had participation loans outstanding during 1970 and 1971. Thus, the bulk of the participation loans reported in 1970 and 1971 were originated by banks with large farm loan portfolios, aggressive lending policies and in several cases were originated to accomodate overline farm loan requests. Also, some of the banks (8 in number) had initiated participations to obtain credit from correspondents even in instances where overlines were not involved. Of the 18 banks which had acquired correspondent bank credit in 1970 or 1971, about four-fifths had received all of the funds which they had requested. Consequently, it appears that most of these banks...
### TABLE 14

DISTRIBUTION OF SURVEYED BANKS PARTICIPATING WITH OTHER FARM LENDERS BY LOAN-TO-DEPOSIT RATIO AND LEGAL LOAN LIMIT, 1970 AND 1971

<table>
<thead>
<tr>
<th>Loan-To-Deposit Ratio (Liquidity of Bank)</th>
<th>Total Number of Surveyed Banks</th>
<th>Participation Loans Originated by Reporting Banks&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With Farm Loans</td>
<td>Number of Banks Reporting 1970</td>
</tr>
<tr>
<td>Under 40.0%</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>40.0% to 49.9%</td>
<td>31</td>
<td>4</td>
</tr>
<tr>
<td>50.0% to 59.9%</td>
<td>84</td>
<td>3</td>
</tr>
<tr>
<td>60.0% to 69.9%</td>
<td>88</td>
<td>5</td>
</tr>
<tr>
<td>70.0% and over</td>
<td>22</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>236</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

| Legal Loan Limit<sup>b</sup>             |                                 |                                |                                |                                |                                |
| Under $50,000                            | 64                             | 8                              | 7                              | 14                             | 13                             |
| $50,000 to $99,999                       | 55                             | 4                              | 6                              | 5                              | 7                              |
| $100,000 to $199,999                     | 53                             | 2                              | 2                              | 6                              | 5                              |
| $200,000 to $499,999                     | 49                             | 1                              | 1                              | 1                              | 5                              |
| $500,000 and over                        | 15                             | 0                              | 0                              | 0                              | 0                              |
| **Total**                                | **236**                        | **15**                         | **16**                         | **26**                         | **30**                         |

<sup>a</sup>Data obtained from the responses of bankers to question 25 of the survey questionnaire presented in Appendix I.

<sup>b</sup>Legal loan limits were estimated for state and national banks respectively. For state banks the legal loan limit was estimated by multiplying each respondent state bank's capital and surplus by 10 percent. For national banks the legal loan limit was estimated by multiplying each respondent national bank's capital, surplus, undivided profits, capital reserves, reserves for bad debts, and reserves for other loans and securities by 10 percent. State banking laws in Ohio prohibit the inclusion of undivided profits and capital reserves in the estimation of a state bank's legal loan limit.
had very good working arrangements with their correspondent banks.

Overall, the survey results indicate that during 1970 and 1971 correspondent bank credit was not widely utilized by many of the respondent banks as a source of outside farm loan funds. Most of the survey banks which had not reported farm loan participations indicated that they either did not request or did not require correspondent bank credit for farm loan purposes. However, with respect to the general adequacy of the correspondent banking system in terms of assisting all of the surveyed banks in supplying loanable funds to farmers, about 9 percent of all the respondent bankers reported that they had experienced difficulty in obtaining additional farm loan funds or, in fact, were unable to obtain such funds from their correspondents.24 As a group, these bankers indicated that their correspondents were very reluctant to participate in farm lending because they did not understand agricultural credit and its terms, or because they felt that the credit risk associated with agricultural lending was too high for the amount of collateral available, or because they felt that farm loans were unattractive because of longer maturities. Furthermore, it was reported that it was especially

24 Data obtained from the responses of bankers to questions 24c and 24d of the survey questionnaire presented in Appendix I.
difficult to obtain farm loan funds from correspondent banks during periods of "tight money" such as in 1970, and consequently, they could not be relied upon as steady sources of outside farm loan funds even when they were willing to participate in farm loans. Also, more than half of the 15 banks, which reported difficulty in meeting the financial requirements of their regular farm customers from their own resources, were unable to work with their correspondents to obtain additional farm loan funds. As a result, 2 of these banks actively worked with an insurance company, an agricultural credit corporation, and a savings and loan association to obtain additional financing for their farm borrowers.

The above opinions of bankers suggest that some correspondent banks are providing inadequate farm credit services to their rural correspondents whose demand for farm loan funds or legal lending limitations requires that they seek additional financing for their farm loan customers.

**Summary**

The following is a summary of the farm lending practices and activities of Ohio commercial banks examined in this chapter.

A total of 236 commercial banks returned usable survey questionnaires for purposes of analysis. Of these banks, 66 were agricultural banks with farm loan to total loan
ratios of 25 percent or more. In total, the 236 respondent banks accounted for about 62 percent of the estimated total volume of farm loans outstanding at all commercial banks in Ohio at year-end 1970.

Of the 236 respondent banks, 132 were state banks and 104 were national banks. All of the national banks were members of the Federal Reserve System as required by law while only 47 percent of the state banks were Federal Reserve System member banks.

The approximate radius of the service area of the surveyed banks, the area which accounted for 75 percent of their total direct farm loan business, averaged about 16 miles. This indicates the proximity of the respondent banks to their farm customers. This service area also included at least one other financial institution which indicated that most of the respondent banks were competing with other institutions for deposits and loans.

More than one-third of the respondent banks held deposits of $20 million and over at year-end 1970. Agricultural banks were predominantly smaller banks in terms of deposit size and nearly all of the 66 agricultural banks held deposits of under $10 million. For all banks, nearly 63 percent of their deposits were in interest-bearing accounts such as time and savings deposits.

Farm loan to total loan ratios averaged approximately
17 percent for all surveyed banks and for the agricultural banks they averaged nearly 39 percent. Agricultural banks accounted for 36 percent of the total outstanding farm loan volume reported by all respondent banks. Non-agricultural banks with $20 million and over in deposits but with farm loan to total loan portfolio commitments lower than agricultural banks held 41 percent of the reported total volume of farm loans. Because of their size and structure, large banks would be expected to handle larger individual farm loan requests and higher total dollar volumes of farm credit, as well as higher dollar volumes of other types of bank loans. Thus, these findings suggest that many of the banks with $20 million and over probably were meeting a higher proportion of the credit needs of larger farm borrowers as compared to the smaller survey banks including some of the smaller agricultural banks.

Approximately 22 percent of the respondent bankers reported that their banks had experienced a decline in farm credit volume during the past 5 years. These bankers reported increased competition from Production Credit Associations and Federal Land Banks as well as a decrease in the demand for farm credit in their service area as the two most important factors accounting for the decline in the farm loan volume held by their banks.

Loan-to-deposit ratios for all banks at year-end
1970 averaged 58.3 percent. Nearly half of the surveyed banks had loan-to-deposit ratios higher than 60.0 percent indicating aggressive lending policies. Small banks with under $5 million in deposits appeared to be as aggressive as large banks with $20 million and over on deposit in terms of their lending practices. About half of the respondent bankers expected their average annual loan-to-deposit ratio (58.5%) to increase over the next 1-5 years. This suggests even more aggressive lending policies for some of the banks in the future. The mean seasonal high loan-to-deposit ratio was 61.8 percent and tended to occur most frequently during the spring and summer months. The mean seasonal low loan-to-deposit ratio was 55.3 percent and occurred most often during the period October through March. Agricultural banks appeared to be as aggressive in their lending practices as were other survey banks.

Most of the surveyed banks with deposits of under $10 million could not make loans to individuals in excess of $100,000 because of the size of their legal loan limits. Nearly all of the banks with under $5 million in deposits could not make individual loans greater than $50,000. Approximately 64 percent of the agricultural banks could not make loans to an individual borrower of more than $50,000. In contrast, all of the banks with $20 million and over in deposits could make individual loans in excess
of $100,000. Because of the high proportion of total farm loans held by these banks at year-end 1970, this evidence also indicates that they probably are accommodating a high proportion of the credit needs of larger farm borrowers, especially those with farm loan needs in excess of $100,000.

Approximately 9 percent of the surveyed banks had received overline farm loan applications in 1970, while approximately 12 percent had received farm loan requests exceeding their legal loan limit in 1971. More than half of these banks held deposits of under $10 million and most were agricultural banks. Overall, these findings indicate that some of the respondent banks are experiencing difficulty in meeting their larger farm customers total credit needs because of the size of their legal loan limits. This appears to be a particularly important problem for the smaller banks, and especially for some of the smaller agricultural banks.

One possibility for alleviating the problem of overline loans for at least some of the smaller agricultural and non-agricultural banks might be to lower the legal restriction on the amount of capital and surplus a bank can lend to an individual borrower. This implies raising the present 10 percent limit to a higher percentage. Most of the surveyed bankers, however, felt that the 10 percent legal lending limit restriction should remain at its present
level in order to protect the solvency and liquidity position of their banks. Only about 15 percent of the bankers felt that the restriction should be more liberalized. Nearly half of these bankers represented agricultural banks. Moreover, these agricultural bankers represented more than one-fourth of all the respondent agricultural banks.

About three-fourths of the surveyed bankers reported that the average net worth position (debt-to-worth ratio) of their farm customers had improved during the past five years. This tended to indicate that most of the farm customers of the surveyed banks were not as highly leveraged now as they were five years ago. However, this might mean that highly leveraged farmers may not be seeking credit from banks but rather from other sources. It could also mean that some of the banks are not extending bank credit to existing or to potentially highly leveraged farm borrowers. In general, less than 3 percent of the respondent bankers reported a decline in the average net worth position of their farm customers. This suggests that the current extension of bank credit to most of the farm customers of the surveyed banks is probably an acceptable credit risk on the basis of their net worth positions.

The financial condition of most of the farm customers of the surveyed banks appeared to be relatively sound in
terms of their debt servicing ability. For those farm customers who experienced difficulty in meeting their debt repayment commitments, bankers reported that an unsatisfactory level of management ability was the most important factor contributing to their financial problems. This indicates the importance which bankers attach to the management effectiveness of farmers in terms of appraising the potential success or failure of a farming operation.

Agricultural and non-agricultural bankers reported that higher priorities were given to consumer instalment credit and residential mortgages within their loan portfolio compositions as compared to farm non-real estate loans, farm real estate loans, and commercial and industrial loans. Large banks with deposits of $10 million and over, however, tended to give higher priorities to commercial and industrial loans compared to the two types of farm loans. This was not surprising because the structure and size of large banks would be expected to permit them to accomodate commercial and industrial loans more readily than smaller banks. Also, the larger banks probably were located in more urban-industrial areas. A higher rate of return for consumer instalment credit, and residential mortgages versus farm loans, and the high time and savings deposits to total deposit ratios of the respondent banks probably explains the higher priorities given to these two
types of bank loans. It may also be that banks associate an overall comparatively lower degree of risk and higher turnover rate with consumer instalment credit and residential mortgages as compared to farm real estate and farm non-real estate loans. In general, the findings suggest that the respondent banks do not place a high priority on farm loans. Similar priorities were projected for the five loan categories during the next 1-5 years. Agricultural bankers, however, tended to project farm real estate loan priorities above residential mortgages. Consequently, it appears that, with the exception of at least some agricultural banks, most of the surveyed banks will continue to place less importance on farm loans in the future as compared to consumer instalment credit and residential mortgages.

With respect to future increases in the present total volume of farm credit handled by the 236 surveyed banks, only about one-half of the banks reported that they planned to increase their total volume over the next 1-5 years. This indicates that the present share of the farm loan market held by the respondent banks probably will not increase materially. Also, this may be partially indicative of the future commitment of many of the surveyed banks to agricultural lending.

Most of the farm non-real estate loans held by the
respondent banks were made directly to farmers. Approximately 91 percent of these loans was made directly while about 9 percent was handled indirectly through sources such as machinery dealers and feed and fertilizer dealers. As bank size increased the percentage of farm non-real estate loans made on an indirect basis increased. Banks with $20 million and over handled the highest percentage, 15 percent, of their farm non-real estate loans indirectly.

Nearly one-fourth of the respondent banks had at least one individual on their staff who specialized in working with farmers on bank matters. However, only 8 banks employed a full-time agricultural or farm specialist while 49 had one or more staff members who devoted part of their time to agricultural lending activities. Large banks with $20 million and over in deposits accounted for three-fourths of the full-time farm specialists. Furthermore, banks with deposits of $10 million and over employed 62 percent of all the full and part-time specialists. Only 6 of the banks who presently were not employing a specialist and held deposits in excess of $10 million indicated plans to do so within the next 1-5 years. Thus, only a small increase in the present number of agricultural specialists can be expected to occur in the future. In general, any increase in the number of banks employing specialists probably will be observed among the larger
respondent banks, especially those with $10 million and over in deposits.

Lack of farm loan demand, insufficient need, low farm loan volumes, inadequate bank size, and additional costs were reasons frequently cited by the surveyed bankers which explained why their bank could not justify the employment of a full or part-time farm specialist. However, there appears to be very little difference between the deposits (bank size) and farm loan volumes held by the agricultural and non-agricultural banks that were employing a full or part-time specialist and similar banks which indicated they could not justify the employment of a specialist for the above reasons.

Most of the farm loan customers of the respondent banks (about 80 percent) were required to submit a financial statement (net worth) as part of their loan application. In contrast, an operating statement, farm budget or cash flow schedule was required from a much lower proportion of farm borrowers. The proportion of farm loan customers that was required to provide these three kinds of statements increased as bank size increased. Banks with $20 million and over in deposits required the highest percentage of their farm borrowers to submit an operating statement, farm budget, or cash flow schedule as part of their loan application. These banks probably were dealing with larger
farming operations. In general, the findings imply that most of the surveyed banks may be placing more importance on evaluating the equity position of their farm borrowers, probably for collateral purposes, over evaluating the income producing ability of their farming operations.

Only about 6 percent of the 236 surveyed banks (14 in number) presently offered at least one computer customer service to farmers or to agriculturally related business firms. Of the 222 banks presently not offering any type of computer service, 14 percent or 32 banks were planning to offer farmers or agricultural business firms this type of service during the next 1-5 years. Nearly half of these banks held deposits in excess of $10 million. A somewhat higher proportion, about 22 percent, of the surveyed banks offered at least one or more special banking business service (other than computer) to farmers. These banks predominately were large banks with deposits of $20 million and over. This suggests that these large banks are better equipped and probably qualified to offer farmers as well as other types of customers special banking business services. Only 9 banks presently not offering a special business service to farmers planned on doing so in the future. The findings indicate that very little change can be expected to occur in the number of banks offering special business services (other than computer) to farmers over
the next five years. However, some change probably will occur in the number of banks offering some type of computer service to farmers or agriculturally related business firms. This change probably will be observed among larger banks with deposits of $10 million and over.

Only about 6 percent of the 236 banks had experienced difficulty in obtaining funds from their own resources for purposes of meeting the financial requirements of their regular farm customers during the year ending 1971. Approximately half of these banks had loan-to-deposit ratios in the 50 to 60 percent range while the remaining banks had ratios of 60 percent and higher. This indicates the aggressive lending practices followed by these banks. Most of these banks were actively seeking time and savings deposits as a source of loanable funds since they were paying maximum or near maximum rates on these two types of deposits.

Very few of the surveyed banks had obtained outside farm loan funds from correspondent banks during 1970 and 1971. Only 18 of the 236 respondent banks had originated and consummated farm loan participation agreements with their correspondents during these two years. Most of these banks had loan-to-deposit ratios of 50 percent or higher and legal loan limits of under $100,000. Moreover, more than half of these 18 banks had originated participa-
tion loans during 1970 and 1971 to accommodate farm loan requests exceeding their legal lending limit. Many of these banks appeared to have good working arrangements with their correspondents since about four-fifths indicated that they had received all of the outside funds which they had requested. In general, however, most of the surveyed banks indicated that they did not request or did not require correspondent bank credit for farm loan purposes.

With respect to the overall adequacy of the correspondent banking system's farm credit services, about 9 percent of the surveyed bankers reported that they had experienced difficulty in obtaining additional farm loan funds or, in fact, were unable to obtain such funds from their correspondents. As a group, these bankers indicated that their correspondents were very reluctant to participate in farm lending either because they did not understand agricultural credit and its terms; they felt that the credit risk associated with agricultural lending was too high for the amount of collateral available; or they felt that farm loans were unattractive because of longer maturities. Also, it was reported that correspondents could not be relied upon as a steady source of loanable funds, especially during periods of tight money, even when they were willing to participate in farm loans. Thus, some of the surveyed bankers were very dissatisfied with the
adequacy of the correspondent banking system's farm credit services. This indicates that some correspondent banks are not adequately assisting their rural correspondents in supplying loanable funds to farmers.

The percentage of the dollar volume of overline farm loan requests received by the surveyed banks in 1970 and 1971, but which was lost to other lenders or never granted, may also imply inadequate or underdeveloped correspondent banking farm credit service arrangements. Approximately 23 percent of the total dollar volume of overline farm loan requests was lost to other lenders or never granted in 1970 while about 40 percent was lost or never granted in 1971.
CHAPTER V

ANALYSIS OF ATTITUDINAL FINDINGS

Multiple Regression and Correlation Analysis

As was reported in Chapter II, the central equation of the conceptual model utilized to predict the commitment of banks to agricultural lending was stated as follows:

\[ G = f(U_j b) \]

where \( C \) = commitment and \( A_i \) denotes farm lending attitudinal variables.

The technique of step-wise multiple regression and correlation analysis was utilized to test the significance of the relationship hypothesized above. For statistical testing purposes, this relationship was stated in the null hypothesis form: The attitudes of commercial bankers are not significant indicators of the farm lending commitment of their banks to agriculture. Regression analysis served as a test of the explanatory power of the independent farm lending attitudinal variables that were hypothesized to explain the commitment of banks to agricultural lending.

The results of multiple regression and correlation
analysis were derived from the basic linear regression equation: 
\[ Y = a + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5 + B_6X_6 + B_7X_7 + E \]

where:

- \( Y \) = commitment (farm loan to total loan ratio) and is designated as the dependent variable.
- \( a \) = the intercept.
- \( B_1-B_7 \) = estimated regression coefficients.
- \( E \) = the stochastic disturbance (or error) term.
- \( X_1 \) = attitudes of bankers toward the future economic viability of the agricultural industry.
- \( X_2 \) = attitudes of bankers toward the future extension of farm non-real estate credit.
- \( X_3 \) = attitudes of bankers toward the management effectiveness of farmers.
- \( X_4 \) = attitudes of bankers toward the adequacy of banking farm business services.
- \( X_5 \) = attitudes of bankers toward the adequacy of the correspondent banking system's farm credit services.
- \( X_6 \) = attitudes of bankers toward the credit risk associated with agricultural lending.
- \( X_7 \) = attitudes of bankers toward the future extension of farm real estate credit.

Correlation Analysis

The results of the correlation analysis yielded positive simple correlations between each of the independent farm lending attitudinal variables and commitment (the farm loan to total loan ratio) with the exception of the adequacy of the correspondent banking system's farm
credit services which was negatively correlated with commitment (Table 15). A positive (negative) correlation means that a positive (inverse) relationship exists between an independent variable and a dependent variable. The findings of the correlation analysis may be interpreted as follows: (1) increases in the favorability of banker attitudes toward the future economic viability of the agricultural industry result in increases in commitment; (2) increases in the favorability of banker attitudes toward the future extension of farm non-real estate credit result in increases in commitment; (3) increases in the favorability of banker attitudes toward the management effectiveness of farmers result in increases in commitment; (4) increases in the favorability of banker attitudes toward the adequacy of banking farm business services result in increases in commitment; (5) increases in the favorability of banker attitudes toward the credit risk associated with agricultural lending result in increases in commitment; (6) increases in the favorability of banker attitudes toward the future extension of farm real estate credit result in increases in commitment.

The findings of the correlation analysis were consistent with the hypothesized positive relationships between each of the independent farm lending attitudinal variables and commitment with the exception of the adequacy of the correspondent banking system's farm credit services variable.
TABLE 15
CORRELATION MATRIX FOR SELECTED INDEPENDENT FARM LENDING ATTITUINAL VARIABLES
AND COMMITMENT DESIGNATED BY THE FARM LOAN TO TOTAL LOAN RATIO

<table>
<thead>
<tr>
<th>Variable</th>
<th>X(1)</th>
<th>X(2)</th>
<th>X(3)</th>
<th>X(4)</th>
<th>X(5)</th>
<th>X(6)</th>
<th>X(7)</th>
<th>X(8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Future Economic Viability of the Agricultural Industry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Future Extension of Farm Non-Real Estate Credit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Management Effectiveness of Farmers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Adequacy of Banking Farm Business Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Adequacy of the Correspondent Banking System's Farm Credit Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Credit Risk Associated with Agricultural Lending</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Future Extension of Farm Real Estate Credit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commitment (Farm Loan to Total Loan Ratio)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\*An asterisk (*) indicates that the simple correlation coefficient (r) is significantly different from zero at a level of .05 or higher in a two-tail test. The significance of the simple correlation coefficient (r) is determined by making a z test where \( z = r / S_{r_0} \) and \( S_{r_0} = \text{the standard error of } r \) when the population R is assumed to be 0. \( S_{r_0} = 1 / \sqrt{N-T} \) where N=number of observations. See N. M. Downie and R.W. Heath, Basic Statistical Methods (New York: Harper & Row, Publishers, 1970), pp. 230-232.
However, the only attitudinal variables with a positive simple correlation coefficient \((r)\) that were related to commitment at a statistically significant level of .05 or higher in a Student's "t" two-tail test were the future extension of farm non-real estate credit, the management effectiveness of farmers, the credit risk associated with agricultural lending, and the future extension of farm real estate credit (Table 15).\(^1\) The future economic viability of the agricultural industry, the adequacy of banking farm business services, and the adequacy of the correspondent banking system's farm credit services were not significantly related to commitment. In addition, these three farm lending attitudinal variables had correlation coefficients that were lower than the coefficients of the attitudinal variables that were statistically associated with commitment. Therefore, caution should be exercised in the interpretation of the relationship between banker attitudes toward the future

\[^1\]The significance of the simple correlation coefficient \((r)\) is determined by making a "z" test where \(z=r/S_{r_0}\) and \(S_{r_0}\) = the standard error of the correlation coefficient \((r)\) when the population \(R\) is assumed to be 0. \(S_{r_0} = 1/\sqrt{N-1}\) where \(N\) = the number of observations. The obtained value of \(z\) is compared to values given in a Student's "t" distribution table to determine whether the simple correlation coefficient \((r)\) is significantly different from zero at a probability level of .05 or higher in a two-tail test. If the \(z\) value is less (greater) than the table value it can be concluded that \(r\) is insignificantly (significantly) different from zero and that an unreal (real) correlation or relationship exists between the two variables in question. See N. M. Downie and R. W. Heath, Basic Statistical Methods (New York: Harper and Row, Publishers, 1970), pp. 230-232.
economic viability of the agricultural industry, the adequacy of banking farm business services, the adequacy of the correspondent banking system's farm credit services and commitment because of these three variables very low and insignificant correlation with the farm loan to total loan ratio.²

In summary, the results of the correlation analysis

²A possible explanation for the negative correlation that occurred between banker attitudes toward the adequacy of the correspondent banking system's farm credit services and commitment can be offered when these findings are considered in conjunction with the results of analysis of variance, which are presented in a later section of this chapter. The results of analysis of variance revealed that all bankers held negative attitudes toward the adequacy of the correspondent banking system's farm credit services. However, while the differences between the attitudes of bankers representing high and low farm loan to total loan commitment bank groups were not statistically significant, the high commitment group of bankers who could be expected to have had more experience than the low commitment group in terms of attempting to obtain farm credit services from their correspondent banks exhibited more negative attitudes toward this farm lending attitudinal variable as compared to the low commitment group of bankers. The low commitment group of bankers probably held more favorable even though negative attitudes toward the adequacy of the existing correspondent banking system's farm credit services because they probably had less experience in working with their correspondent banks on farm lending matters. Under these circumstances, an inverse relationship between the attitudes of bankers toward the adequacy of the correspondent banking system's farm credit services and commitment would not be unexpected. For example, while the simple correlation between these two variables was insignificant, the inverse relationship suggests that increases (decreases) in the favorability of banker attitudes toward the adequacy of the correspondent banking system's farm credit services result in decreases (increases) in the farm loan to total loan ratio.
revealed very low and in some instances insignificant correlations between commitment and each of the independent farm lending attitudinal variables (Table 15). This means that the attitudes of bankers probably do not strongly contribute to explaining a large amount of the variation in the farm loan to total loan ratio.

**Multiple Regression Analysis**

The results of multiple regression analysis were evaluated in terms of the theoretical relationships hypothesized between each of the independent farm lending attitudinal variables and commitment (the farm loan to total loan ratio), the size and signs of the estimated regression coefficients, $R^2$, $t$ and $F$ tests, and standard errors of the regression coefficients.\(^3\)

The findings of the multiple regression analysis together with the estimated regression coefficients, the standard errors of the regression coefficients in parentheses, the adjusted $R^2$, and the $F$-Ratio are presented in Table 16. Equations 1-6 are linear prediction equations of the variation in the dependent variable (the farm loan to total loan ratio) which can be statistically explained by the independent farm lending attitudinal variables. These

\(^3\)Beta weights and partial correlations were also included in the analysis, however, they will not be discussed in the presentation of the multiple regression findings.
TABLE 16
SUMMARY STATISTICS FOR MULTIPLE REGRESSION ANALYSIS: REGRESSION COEFFICIENTS\(^a\) AND RELATED STATISTICS FOR FARM LENDING ATTITUDINAL VARIABLES

<table>
<thead>
<tr>
<th>Equation</th>
<th>Constant Term</th>
<th>Agriculture (X_1)</th>
<th>Farm Non-Real Estate Credit (X_2)</th>
<th>Management (X_3)</th>
<th>Banking Business Services (X_4)</th>
<th>Correspondent Credit (X_5)</th>
<th>Bank Services Risk (X_6)</th>
<th>Farm Real Estate Credit (X_7)</th>
<th>(R^2)</th>
<th>F-Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-13.0557 (d)</td>
<td>0.7345f</td>
<td>0.2745g</td>
<td>0.7709f</td>
<td>0.3256g</td>
<td>0.32569</td>
<td>0.0620 16.5361e</td>
<td>0.0620 16.5361e</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>-20.5252 (8.4142)</td>
<td>0.6232f</td>
<td>0.2745g</td>
<td>0.7709f</td>
<td>0.3256g</td>
<td>0.27459</td>
<td>0.0733 10.2996</td>
<td>0.0733 10.2996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>-15.6751 (8.8167)</td>
<td>-0.4008h</td>
<td>0.7709f</td>
<td>0.2745g</td>
<td>0.3256g</td>
<td>0.27459</td>
<td>0.0817 7.9643</td>
<td>0.0817 7.9643</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>-19.0038 (9.3505)</td>
<td>-0.4226h</td>
<td>0.6669g</td>
<td>0.2897g</td>
<td>0.3164g</td>
<td>-0.1302i</td>
<td>0.2419i</td>
<td>0.0822 6.2611</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>-16.0794 (9.8480)</td>
<td>-0.4406h</td>
<td>0.6677g</td>
<td>0.3164g</td>
<td>-0.1302i</td>
<td>0.2453i</td>
<td>0.0818 5.1864</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>-19.3783 (10.7427)</td>
<td>-0.4645g</td>
<td>0.5950g</td>
<td>0.2974g</td>
<td>-0.1353i</td>
<td>0.1929i</td>
<td>0.2047i</td>
<td>0.0802 4.4138</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Footnotes - Table 16

*Equations 1-6 indicate the statistical order of entrance of the independent farm lending attitudinal variables in the step-wise multiple regression and correlation analysis utilized in this research to determine the explanatory power of the attitudinal variables with respect to the commitment of banks to agricultural lending. These six equations constitute linear prediction equations of the variation in the dependent variable (farm loan to total loan ratio) which can be statistically explained by each of the independent farm lending attitudinal variables.

*Extended titles of the independent farm lending attitudinal variables are presented below.

*Banking Business Services did not enter the regression analysis because its F-Ratio was below the specified minimum F-level of 0.01 for inclusion in the regression equation.

*Standard errors of regression coefficients are in parentheses.

*All regression equations were statistically significant beyond the .001 level.

*Regression coefficients statistically significant at the .001 level or higher in a two tail test.

*Regression coefficients statistically significant at the .05 level or higher in a two tail test.

*Regression coefficients not statistically significant at the .05 level in a two tail test.

*Regression coefficients not statistically significant.

Extended Titles of Attitudinal Variables

\( X_1 \) = The future economic viability of the agricultural industry.

\( X_2 \) = The future extension of farm non-real estate credit.

\( X_3 \) = The management effectiveness of farmers.
Footnotes - Table 16

\( X_4 \) = The adequacy of banking farm business services.

\( X_5 \) = The adequacy of the correspondent banking system's farm credit services.

\( X_6 \) = The credit risk associated with agricultural lending.

\( X_7 \) = The future extension of farm real estate credit.
equations indicate the statistical order of entrance of the attitudinal variables in the step-wise multiple regression analysis.

The estimated regression coefficients indicate the amount of change in the dependent variable (commitment) that is associated with a one unit change in one of the independent attitudinal variables with the remaining independent variables held fixed. For example, in equation 1, an increase in the favorability of the attitudes of bankers toward the future extension of farm non-real estate credit would increase commitment (the farm loan to total loan ratio) by 0.7345 percent.\(^4\)

A Student's "t" test is used to test the null hypothesis that an estimated regression coefficient is equal to zero. The \(t\) value is computed by dividing the estimated regression coefficient by its standard error. The higher (lower) the standard error of the regression coefficient in relation to the estimated regression coefficient, the more likely will be the probability of accepting (rejecting) the null hypothesis.

\(^4\)The increase in the favorability of banker attitudes is interpreted as a one unit change in the attitudinal scale scores of bankers for the farm lending attitudinal variable under analysis. As reported previously, a banker's attitude toward a farm lending attitudinal variable was determined by the addition of the numerical values (weights) which were associated with each of his responses to all the statements listed in the attitudinal scale. The final attitudinal scale score then is viewed as an approximate average estimate of the banker's attitude toward the farm lending attitudinal variable in question.
hypothesis and concluding that the estimated regression coefficient is statistically insignificant (significant). For example, in equation 1, the "t" test performed on the estimated regression coefficient for banker attitudes toward the future extension of farm non-real estate credit was statistically different from zero at the .001 level or higher in a two tail test. This means that the future extension of farm non-real estate credit is a statistically significant variable in this regression equation.

The "F" test (indicated by the F-Ratio) is used to test the statistical significance of the total regression equation. It is used to test the null hypothesis that all of the regression coefficients in the equation are equal to zero (Ho: $B_1 = B_2 \ldots B_k = 0$) at a level of .05 or higher. All "F" tests performed on equations 1-6 in Table 16 reveal that the total regression coefficients in each of the regression equations were statistically different from zero when considered together. It should be noted that in regression analysis, the "t" test usually is used to test the significance of an individual regression coefficient while the "F" test usually is used to test the significance of a combination of regression coefficients. For example, while the "F" test indicated that equations 3-5 were statistically significant at a .001 level or higher, they included regression coefficients which were not stat-
istically significant at a .05 level or higher in a two-tail "t" test. These 3 regression equations remained significant, however, because the attitudinal variables that were statistically significant were able to account for the insignificance of the other attitudinal variables entering the regression equations. This was indicated by the decline in the F-Ratio from equations 2-5.

The coefficient of multiple correlation, \( R^2 \), measures the proportion of variation in the dependent variable (the farm loan to total loan ratio) which has been statistically explained by a combination of the independent farm lending attitudinal variables. Therefore, the \( R^2 \) is interpreted as a measure of the explanatory power of all the independent attitudinal variables in terms of their contribution to explaining the variation in the dependent variable. The higher the \( R^2 \) value, the higher the explanatory power of the independent farm lending attitudinal variables and the better their contribution to predicting the variation in commitment. The adjusted coefficient of multiple correlation, \( \overline{R}^2 \), has the same interpretation as \( R^2 \). However, \( \overline{R}^2 \) is adjusted for degrees of freedom.\(^5\) The adjusted coefficients of multiple correlation for equations

\[
\overline{R}^2 = R^2 - (1-R^2) \frac{K}{N-K-1}
\]

where, \( K \) = the number of estimated regression coefficients (excluding the constant term) and \( N \) = the number of observations.
1-6 are presented in Table 16.

The results of step-wise multiple regression analysis revealed that the future extension of farm non-real estate credit was the most significant farm lending attitudinal variable contributing to an explanation of the variation in commitment. As shown in equation 1, the $R^2$ value for this variable was 0.0620 which indicates that it explained approximately 6 percent of the variance in the farm loan to total loan ratio. Equation 2 indicates that the second farm lending attitudinal variable to enter the regression analysis was the management effectiveness of farmers. The addition of this variable resulted in increasing the adjusted coefficient of multiple correlation to 0.0733. The "t" value for this farm lending attitudinal variable was significant beyond the .05 level in a two-tail test.

Equations 3, 4, and 5, indicated that the future economic viability of the agricultural industry, the future extension of farm real estate credit, and the adequacy of the correspondent banking system's farm credit services were the next three variables to enter the regression analysis. However, the "t" values for the future economic viability of the agricultural industry, for the future extension of farm real estate credit, and for the adequacy of the correspondent banking system's farm credit services were insignificant. The slightly higher $R^2$ values associated
with the addition of these three variables indicates that they contributed very little to the explanation of the variance in commitment. The negative sign associated with the regression coefficient of the future economic viability of the agricultural industry occurred because this variable was significantly correlated with the future extension of farm non-real estate credit (0.4638) and the management effectiveness of farmers (0.3119) variables (Table 15). When two variables are intercorrelated, one variable may enter the regression equation with one sign while the corresponding effect is for the other variable to enter with the opposite sign. In regard to the above, this means that the future extension of farm non-real estate credit and the management effectiveness of farmers variables were picking up the effects of the future economic viability of the agricultural industry when they preceded this variable in entering the regression analysis. The intercorrelation is further exhibited by the fact that the magnitude of the regression coefficients of the two variables in equation 2 increased somewhat with the addition of the future economic viability of the agricultural industry variable in equation 3. A possible explanation for the negative sign associated with the adequacy of the correspondent banking system's farm credit services variable was offered in the analysis of the correlation findings.
The credit risk associated with agricultural lending was the last attitudinal variable to enter the regression equation as shown in equation 6. But the "t" value for this variable was insignificant. It should be noted that the addition of this variable resulted in a significant "t" value for the future economic viability of the agricultural industry. This occurred because these two variables were significantly correlated (0.4149) and is also illustrated by the increase in the value of the regression coefficient for the future economic viability of the agricultural industry from equation 5 to equation 6. Consequently, the significance of the future economic viability of the agricultural industry variable in equation 6 must be discounted.

The adequacy of banking farm business services variable did not enter the regression analysis because its F-Ratio (squared "t" value) was below the specified minimum F-level of 0.01 for inclusion in the analysis. Consequently, this independent farm lending attitudinal variable was totally insignificant in contributing to the explanation of the variation in commitment.

In summary, the results of multiple regression analysis revealed that only two of the independent farm lending attitudinal variables were statistically significant in terms of contributing to an explanation of the variation in
commitment (the farm loan to total loan ratio). These two variables were banker attitudes toward the future extension of farm non-real estate credit and banker attitudes toward the management effectiveness of farmers. Therefore, equation 2 constitutes the best linear prediction equation for estimating the amount of variation in the farm loan to total loan ratio which can be explained by the farm lending attitudes of the surveyed bankers. However, because of the low amount of variance, slightly more than 7 percent, that was explained by the two attitudinal variables in equation 2, it appears that the farm lending attitudes of bankers do not constitute significant predictors of the commitment of their banks to agricultural lending.

Analysis of Differences Between the Attitudes of Agricultural and Non-Agricultural Bankers

As was reported earlier, the total sample of survey banks was subdivided into two groups representing agricultural and non-agricultural banks which were designated as high and low farm loan to total loan commitment groups respectively. Agricultural bankers represented those banks with farm loan to total loan ratios of 25 percent or higher while all other surveyed bankers were defined as non-agricultural bankers. The technique of one-way analysis of variance was utilized to determine if any statistically significant differences existed between the attitudes of
agricultural and non-agricultural bankers toward each of the independent farm lending attitudinal variables. The analysis of variance findings are presented below.

The Future Economic Viability of the Agricultural Industry: Analysis of Variance Findings

The hypothesis for testing in regard to the future economic viability of the agricultural industry was stated in the null hypothesis form: The attitudes of agricultural bankers toward the future economic viability of the agricultural industry are not significantly different from the attitudes of non-agricultural bankers. The results of one-way analysis of variance revealed no significant differences between the attitudes of agricultural and non-agricultural bankers toward the future economic viability of the agricultural industry. The F-Ratio of 0.4606 with (1&234) degrees of freedom was not significant at the .05 level, therefore, the null hypothesis must be accepted (Table 18).^6

---

^6In this research, the "F" test was used to test the null hypothesis that the mean attitudinal scale scores for agricultural and non-agricultural bankers were equal (Ho: \( M_{AG} = M_{NON-AG} \)). The F-Ratio = mean square for "between" groups / mean square for "within" groups. Degrees of freedom (df) for total groups = number of cases in total (N) minus 1; df for "between" groups = number of groups (k) minus 1; and degrees of freedom for "within" groups = sum of the number of cases within each subgroup (n) minus 1,
While the differences in attitudes were not significant, the results show that agricultural and non-agricultural bankers held favorable attitudes toward the future economic viability of the agricultural industry. The mean attitudinal scale score for the high commitment group was 33.3 compared to 32.9 for the low group (Table 17). A mean score greater than 27.0 reflects a favorable attitude in regard to this farm lending attitudinal variable.  

The summary statistics for the analysis of variance are presented in Tables 17 and 18.

---

that is, $(n_1-1) + (n_2-1) + \ldots + (n_k-1)$. The obtained F value is compared to values given in an F distribution table to determine whether the two mean attitudinal scale scores are significantly different from one another at a probability level of .05 or higher. If the computed F value is greater (less) than the table value, it can be concluded that a significant (insignificant) difference exists between the two mean attitudinal scale scores and that the two means are unequal (equal). The null hypothesis of no difference between the means is accepted (rejected) when the F value is less (greater) than the F table value. See Downie and Heath, Basic Statistical Methods, pp. 220-221.

Scores for The Future Economic Viability of the Agricultural Industry Attitudinal Scale ranged from 9.0 to 45.0. The median score of this scale was 27.0.
TABLE 17

SUMMARY STATISTICS FOR ANALYSIS OF VARIANCE: SURVEYED BANKS SUBDIVIDED INTO AGRICULTURAL AND NON-AGRICULTURAL BANK GROUPS COMPARED ON THE BASIS OF THE ATTITUDES OF BANKERS TOWARD THE FUTURE ECONOMIC VIABILITY OF THE AGRICULTURAL INDUSTRY

<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>Non-Agricultural Bankers Representing Low Commitment Banks</th>
<th>Agricultural Bankers Representing High Commitment Banks&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Size</td>
<td>170</td>
<td>66</td>
</tr>
<tr>
<td>Mean</td>
<td>32.8588</td>
<td>33.3485</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>4.8824</td>
<td>5.2079</td>
</tr>
</tbody>
</table>

<sup>a</sup>Bankers representing banks with farm loan to total loan ratios of 25 percent or higher.

TABLE 18

ANALYSIS OF VARIANCE: AGRICULTURAL AND NON-AGRICULTURAL BANKS COMPARED WITH THE ATTITUDES OF BANKERS TOWARD THE FUTURE ECONOMIC VIABILITY OF THE AGRICULTURAL INDUSTRY

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Ratio&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>11.3991</td>
<td>1</td>
<td>11.3991</td>
<td>0.4606</td>
</tr>
<tr>
<td>Within Groups</td>
<td>5791.5703</td>
<td>234</td>
<td>24.7503</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5802.9687</td>
<td>235</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>Not significant at the .05 level.
The Future Extension of Farm Non-Real Estate Credit: Analysis of Variance Findings

The hypothesis for testing in regard to the future extension of farm non-real estate credit was stated in the null hypothesis form: The attitudes of bankers toward the future extension of farm non-real estate credit are not significantly different from the attitudes of non-agricultural bankers. The findings of the analysis of variance for the total sample of bankers subdivided into agricultural and non-agricultural groups revealed significant differences between the attitudes of the two groups. The F-Ratio of 7.3414 with (1&234) degrees of freedom was significant beyond the .01 level (Table 20). The null hypothesis must be rejected.

The mean attitudinal scale score for agricultural bankers was 42.9 and for non-agricultural bankers it was 40.9 (Table 19). A mean attitudinal scale score of more than 33.0 means that bankers have a positive attitude toward extending farm non-real estate credit to farmers in the future.\(^3\)

The summary statistics for the analysis of variance are presented in Tables 19 and 20.

---

\(^3\) Scores for The Future Extension of Farm Non-Real Estate Credit ranged from 11.0 to 55.0. The median score of this attitudinal scale was 33.0.
TABLE 19
SUMMARY STATISTICS FOR ANALYSIS OF VARIANCE: SURVEYED BANKS SUBDIVIDED INTO AGRICULTURAL AND NON-AGRICULTURAL BANK GROUPS COMPARED ON THE BASIS OF THE ATTITUDES OF BANKERS TOWARD THE FUTURE EXTENSION OF FARM NON-REAL ESTATE CREDIT

<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>Non-Agricultural Bankers Representing Low Commitment Banks</th>
<th>Agricultural Bankers Representing High Commitment Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Size</td>
<td>170</td>
<td>66</td>
</tr>
<tr>
<td>Mean</td>
<td>40.8588</td>
<td>42.9848</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>5.5355</td>
<td>5.0702</td>
</tr>
</tbody>
</table>

aBankers representing banks with farm loan to total loan ratios of 25 percent or higher.

TABLE 20
ANALYSIS OF VARIANCE: AGRICULTURAL AND NON-AGRICULTURAL BANKS COMPARED WITH THE ATTITUDES OF BANKERS TOWARD THE FUTURE EXTENSION OF FARM NON-REAL ESTATE CREDIT

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>214.8920</td>
<td>1</td>
<td>214.8920</td>
</tr>
<tr>
<td>Within Groups</td>
<td>6849.5039</td>
<td>234</td>
<td>29.2714</td>
</tr>
<tr>
<td>Total</td>
<td>7064.3945</td>
<td>235</td>
<td></td>
</tr>
</tbody>
</table>

aSignificant beyond the .01 level.
The Management Effectiveness of Farmers: Analysis of Variance Findings

The hypothesis for testing was stated in the null hypothesis form: The attitudes of agricultural bankers toward the management effectiveness of farmers are not significantly different from the attitudes of non-agricultural bankers. The results of analysis of variance yielded an F-Ratio of 6.9316 with (1&234) degrees of freedom which was significant beyond the .01 level (Table 22). There was a significant difference between the attitudes of agricultural and non-agricultural bankers toward the management effectiveness of farmers. The null hypothesis must be rejected.

The analysis of variance findings revealed that bankers held a positive attitude toward the management effectiveness of farmers. A mean attitudinal scale score beyond 39.0 indicates a favorable attitude toward this farm lending attitudinal variable. The mean score for agricultural bankers was 46.0 compared to 43.2 for non-agricultural bankers (Table 21).

The summary statistics for the analysis of variance are presented in Tables 21 and 22.

---

9Scores of The Management Effectiveness of Farmers Attitudinal Scale ranged from 13.0 to 65.0. The median score for this scale was 39.0.
TABLE 21

SUMMARY STATISTICS FOR ANALYSIS OF VARIANCE: SURVEYED BANKS SUBDIVIDED INTO AGRICULTURAL AND NON-AGRICULTURAL BANK GROUPS COMPARED ON THE BASIS OF THE ATTITUDES OF BANKERS TOWARD THE MANAGEMENT EFFECTIVENESS OF FARMERS

<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>Non-Agricultural Bankers Representing Low Commitment Banks</th>
<th>Agricultural Bankers Representing High Commitment Banks(^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Size</td>
<td>170</td>
<td>66</td>
</tr>
<tr>
<td>Mean</td>
<td>43.2294</td>
<td>46.0151</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>7.4643</td>
<td>6.8376</td>
</tr>
</tbody>
</table>

\(^a\)Bankers representing banks with farm loan to total loan ratios of 25 percent or higher.

TABLE 22

ANALYSIS OF VARIANCE: AGRICULTURAL AND NON-AGRICULTURAL BANKS COMPARED WITH THE ATTITUDES OF BANKERS TOWARD THE MANAGEMENT EFFECTIVENESS OF FARMERS

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>368.9419</td>
<td>1</td>
<td>368.9419</td>
<td>6.9316(^a)</td>
</tr>
<tr>
<td>Within Groups</td>
<td>12454.8516</td>
<td>234</td>
<td>53.2259</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>12823.7930</td>
<td>235</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\)Significant beyond the .01 level.
The Adequacy of Banking Farm Business Services: Analysis of Variance Findings

The hypothesis for testing in regard to the adequacy of banking farm business services was stated in the null hypothesis form: The attitudes of agricultural bankers toward the adequacy of banking farm business services are not significantly different from the attitudes of non-agricultural bankers. Analysis of variance results indicated that there were no significant differences between the attitudes of agricultural and non-agricultural bankers toward the adequacy of banking farm business services. The F-Ratio of 3.4762 with (1&234) degrees of freedom was not significant at the .05 level, therefore, the null hypothesis must be accepted (Table 24).

The mean attitudinal scale score for agricultural bankers was 29.7 compared to 27.9 for non-agricultural bankers (Table 23). As a result, both groups of bankers held a positive attitude toward the adequacy of banking farm business services because a mean score beyond 27.0 reflects a positive attitude.\(^{10}\)

The summary statistics for the analysis of variance are presented in Tables 23 and 24.

---

\(^{10}\) Scores for The Adequacy of Banking Farm Business Services Attitudinal Scale ranged from 9.0 to 45.0. The median score of this scale was 27.0.
TABLE 23

SUMMARY STATISTICS FOR ANALYSIS OF VARIANCE: SURVEYED BANKS SUBDIVIDED INTO AGRICULTURAL AND NON-AGRICULTURAL BANK GROUPS COMPARED ON THE BASIS OF THE ATTITUDES OF BANKERS TOWARD THE ADEQUACY OF BANKING FARM BUSINESS SERVICES

<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>Non-Agricultural Bankers Representing Low Commitment Banks</th>
<th>Agricultural Bankers Representing High Commitment Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Size</td>
<td>170</td>
<td>66</td>
</tr>
<tr>
<td>Mean</td>
<td>27.9118</td>
<td>29.7121</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>6.5505</td>
<td>6.9299</td>
</tr>
</tbody>
</table>

*Bankers representing banks with farm loan to total loan ratios of 25 percent or higher.

TABLE 24

ANALYSIS OF VARIANCE: AGRICULTURAL AND NON-AGRICULTURAL BANKS COMPARED WITH THE ATTITUDES OF BANKERS TOWARD THE ADEQUACY OF BANKING FARM BUSINESS SERVICES

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>154.0966</td>
<td>1</td>
<td>154.0966</td>
<td>3.4762a</td>
</tr>
<tr>
<td>Within Groups</td>
<td>10373.0625</td>
<td>234</td>
<td>44.3293</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>10527.1562</td>
<td>235</td>
<td>44.3293</td>
<td></td>
</tr>
</tbody>
</table>

*Not significant at the .05 level.
The Adequacy of the Correspondent Banking System's Farm Credit Services: Analysis of Variance Findings

The hypothesis for testing in regard to the adequacy of the correspondent banking system's farm credit services was stated in the null hypothesis form: The attitudes of agricultural bankers toward the adequacy of the correspondent banking system's farm credit services are not significantly different from the attitudes of non-agricultural bankers. The results of one-way analysis of variance yielded an F-Ratio of 0.0540 with (1&234) degrees of freedom which was not significant at the .05 level (Table 26). Consequently, there were no significant differences between the attitudes of agricultural and non-agricultural bankers toward the adequacy of the correspondent banking system's farm credit services. As a result, the null hypothesis must be accepted.

The attitudes of agricultural and non-agricultural bankers were negative toward this farm lending attitudinal variable. A mean attitudinal scale score of more than 30.0 would indicate a positive attitude. However, the mean score for agricultural bankers was 28.0 compared to 28.3 for non-agricultural bankers (Table 25).

The summary statistics for the analysis of variance are presented in Tables 25 and 26.

---

11 Scores for the Adequacy of the Correspondent Banking System's Farm Credit Services Attitudinal Scale ranged from 10.0 to 50.0. The median score of this scale was 30.0.
TABLE 25

SUMMARY STATISTICS FOR ANALYSIS OF VARIANCE: SURVEYED BANKS SUBDIVIDED INTO AGRICULTURAL AND NON-AGRICULTURAL BANK GROUPS COMPARED ON THE BASIS OF THE ATTITUDES OF BANKERS TOWARD THE ADEQUACY OF THE CORRESPONDENT BANKING SYSTEM’S FARM CREDIT SERVICES

<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>Non-Agricultural Bankers Representing Low Commitment Banks</th>
<th>Agricultural Bankers Representing High Commitment Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Size</td>
<td>170</td>
<td>66</td>
</tr>
<tr>
<td>Mean</td>
<td>28.2765</td>
<td>28.0303</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>6.8578</td>
<td>8.3500</td>
</tr>
</tbody>
</table>

a Bankers representing banks with farm loan to total loan ratios of 25 percent or higher.

TABLE 26

ANALYSIS OF VARIANCE: AGRICULTURAL AND NON-AGRICULTURAL BANKS COMPARED WITH THE ATTITUDES OF BANKERS TOWARD THE ADEQUACY OF THE CORRESPONDENT BANKING SYSTEM’S FARM CREDIT SERVICES

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>2.8814</td>
<td>1</td>
<td>2.8814</td>
<td>0.0540a</td>
</tr>
<tr>
<td>Within Groups</td>
<td>12479.7852</td>
<td>234</td>
<td>53.3324</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>12482.6641</td>
<td>235</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a Not significant at the .05 level.
The Credit Risk Associated With Agricultural Lending: Analysis of Variance Findings

The hypothesis for testing was stated in the null hypothesis form: The attitudes of agricultural bankers toward the credit risk associated with agricultural lending are not significantly different from the attitudes of non-agricultural bankers. The results of analysis of variance revealed significant differences between the attitudes of agricultural and non-agricultural bankers toward the credit risk associated with agricultural lending. The F-Ratio of 8.2846 with (1&234) degrees of freedom was significant beyond the .01 level (Table 26). Therefore, the null hypothesis must be rejected. In addition, both groups of bankers held a high positive attitude toward the credit risk associated with lending to farmers. The mean attitudinal scale score for agricultural bankers was 52.1 compared to 49.9 for non-agricultural bankers (Table 27). A mean score greater than 39.0 indicates a positive attitude. The summary statistics for the analysis of variance are presented in Tables 27 and 28.

12Scores for The Credit Risk Associated with Agricultural Lending ranged from 13.0 to 65.0. The median score of this attitudinal scale was 39.0.
TABLE 27

SUMMARY STATISTICS FOR ANALYSIS OF VARIANCE: SURVEYED BANKS SUBDIVIDED INTO AGRICULTURAL AND NON-AGRICULTURAL BANK GROUPS COMPARED ON THE BASIS OF THE ATTITUDES OF BANKERS TOWARD THE CREDIT RISK ASSOCIATED WITH AGRICULTURAL LENDING

<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>Non-Agricultural Bankers Representing Low Commitment Banks</th>
<th>Agricultural Bankers Representing High Commitment Banksa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Size</td>
<td>170</td>
<td>66</td>
</tr>
<tr>
<td>Mean</td>
<td>49.9176</td>
<td>52.0909</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>5.0611</td>
<td>5.5656</td>
</tr>
</tbody>
</table>

aBankers representing banks with farm loan to total loan ratios of 25 percent or higher.

TABLE 28

ANALYSIS OF VARIANCE: AGRICULTURAL AND NON-AGRICULTURAL BANKS COMPARED WITH THE ATTITUDES OF BANKERS TOWARD THE CREDIT RISK ASSOCIATED WITH AGRICULTURAL LENDING

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>224.5428</td>
<td>1</td>
<td>224.5428</td>
<td>8.2846a</td>
</tr>
<tr>
<td>Within Groups</td>
<td>6342.2656</td>
<td>234</td>
<td>27.1037</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6566.8047</td>
<td>235</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

aSignificant beyond the .01 level
The Future Extension of Farm Real Estate Credit: Analysis of Variance Findings

The hypothesis for testing in regard to the future extension of farm real estate credit was stated in the null hypothesis form: The attitudes of agricultural bankers toward the future extension of farm real estate credit are not significantly different from the attitudes of non-agricultural bankers. The findings of the analysis of variance for the total sample of bankers subdivided into agricultural and non-agricultural groups revealed significant differences between the attitudes of the two groups of bankers. The F-Ratio of 12.0663 with (1&234) degrees of freedom was significant beyond the .001 level (Table 30). Thus, the null hypothesis must be rejected.

Agricultural and non-agricultural bankers held favorable attitudes toward providing farmers with farm real estate credit in the future. A mean attitudinal scale score of more than 33.0 indicates a positive attitude toward extending farm real estate credit in the future.\(^\text{13}\) The mean attitudinal scale score for agricultural bankers was 42.9 compared to 40.4 for non-agricultural bankers (Table 29).

The summary statistics for the analysis of variance are presented in Tables 29 and 30.

\(^{13}\)Scores for The Future Extension of Farm Real Estate Credit ranged from 11.0 to 55.0. The median score of this attitudinal scale was 33.0.
TABLE 29

SUMMARY STATISTICS FOR ANALYSIS OF VARIANCE: SURVEYED BANKS SUBDIVIDED INTO AGRICULTURAL AND NON-AGRICULTURAL BANK GROUPS COMPARED ON THE BASIS OF THE ATTITUDES OF BANKERS TOWARD THE FUTURE EXTENSION OF FARM REAL ESTATE CREDIT

<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>Non-Agricultural Bankers Representing Low Commitment Banks</th>
<th>Agricultural Bankers Representing High Commitment Banks&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Size</td>
<td>170</td>
<td>66</td>
</tr>
<tr>
<td>Mean</td>
<td>40.3588</td>
<td>42.9848</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>5.4268</td>
<td>4.6093</td>
</tr>
</tbody>
</table>

<sup>a</sup>Bankers representing banks with farm loan to total loan ratios of 25 percent or higher.

TABLE 30

ANALYSIS OF VARIANCE: AGRICULTURAL AND NON-AGRICULTURAL BANKS COMPARED WITH THE ATTITUDES OF BANKERS TOWARD THE FUTURE EXTENSION OF FARM REAL ESTATE CREDIT

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>327.8535</td>
<td>1</td>
<td>327.8535</td>
<td>12.0663&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Within Groups</td>
<td>6358.0078</td>
<td>234</td>
<td>27.1710</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6685.8594</td>
<td>235</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>Significant beyond the .001 level.
208

The Future Extension of Farm Non-Real Estate Credit versus The Future Extension of Farm Real Estate Credit:
Analysis of Variance Findings

The hypothesis for testing in regard to farm non-real estate credit and farm real estate credit was stated in the null hypothesis form: The attitudes of bankers toward the future extension of farm non-real estate credit are not significantly different from the attitudes of bankers toward the future extension of farm real estate credit. The results of one-way analysis of variance revealed that there were no significant differences between the attitudes of bankers toward the future extension of farm non-real estate credit and farm real estate credit respectively. The F-Ratio of 0.5232 with (1&234) degrees of freedom was not significant at the .05 level, therefore, the null hypothesis must be accepted. The summary statistics for the analysis of variance are presented in Tables 31 and 32.

Evaluation of Analysis of Variance Findings

The results of one-way analysis of variance revealed that significant differences did not exist between the attitudes of agricultural and non-agricultural bankers toward the future economic viability of the agricultural industry. However, the findings indicated that both groups of bankers held positive attitudes toward this farm lending attitudinal variable. These positive attitudes
### TABLE 31

**SUMMARY STATISTICS FOR ANALYSIS OF VARIANCE: ATTITUDES OF BANKERS TOWARD THE FUTURE EXTENSION OF FARM NON-REAL ESTATE CREDIT COMPARED TO THEIR ATTITUDES TOWARD THE FUTURE EXTENSION OF FARM REAL ESTATE CREDIT**

<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>All Surveyed Bankers</th>
<th>All Surveyed Bankers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Farm Credit</td>
<td>Non-Real Estate</td>
<td>Real Estate</td>
</tr>
<tr>
<td>Sample Size</td>
<td>236</td>
<td>236</td>
</tr>
<tr>
<td>Mean</td>
<td>41.4534</td>
<td>41.0932</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>5.4828</td>
<td>5.3339</td>
</tr>
</tbody>
</table>

### TABLE 32

**ANALYSIS OF VARIANCE: ATTITUDES OF BANKERS TOWARD THE FUTURE EXTENSION OF FARM NON-REAL ESTATE CREDIT COMPARED WITH THEIR ATTITUDES TOWARD THE FUTURE EXTENSION OF FARM REAL ESTATE CREDIT**

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>15.3071</td>
<td>1</td>
<td>15.3071</td>
<td>0.5232&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Within Groups</td>
<td>13750.0312</td>
<td>470</td>
<td>29.2554</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>13765.3359</td>
<td>471</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>Not significant at the .05 level.
indicate that the surveyed bankers generally perceived the future of farming to be an economically viable sector of private enterprise activity.

Surveyed bankers held positive attitudes toward extending both farm non-real estate credit and farm real estate credit to farmers in the future. This indicates that bankers apparently considered the extension of these two types of loans to be profitable investment alternatives, as well as acceptable risks in comparison to other investment opportunities. It also indicates that the surveyed bankers should be willing to compete to some extent with their agricultural lending competitors for a share of the farm loan market. In addition, significant differences existed between the attitudes of agricultural bankers versus non-agricultural bankers. Agricultural bankers exhibited more positive attitudes than non-agricultural bankers. This was not unexpected because agricultural bankers rely to a greater extent upon farm lending as a source of income than do most non-agricultural bankers. This is indicated by the fact that farm loans comprise a high proportion of the total loan portfolios at agricultural banks.

However, as reported earlier, both agricultural and non-agricultural bankers indicated that higher priorities were given to consumer instalment credit and residential
mortgages as compared to farm non-real estate credit and farm real estate credit within the loan portfolio compositions of their banks. When these findings are considered in conjunction with the positive attitudes of bankers toward extending farm non-real estate credit and farm real estate credit, it would appear that the surveyed bankers probably hold more positive attitudes toward the extension of consumer credit and residential mortgages.

In addition to the above, the results of analysis of variance revealed that significant differences did not exist between the attitudes of the surveyed bankers toward extending farm non-real estate credit versus extending farm real estate credit. While mainly for liquidity reasons, commercial banks traditionally have emphasized the extension of short and intermediate term credit versus long term credit to farmers and to other credit using groups, these findings indicate that there were no differences in terms of bankers' perception of their future involvement in agricultural lending with respect to extending farm non-real estate credit and farm real estate credit to farmers. As was reported earlier, the surveyed banks had high average time and savings deposits to total deposit ratios (63%) which allowed them to invest in longer term loans. It was indicated that this probably was an important factor contributing to the high priority given to residential
mortgages within the loan portfolio compositions of the surveyed banks. It should be noted that a bank with a high percentage of time and savings deposits to total deposits does not need to maintain as high a liquidity position as a bank with a high percentage of demand deposits to total deposits. A bank with a high percentage of demand deposits to total deposits must maintain a high liquidity position because the withdrawal demands of this type of deposit tend to fluctuate more widely and rapidly than the withdrawal demands of time and savings deposits. Thus, because the average percentage of time and savings deposits to total deposits for the surveyed banks was high, liquidity does not appear to constitute a constraint upon their investment in loans such as real estate which have longer maturities. In addition, the 1971 average Federal Reserve System's member bank operating ratios for Ohio Banks indicated that real estate loans including farm real estate comprised an average of about 43 percent of the gross loans held by the 335 member banks and that the time and savings deposits to total deposit ratios for these banks averaged 62.8 percent. Therefore, the results of the

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15Member Bank Operating Ratios Fourth Federal Reserve District, p. 6.
analysis of variance which revealed no significant differences between the attitudes of bankers toward extending farm non-real estate credit versus farm real estate credit should not be surprising when these findings are considered in conjunction with the above factors.

The results of the analysis of variance indicated that agricultural and non-agricultural bankers held positive attitudes toward the management effectiveness of farmers. These positive attitudes indicated that the surveyed bankers perceived the managerial ability of farmers to be effective both in terms of their ability as farm managers and as financial managers.\(^{16}\) In addition, the findings revealed significant differences between the attitudes of agricultural bankers versus non-agricultural bankers toward the management effectiveness of farmers. Agricultural bankers held more favorable attitudes than non-agricultural bankers. Because agricultural bankers would be expected to have a more intimate working relationship with farmers this appears to be a valid finding.

The results of analysis of variance indicated that

\(^{16}\) As reported previously, bankers indicated that an unsatisfactory level of management ability was the most important factor which accounted for some of their farm customers' difficulties in meeting their credit obligations as scheduled. Thus, even though bankers generally had positive attitudes toward the management effectiveness of farmers, when farmers did experience difficulty in meeting their credit obligations, poor financial and farm management
significant differences did not exist between the attitudes of agricultural and non-agricultural bankers toward the adequacy of banking farm business services. But the findings did reveal that these two groups of bankers held positive attitudes toward this farm lending attitudinal variable. This indicates that the surveyed bankers felt that the special business service needs of their farm customers were being satisfied through the existing specialized banking business services made available through their banks. However, as was reported previously, only a small proportion of the surveyed banks employed full or part-time agricultural specialists, or were presently offering some type of computer customer service or other special banking service to their farm customers. While the positive attitudes of the surveyed bankers indicated that they felt that the special business service needs of their farm clientele were being satisfied through the existing services of their banks, the above suggests that the respondent bankers probably do not view a farmer's banking needs in terms of being a potential user of specialized banking business services in addition to his normal use of farm credit. Furthermore, the above may suggest that ability was considered by bankers to be the most important reason which explained the debt servicing difficulties experienced by some of their farm customers.
the surveyed bankers do not feel that the farm customer relationship in bank lending offers opportunities for offering other kinds of banking services as well. Finally, it was reported that only a few of the banks which presently were not offering any type of special banking farm business service planned on doing so in the next 1-5 years. The implication here is that very little change probably will occur in the future in terms of the present number of banks offering some type of specialized banking business service to farmers. This implication appears to be supported by the attitudinal findings because the surveyed banks presumably would not be expected to increase their offerings of special business services as long as bankers felt that they were adequately servicing the special business service needs of their farm customers at the present time.

Significant differences did not exist between the attitudes of agricultural and non-agricultural bankers toward the adequacy of the correspondent banking system's farm credit services. However, both groups of bankers held negative attitudes toward this farm lending attitudinal variable. This indicates that the surveyed bankers generally felt that the correspondent banking system mechanism was not adequately satisfying the service needs of rural banks in terms of providing rural banks with an important source of bank credit or funds available outside of their
own business service area. These findings are consistent with the previously reported results, which indicated that some correspondent banks were very reluctant to participate in farm credit service arrangements with their rural correspondents. Also, as reported previously, most of the surveyed banks indicated that they did not request or require correspondent bank credit for farm loan purposes. When this finding is considered in conjunction with the negative attitudes held by agricultural and non-agricultural bankers, it appears that some of the banks may not have been requesting correspondent banking farm credit services because they probably felt that they would not receive outside farm loan assistance even if it were requested. In fact, some of the surveyed bankers had indicated that their banks had ceased to ask for assistance from their correspondents because of the general reluctance of their correspondents to provide farm credit services. The inadequacy of correspondent banking farm credit service arrangements was also suggested by the fact that more than one-fifth of the total dollar volume of overline farm loan requests was lost to other lenders or never granted in 1970, while about two-fifths was lost or never granted in 1971. This probably was a factor contributing to the negative attitudes held by some of the bankers toward the adequacy of the correspondent banking system's farm credit services.
The results of one-way analysis of variance also revealed that both agricultural and non-agricultural bankers held positive attitudes toward the credit risk associated with agricultural lending. These positive attitudes indicate that the surveyed bankers felt lending to farmers was an acceptable credit risk in terms of appraising the willingness and ability of farmers to meet their financial obligations, their integrity, and their financial strength as borrowers. As reported previously, less than 3 percent of the surveyed bankers reported a decline in the average net worth position of their farm customers. This finding appears to be consistent with the attitudes of the surveyed bankers since it also indicates that the current extension of bank credit to most of the farm customers of the surveyed banks was an acceptable credit risk. Also, as previously reported, the financial condition of most of the farm customers of the surveyed banks appeared to be relatively sound in terms of their debt servicing ability. Furthermore, some of the surveyed bankers stated that they felt that farmers were excellent credit risks and that their banks seldom had incurred losses on loans to farmers. Finally, while the surveyed bankers exhibited positive attitudes toward the credit risk associated with lending to farmers, significant differences existed between the attitudes of agricultural and non-agricultural bankers.
Agricultural bankers held more positive attitudes than non-agricultural bankers. This was not unexpected because agricultural bankers have a greater commitment to agricultural lending and as a result should have more experience in working with farmers on lending matters. Consequently, if farmers are acceptable credit risks this would be expected to be reflected more by the attitudes of agricultural bankers versus non-agricultural bankers who probably have had less farm lending experience.

**Evaluation of Multiple Regression and Correlation Analysis Findings**

The results of multiple regression and correlation analysis indicated that the farm lending attitudes of bankers contributed to explaining only a very low percentage (slightly more than 7 percent) of the variation in the farm loan to total loan ratio (commitment) in the banks which they represented. This was indicated by the very low adjusted coefficient of multiple correlation, the $R^2$ value, computed in the multiple regression analysis. Thus, the attitudes of the surveyed bankers do not appear to be significant predictors of commitment because of the very low correlation that existed between their farm lending attitudes and the farm loan to total loan ratio. For a high correlation to exist, it would be expected that increases in the farm loan to total loan ratio at the surveyed
banks would be associated with increases in the farm lending attitudes of the surveyed bankers. In this research, it was hypothesized that a positive (upward) sloping linear relationship existed between commitment and banker farm lending attitudes. The implication here is that at the extremes, bankers representing banks with high farm loan to total loan ratios would exhibit significantly more favorable attitudes toward farm lending than would bankers representing banks with low farm loan to total loan ratios. The results of analysis of variance revealed that the surveyed bankers held positive attitudes toward each of the farm lending attitudinal variables with the exception of the adequacy of the correspondent banking system's farm credit services. Also, significant differences were observed between the attitudes of agricultural and non-agricultural bankers toward the future extension of farm non-real estate credit, the future extension of farm real estate credit, the management effectiveness of farmers, and the credit risk associated with lending to farmers. However, the very low correlation between banker attitudes and the farm loan to total loan ratio which occurred in the multiple regression and correlation analysis suggests the possible operation of different lending constraints within the business of banking. For example, even though a

17 The low but positive correlation means that the
banker may exhibit a positive attitude toward agricultural lending, the historical lending practices of his bank may be such that very little importance has been attached to farm credit. Consequently, the desire of the banker to extend credit to farmers may be restrained by the banking environment in which he must operate as a lending officer. This may have been the case for those bankers who held a positive attitude toward agricultural lending but whose banks exhibited low farm loan to total loan commitments.

In conjunction with historical lending practices, another possibility which may account for the low correlation between the farm lending attitudes of the surveyed bankers and commitment may have been the presence of competing investment alternatives among different bank loans as compared to farm loans. For example, as reported previously, the surveyed banks were giving higher priorities to consumer instalment credit and residential mortgages within their loan portfolio compositions versus farm non-real estate loans and farm real estate loans. Thus, even while bankers representing surveyed banks with low farm loan to total loan commitment ratios exhibited positive attitudes toward farm lending, the presence of competing

hypothesized linear relationship between banker attitudes and commitment was only slightly upward sloping in terms of the attitudes of bankers representing banks with low farm loan to total loan ratios versus the attitudes of bankers representing banks with higher farm loan to total loan ratios.
investment alternatives imposed lending constraints upon their attitudinal preferences for farm lending. Under these circumstances, the low correlation between the farm lending attitudes of bankers and the farm loan to total loan ratio would not be unexpected.

Finally, another possibility which may contribute to explaining the multiple regression analysis findings might be that while bankers representing low farm loan to total loan commitment banks exhibited positive attitudes toward farm lending, these bankers may not have been actively encouraging their banks to participate in farm lending because they may not have felt qualified to make farm loans based upon their knowledge and experience in agricultural lending matters. Therefore, if these bankers felt uncomfortable about making farm loans because of their unfamiliarity with this type of credit, then they probably would not encourage farm lending within their banks. Under these conditions, their banks could be expected to exhibit a lower commitment to agricultural lending even though these bankers held positive farm lending attitudes.

Summary of Hypotheses Testing

A summary of the findings for the hypotheses subjected to testing in this research are presented below.

1. The attitudes of commercial bankers are significant indicators of the farm lending commitment of their banks to
agriculture. The results of multiple regression and correlation analysis revealed that only two farm lending attitudinal variables were statistically significant in terms of contributing to the explanation of the variation in commitment. Banker attitudes toward the future extension of farm non-real estate credit and banker attitudes toward the management effectiveness of farmers explained only about 7 percent of the variance in the farm loan to total loan ratio. Consequently, while the farm lending attitudes of bankers are to some extent indicators of the commitment of their banks to agricultural lending, the results indicate that the attitudes of bankers do not constitute significant predictors of the farm lending commitment of their banks.

2. The attitudes of agricultural bankers toward the future economic viability of the agricultural industry are significantly different from the attitudes of non-agricultural bankers. While there were no significant differences between the attitudes of the two groups of bankers, the findings indicated that agricultural and non-agricultural bankers held positive attitudes toward the future economic viability of the agricultural industry.

3. The attitudes of agricultural bankers toward the future extension of farm non-real estate credit are significantly different from the attitudes of non-agricultural bankers.
The findings revealed that the two groups of bankers held positive attitudes toward extending farm non-real estate credit to farmers in the future. The results of analysis of variance indicated significant differences between the attitudes of agricultural and non-agricultural bankers. Agricultural bankers held more positive attitudes toward the future extension of farm non-real estate credit as compared to non-agricultural bankers.

4. **The attitudes of agricultural bankers toward the management effectiveness of farmers are significantly different from the attitudes of non-agricultural bankers.** The findings indicated significant differences between the attitudes of agricultural and non-agricultural bankers. The two groups of bankers held positive attitudes toward the management effectiveness of farmers, while agricultural bankers held more positive attitudes than non-agricultural bankers.

5. **The attitudes of agricultural bankers toward the adequacy of banking farm business services are significantly different from the attitudes of non-agricultural bankers.** While there were no significant differences between the two groups of bankers, the findings indicated that both agricultural and non-agricultural bankers held more positive attitudes toward the adequacy of banking farm business services.
6. The attitudes of agricultural bankers toward the adequacy of the correspondent banking system's farm credit services are significantly different from the attitudes of non-agricultural bankers. The results of analysis of variance revealed that significant differences did not exist between the attitudes of agricultural bankers and non-agricultural bankers. However, these two groups of bankers held negative attitudes toward the adequacy of the correspondent banking system's farm credit services. This suggests that the correspondent banking system, as a whole, is not providing adequate farm credit service to its rural correspondents.

7. The attitudes of agricultural bankers toward the credit risk associated with agricultural lending are significantly different from the attitudes of non-agricultural bankers. The findings indicated significant differences between the attitudes of agricultural and non-agricultural bankers. The two groups of bankers held positive attitudes toward the credit risk associated with lending to farmers while agricultural bankers held more positive attitudes than non-agricultural bankers.

8. The attitudes of agricultural bankers toward the future extension of farm real estate credit are significantly different from the attitudes of non-agricultural bankers. The results revealed that the two groups of
bankers held positive attitudes toward extending farm real estate credit to farmers in the future. The findings of analysis of variance indicated significant differences between the attitudes of agricultural and non-agricultural bankers. Agricultural bankers held more positive attitudes toward the future extension of farm real estate credit as compared to non-agricultural bankers.

9. The attitudes of bankers toward the future extension of farm non-real estate credit are significantly different from the attitudes of bankers toward the future extension of farm real estate credit. The results of analysis of variance revealed that significant differences did not exist between the attitudes of the surveyed bankers toward extending farm non-real estate credit versus extending farm real estate credit. These findings indicate that there were no differences in terms of bankers' perception of their future involvement in agricultural lending with respect to extending farm non-real estate credit and farm real estate credit to farmers.
CHAPTER VI

SUMMARY AND CONCLUSIONS

The importance of banker attitudes has been frequently alluded to in connection with discussions focusing upon the future role of commercial banks in the field of agricultural credit. The implication has been that the future role of banks in the field of farm credit is dependent upon favorable banker attitudes toward agricultural lending as well as upon facilitating an increase in the flow of funds via the banking system to the rural sector. However, little empirical evidence exists to substantiate the assumption that a close relationship exists between the attitudes of commercial bankers and the commitment of their banks to agricultural lending.

The major objective of this research was to evaluate the future role of commercial banks in the field of farm credit on the basis of an examination of the agricultural lending attitudes, practices and activities of Ohio commercial bankers. Specifically, the objectives of this study were: (1) to determine the extent to which bankers held favorable or unfavorable attitudes toward agricultural lending; (2) to determine whether significant differences existed between the farm lending attitudes of different
groups of bankers; (3) to determine whether the attitudes of bankers were significant indicators of the commitment of their banks to production agriculture; and (4) to evaluate the farm lending practices and activities of commercial banks in Ohio.

**Summary of Analytical Procedure**

A mail survey questionnaire was developed in this research to obtain information about the attitudes of Ohio bankers toward agricultural lending as well as to obtain information about the farm lending practices and activities of commercial banks operating in Ohio. The survey questionnaire was mailed early in January of 1972 to 472 banks located outside the major metropolitan cities of Ohio.

The development and administration of Likert-type attitudinal scales constituted the basis for measuring the agricultural lending attitudes of Ohio commercial bankers. The attitudes of bankers were measured toward 7 farm lending attitudinal variables. These were: the future economic viability of the agricultural industry, the future extension of farm non-real estate credit, the management effectiveness of farmers, the adequacy of banking farm business services, the adequacy of the correspondent banking system's farm credit services, the credit risk associated with agricultural lending, and the future extension of farm real estate credit.
The technique of one-way analysis of variance was utilized to determine if any statistically significant differences existed between the attitudes of agricultural and non-agricultural bankers toward each of the above farm lending attitudinal variables. Agricultural bankers represented those surveyed banks with farm loan to total loan ratios of 25 percent or higher while all other surveyed bankers were defined as non-agricultural bankers.

The technique of step-wise multiple regression and correlation analysis was utilized to determine whether banker attitudes toward each of the farm lending attitudinal variables were significant predictors of the commitment of their banks to agricultural lending. For purposes of this research, the farm loan to total loan ratio for each of the surveyed banks was defined as an empirical indicator of commitment.

Information obtained about the farm lending practices and activities of commercial banks in Ohio was analyzed by means of frequency distributions and the construction of cross-classification tables for selected data obtained from the responses of bankers to questions in the survey questionnaire.

**Summary of Attitudinal Findings**

The results of the research revealed that the surveyed bankers generally held positive attitudes toward agricultural
lending. Thus, it can be concluded that Ohio bankers view the extension of bank credit to farmers to be a viable form of business for their banks in the future. Specifically, positive attitudes were held by bankers toward the following farm lending attitudinal variables: (1) the future economic viability of the agricultural industry; (2) extending farm non-real estate credit to farmers in the future; (3) the management (farm and financial) effectiveness of farmers; (4) the adequacy of banking farm business services in terms of satisfying the special business service needs of their farm customers; (5) the credit risk associated with lending to farmers in terms of farmers being perceived as acceptable credit risks; and (6) extending farm real estate credit to farmers in the future.

In contrast, the surveyed bankers held negative attitudes toward the adequacy of the correspondent banking system's farm credit services. Consequently, it can be concluded that Ohio bankers generally feel that the correspondent banking mechanism is not adequately satisfying the service needs of rural banks in terms of providing rural banks with an important source of bank credit or with funds available outside of their own business service area.

The results of analysis of variance revealed that agricultural bankers held significantly more positive
attitudes than non-agricultural bankers toward the future extension of farm non-real estate credit, the future extension of farm real estate credit, the management effectiveness of farmers, and the credit risk associated with agricultural lending. Conversely, significant differences between the attitudes of these two groups of bankers were not observed in regard to the future economic viability of the agricultural industry, the adequacy of banking farm business services and the adequacy of the correspondent banking system's farm credit services. Thus, it can be concluded that differences did exist between the attitudes of different groups of bankers toward at least some of the farm lending attitudinal variables used in this research. These differences probably can be attributed to the greater experience or greater involvement of the respondent agricultural bankers, as compared to non-agricultural bankers, in working with farmers on bank matters. In addition, the results of analysis of variance indicated that significant differences did not exist between the attitudes of the surveyed bankers toward the future extension of farm non-real estate credit versus the future extension of farm real estate credit. Therefore, it can be concluded that no differences existed in terms of bankers' perception of their future involvement in agricultural lending in regard to extending farm non-real estate credit and farm real
estate credit respectively.

The results of multiple regression and correlation analysis revealed that banker attitudes toward each of the 7 farm lending attitudinal variables contributed to explaining only slightly more than 7 percent of the variation in commitment (the farm loan to total loan ratio). Only 2 of the farm lending attitudinal variables were statistically significant in terms of accounting for the variance explained in commitment. These 2 variables were banker attitudes toward extending farm non-real estate credit to farmers in the future and banker attitudes toward the farm and financial management effectiveness of farmers.

With respect to the major hypothesis of this research, these findings did not support the theoretical position that increases in the farm loan to total loan ratios of the surveyed banks would be significantly associated with increases in the favorability of the farm lending attitudes of the surveyed bankers. However, the very low amount of variation explained in commitment by the farm lending attitudes of the surveyed bankers was probably due to the operation of different lending constraints within the business of banking. For those bankers who exhibited high positive attitudes toward agricultural lending but whose banks exhibited low farm loan to total loan commitments, the desires of these bankers to extend credit to farmers
may have been restrained by the economic and/or institutional framework or bank lending constraints under which they were operating as lending officers. In summary, on the basis of the very low amount of variation explained in commitment, it can be concluded that the attitudes of bankers are not significant predictors of the commitment of their banks to agricultural lending.

**Summary of Farm Lending Practices and Activities of Commercial Banks in Ohio**

From the 472 survey questionnaires mailed to Ohio banks, usable questionnaires were returned from 236 banks. Of these banks, 66 were classified as agricultural banks. The 236 respondent banks accounted for approximately 62 percent of the estimated total volume of farm loans outstanding at all commercial banks in Ohio at year-end 1970. Agricultural banks were predominantly smaller banks in terms of deposit size and nearly all of these 66 banks held deposits of under $10 million. Conversely, more than one-third of the surveyed banks held deposits of $20 million and over at year-end 1970. A high proportion, nearly 63 percent of the deposits held by the surveyed banks, were in interest bearing accounts such as time and savings deposits.

Nearly half of the surveyed banks had loan-to-deposit ratios of more than 60 percent. Small banks with under $5 million in deposits exhibited loan-to-deposit ratios similar
to those of banks with $20 million and over on deposit. Thus, the very small banks appeared to be just as aggressive as the very large banks in terms of their lending practices. Agricultural banks also exhibited high loan-to-deposit ratios. Approximately half of the respondent bankers expected their average annual loan-to-deposit ratio (58.5%) to increase over the next 1-5 years. Thus, even more aggressive lending policies for some of the surveyed banks can be expected in the future.

Agricultural banks accounted for 36 percent of the total outstanding farm loan volume reported by all respondent banks. In contrast, non-agricultural banks with $20 million and over in deposits but with farm loan to total loan portfolio commitments lower than agricultural banks held 41 percent of the reported total volume of farm loans.

Most of the surveyed banks with deposits of under $10 million could not make loans to individuals in excess of $100,000 because of the size of their legal loan limits. About 64 percent of the agricultural banks could not make loans to an individual borrower of more than $50,000. Conversely, all of the non-agricultural banks with $20 million and over in deposits could make individual loans greater than $100,000. As a result of the size of their legal lending limits, about 9 percent of the surveyed banks had received overline farm loan applications in 1970 which
toted over $4 million, while approximately 12 percent had received farm loan requests exceeding their legal loan limit in 1971, which totaled over $5 million. More than half of these banks held deposits of under $10 million and most were agricultural banks. Of the total dollar volume of overline farm loan requests received by these banks, approximately 23 percent was lost to other lenders or never granted in 1970, while about 40 percent was lost or never granted during 1971.

The above findings suggest that many of the banks with $20 million and over in deposits probably were meeting a higher proportion of the credit needs of farm borrowers requiring large loans, as compared to the smaller respondent banks, including some of the smaller agricultural banks. Specifically, this was indicated not only by the sizeable volume of farm credit held by these very large banks, but also by the magnitude of their legal lending limits. As farm numbers decline in Ohio, and the size of individual farming operations increases, the total debt financing requirements of farmers are expected to increase substantially over the next decade. While larger banks can be expected to accommodate some of these needs, small banks and especially agricultural banks which are heavily committed to agricultural lending probably will encounter significant problems in maintaining their share of the farm
loan market unless they can find ways to increase the size of their legal loan limits and/or obtain funds from outside sources. It can be concluded that this will be a very important problem confronting the smaller banks in Ohio which rely heavily upon agricultural lending as a source of bank income.

A possible solution for alleviating the problem of overline loans for at least some smaller banks in Ohio would be to liberalize the present 10 percent legal lending limit restriction. However, most of the respondent bankers felt that the current 10 percent legal loan limit should remain at its present level in order to protect the solvency and liquidity position of their banks. Only about 15 percent of the bankers favored a more liberalized legal lending limit restriction. Moreover, nearly half of these bankers represented agricultural banks and they accounted for more than one-fourth of all the respondent agricultural bankers. Thus, it can be concluded that at least some of the banks heavily committed to agricultural lending are in favor of a more liberalized legal loan limit.

Approximately three-fourths of the surveyed bankers reported that the average net worth position (debt-to-worth ratio) of their farm customers had improved during the past five years. While this tended to indicate that most farm customers were not as highly leveraged now as
they were five years ago, it could also mean that highly leveraged farmers are not seeking credit from banks but are seeking it from other sources. It may also mean that some of the banks are not extending bank credit to existing or to potentially highly leveraged farm borrowers. Overall, less than 3 percent of the surveyed bankers reported a decline in the average net worth position of their farm customers. In addition, the financial condition of most of the farm customers of the surveyed banks appeared to be relatively sound in terms of their debt servicing ability. In general, it can be concluded that most of the farm customers of Ohio banks are probably an acceptable credit risk on the basis of their net worth positions and debt servicing ability. The positive attitudes of bankers toward the credit risk associated with agricultural lending adds support to this finding.

Most agricultural and non-agricultural bankers reported that higher priorities were given to consumer instalment credit and residential mortgages within the loan portfolio composition of their banks as compared to farm non-real estate loans, farm real estate loans, and commercial and industrial loans. However, large banks with $10 million and over in deposits tended to give higher priorities to commercial and industrial loans compared to the two types of farm loans. Similar priorities were projected for these
five types of bank loans over the next 1-5 years. Based upon the higher priorities the surveyed banks generally were giving to other bank loans versus farm non-real estate and farm real estate credit in their loan portfolios, it can be concluded that most banks in Ohio place a comparatively low priority on farm loans. Also, because similar priorities were projected for the above five types of bank loans over the next 1-5 years, it can be concluded that most Ohio banks probably will continue to place less importance upon farm loans as compared to other types of loans. Thus, while positive attitudes were held by the surveyed bankers toward extending farm non-real estate credit and farm real estate credit to farmers in the future, it can be concluded that bankers probably have even stronger preferences for extending consumer instalment credit and residential mortgages, and even in some instances for extending commercial and industrial loans.

With respect to future increases in the present total volume of farm credit handled by all of the surveyed banks, only about one-half of the banks reported that they planned to increase their total volume over the next 1-5 years. Thus, it can be concluded that the present share of the farm loan market held by banks in Ohio probably will not increase materially. In fact, it may tend to decline as Production Credit Associations and Federal Land Banks become
even more aggressive in their farm lending programs.

Most of the farm loan customers of the respondent banks (about 80 percent) were required to submit a financial statement (net worth) as part of their loan application. An operating statement, farm budget or cash flow schedule was required from a much lower proportion of farm borrowers. However, banks with $20 million and over in deposits required the highest percentage of their farm borrowers to provide at least one or more of these three kinds of statements. In general, the findings imply that most Ohio banks may be placing more importance on evaluating the equity position of their farm borrowers (probably for collateral purposes, as well as for purposes of satisfying bank examiners) over evaluating the income producing ability of their farming operations.

Nearly one-fourth of the respondent banks had at least one individual on their staff who specialized in working with farmers on bank matters. However, only 8 banks employed a full-time agricultural or farm specialist while 49 had one or more staff members who devoted part of their time to agricultural lending activities. Large banks with $20 million and over in deposits accounted for three-fourths of the full-time specialists. Moreover, banks with deposits of $10 million and over employed 62 percent of all the full and part-time specialists. Only
6 of the 179 surveyed banks who presently were not employing a specialist and held deposits in excess of $10 million indicated plans to do so within the next 1-5 years. The high number of banks (173) which did not intend to employ a specialist in the future may suggest that most banks in Ohio are not planning to appreciably increase their commitment to agricultural lending. A farm specialist usually is employed to attract farm loans, to promote the public relations image of banks, and to provide financial and advisory service to farmers. Furthermore, by not employing specialized farm lending personnel, some banks in Ohio probably will be hard pressed to continue to compete with other farm lending institutions which specialize solely in the extension of farm credit. In general, it can be concluded that during the next 1-5 years, very little increase can be expected to occur in the present number of Ohio banks employing a full-or part-time agricultural specialist.

Only 6 percent of the surveyed banks presently offered at least one computer customer service to farmers or to agriculturally related business firms. Of the banks not offering any type of computer service, approximately 14 percent were planning to offer some type of service during the next 1-5 years. Nearly half of these banks held deposits in excess of $10 million. A somewhat higher proportion,
approximately 22 percent of the surveyed banks were offering at least one or more special banking business services such as estate planning, other trust department services, taxes, or farm management consultation to farmers. These banks were predominantly large banks with $20 million and over in deposits. Only 9 banks presently not offering a special business service to farmers planned on doing so in the future. Thus, it generally can be concluded that very little change can be expected to occur in the number of Ohio banks offering special business services (other than computer) to farmers over the next 1-5 years. Additionally, the fact that only a few of the respondent banks presently were offering some type of computer customer service or other special banking business service to farmers or planned to do so in the future may be another indication of the future role of Ohio banks in the field of farm credit.

Only 8 percent of the surveyed banks had originated and consummated farm loan participation agreements with their correspondent banks during 1970 and 1971. More than half of these banks had originated participation loans to accommodate farm loan requests exceeding their legal lending limit. About four-fifths of these banks reported that they had received all of the outside funds which they had requested. In contrast, most of the surveyed banks
indicated that they did not request or did not require correspondent bank credit for farm loan purposes during the past two years. However, some of the surveyed bankers indicated that they were very dissatisfied with their correspondent banks in terms of their provision of farm credit services. About 9 percent of the surveyed bankers reported that they had experienced difficulty in obtaining additional farm loan funds, or, in fact, were unable to obtain such funds from their correspondents because their correspondent banks were very reluctant to participate in farm lending.

Overall, based upon the findings which indicated that the surveyed bankers held negative attitudes toward the adequacy of the correspondent banking system's farm credit services, as well as the problems encountered by some of the banks in accommodating all of their overline farm loan requests, it can be concluded that the correspondent banking system as a whole is not adequately satisfying the farm credit needs of all of the respondent banks. Also, based upon the negative attitudes held by both agricultural and non-agricultural bankers, it can be concluded that some of the surveyed banks may not have requested correspondent banking farm credit services during 1970 and 1971 because they probably felt that they would not receive outside farm loan assistance even if it were requested. On balance,
it appears that the correspondent banking mechanism cannot be entirely relied upon by Ohio banks as an outside source of bank credit or farm loan funds. This especially applies to those banks which are experiencing difficulty or probably will experience difficulty in the future in terms of meeting all of the farm credit needs of their farm loan customers from their own resources.

Implications of the Study

While the attitudes of bankers were positive toward agricultural lending, it appears that banks probably will continue to place more emphasis on other types of bank loans within their loan portfolios. Furthermore, because of the magnitude of their legal loan limits, larger banks can be expected to experience less difficulty, as compared to smaller banks, in financing the credit needs of farm borrowers requiring extremely large loans. Unless smaller banks are able to increase the size of their legal lending limits and/or are able to obtain outside sources of farm loan funds in sufficient quantities, they probably will experience considerable difficulty in maintaining their present share of the farm loan market in the future. Also, smaller banks will need to attract new deposits in order to facilitate expansions in their farm lending programs in view of their high loan-to-deposit ratios. Thus, a major implication of this research is that the farm lending
commitment of most banks in Ohio, as well as their future role in the field of farm credit will be more a function of the economic framework (e.g., resource limits and other constraints, asset and liability management alternatives) and legal environment (e.g., bank structure, legal lending limits) in which they carry on the business of banking, rather than a function of bankers' perceptions and/or attitudes about agricultural lending.

With respect to the future role of Ohio banks in the field of farm credit, there are several reasons which suggest the importance of this role both from the viewpoint of benefiting banks which may actively participate in farm lending activities, as well as from the viewpoint of benefiting the agricultural sector and the banks' local communities. First, banks can make a strong contribution to the efficiency with which food and fiber is produced by allocating loan resources to the more efficient producers in Ohio's agricultural sector. Second, banks can stimulate growth in the level of business activity of their local communities, and thereby can increase their own level of banking activity if they make a strong effort to service the credit needs of acceptable farm borrowers. Third, banks can obtain new deposits and new business from old customers, as well as attract new customers and new deposits if they wisely channel funds into agriculture. Fourth, banks
should be able to retain existing customers who may otherwise be lost to competitors if they establish a strong commitment to agricultural lending. Finally, if banks maintain a strong farm lending commitment, they should be able to develop opportunities for other kinds of business such as estate planning, trust services, farm management consulting, and farm record keeping services, in addition to the usual provision of bank credit to farmers.

Banks in Ohio hold a unique position in the field of finance. Specifically, among all major farm lending institutions, they presently are the only institutions which are in a position to offer complete, "one stop" financial services to farmers such as short-term, intermediate-term, and farm real estate credit, as well as checking and savings accounts, trust department services, record keeping services, safe deposit facilities, and management advisory services. In addition, most banks are readily accessible to Ohio farmers since they are strategically located throughout the state. However, unless most banks in Ohio recognize the potential importance of their future role in financing agriculture, take advantage of their unique position in the field of finance, and subsequently become more aggressive in providing credit and related services to farmers, it is reasonable to expect that their role in agricultural lending probably will decline in the future. A gradual
withdrawal of Ohio banks from the field of farm credit, however, may pose a potential loss to the agricultural sector, since banks in Ohio traditionally have been the dominant suppliers of farm credit.

While the Farm Credit System's agencies (Federal Land Banks and Production Credit Associations) have substantially increased their role in financing agriculture, they probably can not be expected to accommodate all of the agricultural sector's anticipated credit needs during the 1970's. Banks will need to share in financing agriculture as well, if the agricultural sector is to continue to become more efficient in its production of food and fiber. Also, the recently passed Farm Credit Act of 1971 has considerably broadened the Farm Credit System's activities both in the area of farm finance and in the area of rural development. The Farm Credit Act of 1971 evolved primarily because of a void in these two areas which apparently was not being filled by banks and other financial institutions. The expanded activities of the Farm Credit System include, for example, mortgage financing of rural nonfarm homes, financing of farm related businesses, and the offering of financially related services such as trust and estate management, tax services, and electronic record keeping where these services are not otherwise available. Unless banks make a strong effort to maintain and/or increase their
role in financing agriculture, additional legislative amendments to the Farm Credit Act of 1971, which would broaden the activities of the Farm Credit System even more, could be expected. Consequently, if banks do not attempt to maintain a strong commitment to agricultural lending, they not only face the possibility of gradually being taken out of agriculture by their non-bank competitors, but they also face the possibility of losing potentially good business in the area of rural and community development. Thus, another major implication of this study is that if Ohio banks are to maintain a leadership position among the state's agricultural lenders, then it will become necessary for them to strengthen their financial service strategies in the field of farm credit.

The results of the research clearly identify some important areas in which Ohio banks could initiate changes in their present farm lending practices and activities associated with merchandising agricultural credit and related business services to farmers. The comparatively low priority banks appear to be giving to farm loans may be partially a result of bankers unfamiliarity with agricultural credit and its terms. This was suggested by the relatively low number of banks presently employing specialized personnel in the field of farm finance, as well as by current loan documentation procedures used by most banks.
in the analysis of agricultural loan applications. If banks are to actively compete with other competing farm lenders which specialize in the extension of farm credit, they will need to employ more specialized personnel who can provide sound financial assistance and advisory service in the extension of credit to farm borrowers. However, while all banks can not be expected to have the resources to employ a full- or part-time agricultural specialist, it also appears that the establishment of some type of educational program in agricultural lending would be beneficial to all banks in terms of adding to their knowledge and understanding of agricultural credit and its terms.

While agricultural or farm specialists could provide expert assistance with respect to the allocation of a bank's loan resources to agricultural lending, they also could provide additional help in developing better correspondent arrangements between city and rural banks. This could be especially valuable to those rural banks in Ohio which presently are in need of outside farm loan assistance and/or which probably will need to obtain outside funds in the future. Based upon the existing bank structure in Ohio, the correspondent banking mechanism presently appears to be the most accessible method by which many rural banks can gain access to additional sources of farm loan funds. Although the research findings indicated that bankers were
generally dissatisfied with the adequacy of the correspondent banking system's farm credit services, the problem may not entirely rest with the city correspondents. Rural banks also could become more aggressive in soliciting farm loan assistance from their correspondents. If rural banks are to gain outside farm loan assistance from their correspondent banks, it probably will be necessary for rural banks to gain the confidence of their correspondents by demonstrating that they have the capability and expertise to service the farming sector. An agricultural specialist could assist in initiating efforts to educate his bank's city correspondents about agricultural credit and its terms. In addition, while some of the smaller banks probably do not have the capabilities to offer specialized banking farm business services to farmers such as estate planning, trust services, taxes, farm management consulting, and farm record keeping, they probably could obtain at least one or more of these kinds of services for their farm customers through their correspondents.

A possible area in which rural banks could improve their correspondent banking relationships appears to be in the area of loan documentation. While most of the farm customers of banks are required to submit a financial statement (net worth) as part of their loan application, operating statements, farm budgets and cash flow schedules
were not widely required from most of the banks' farm loan customers. If rural banks were to place more emphasis upon utilizing these latter types of financial statements in analyzing farm credit applications, especially from borrowers requiring extremely large loans which might necessitate outside farm loan assistance, rural banks should be able to strengthen their requests for loan participation agreements from their correspondents. A farm specialist could be an important asset in this area. Furthermore, if banks are to maintain a role consistent with the current full-service concept of banking, it appears that banks could initiate programs to educate their farm clientele in preparing adequate financial records. This could be beneficial both from a farm customer's perspective in terms of improving his ability as a financial manager, as well as from a bank's perspective in terms of generating improved farm customer banking relationships over time. Specifically, by assisting a farm borrower in this area, a bank could help a farmer to increase his income and to increase his banking business both in the area of credit as well as in the area of related business services.

Overall, the future role of Ohio banks in the field of farm credit will depend not only upon the aggressiveness of banks in the field of farm finance, but also upon the
employment of personnel who are knowledgeable about agri-
cultural credit and its terms, and also upon the develop-
ment of better correspondent banking credit service arrange-
ments between rural and city banks. In many instances,
this will require cooperation throughout the banking system
in Ohio if banks are to maintain and/or increase their role
in financing agriculture.

Recommendations for Additional Research

Additional research is needed to determine the economic
feasibility of more Ohio banks employing specialized per-
sonnel in the field of farm finance. For example, re-
search is needed to determine the minimum bank size and
annual volume of farm lending which could economically
support the employment of an agricultural or farm special-
ist on a full and/or part-time basis.

There is a need for more complete information on the
comparative profitability of various types of bank loans
and investments versus farm non-real estate loans and farm
real estate loans. Specifically, a case study analysis of
banks heavily committed to agricultural lending would be
useful for purposes of determining to what extent farm
loans are profitable to Ohio banks in terms of their asset
management alternatives.

Additional research is needed to determine correspon-
dent bankers' perceptions of agricultural lending, as well
as their perceptions of the ability of rural banks to wisely use correspondent bank credit in lending to farmers. Associated with this issue, research is needed to clearly identify the present constraints in the correspondent banking system in Ohio and to develop alternatives which could improve existing farm credit service arrangements between rural and city banks. For example, research could be useful in determining how correspondent banks might be encouraged to take a more active interest in farm lending and thereby improve the flow of funds between urban and rural areas of the state, as well as to assist some of the smaller rural banks in retaining overline farm loans within the banking system.

Also, research is needed to determine how additional outside funds can be efficiently moved into Ohio's agricultural sector through the banking system within the scope of present and anticipated future changes in Ohio's banking structure. Concomitantly, research is needed to determine procedures by which rural banks in Ohio could effectively market farm loans on a national basis and/or tap the nation's money markets directly to obtain additional sources of farm loan funds.
APPENDIX I
Mr. Banker:

Is it true that Ohio's commercial banks are losing interest in agricultural loans? Although agriculture is the State's number one industry, many banks seem reluctant to make farm loans. What reasoning lies behind this trend? Is the trend likely to continue?

To answer these questions and many others equally important to banking and agriculture, the Department of Agricultural Economics and Rural Sociology at The Ohio State University and the Ohio Agricultural Research and Development Center are conducting a survey to study the future of agricultural lending in Ohio. The OBA strongly supports this research.

Such a long range study requires a great amount of input. To this end, we seek your frank and honest answers to questions related to agricultural credit. Your bank may or may not be agriculturally oriented or directly committed to agricultural lending. However, your answers to the questions contained in the enclosed yellow questionnaire are most important to the success of this study.

In summary, we are asking for an hour to an hour and a half of your time. If you feel that some other officer of your bank, or in one of your branches, is more familiar with agricultural matters, please feel free to ask him to complete the questionnaire. Information concerning you and your bank will be held in strict confidence.

Please return your completed questionnaire in the enclosed self-addressed envelope by January 17, 1972. These envelopes will be forwarded to the coordinator of the project, Harvey A. Meier, Department of Agricultural Economics and Rural Sociology, The Ohio State University, 2120 Fyffe Road, Columbus, Ohio 43210 - Telephone (614) 422-2641. Should you have any questions concerning this study or the questionnaire, please feel free to call or write Mr. Meier.

Very truly yours,

Robert E. Hall, President

O. E. Anderson
Executive Vice President
1. Name and address of person preparing questionnaire if different from that above:
   Name: ___________________________ Title: _______________________
   Address: ______________________________________________________
   Town: __________________ State: __________________ Zip: ____________

2. Telephone number of person preparing questionnaire:
   __________________________
   Area Code   Number

Listed below are a number of statements with which people may agree or disagree. There are no right or wrong answers. What we wish to discover is your honest opinion of each of the statements. Indicate your response to each of the questions by drawing a circle around the response you feel best expresses your feelings about the statement. These responses are listed below each statement. If you completely agree with the statement, circle SA (Strongly Agree). If you basically agree with the statement, circle A (Agree). If you don’t know or are not certain how you feel about the statement, circle U (Undecided). If you basically disagree with the statement, circle D (Disagree). If you completely disagree with the statement, circle SD (Strongly Disagree).

Please read the statements carefully, but respond to the statements rather rapidly. Please respond to the statements in the context of your bank’s experience in the farm credit field.

We appreciate your assistance in this research.

GENERAL

(Note: In the following series of statements the word agriculture is to be associated with the industry of basic food production known as farming. Agriculture and farming are therefore to be considered equivalent in meaning. The word agriculture is not to be associated with the farm supply industries (i.e., feed, seed, machinery, pharmaceuticals, etc.) or with the product processing and distribution industries which convert the raw food into the form consumers want and move it to them.)

<table>
<thead>
<tr>
<th>Statement</th>
<th>SA</th>
<th>A</th>
<th>U</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Agriculture is not an economically progressive industry.</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. During the next ten years farming opportunities will increase considerably.</td>
<td></td>
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<tr>
<td>3. Agriculture is an inefficient industry.</td>
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<tr>
<td>4. Agriculture offers good opportunities for young people today.</td>
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<tr>
<td>5. Agricultural technological advancement will not increase substantially in the future.</td>
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<tr>
<td>6. Agriculture is a vital industry for this state’s economy.</td>
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<tr>
<td>7. The future of farming as an occupation is bleak.</td>
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<td></td>
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</tr>
<tr>
<td>8. There are fewer opportunities for farmers to earn satisfactory incomes than for other occupational groups.</td>
<td></td>
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</tr>
<tr>
<td>9. Agriculture will play an important role in the future of this state’s economy.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>10. Agriculture is a dying industry.</td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

(Over)
NON-REAL ESTATE FARM CREDIT

(Note: In the following series of statements non-real estate farm loans or credit is to be associated with all loans to farmers that are not secured by real estate, including loans for household and personal expenditures. The word commitment is used to signify a willingness to supply non-real estate farm credit.)

1. I would prefer not to make non-real estate farm loans to farmers.
   SA A U D SD

2. Alternative investments are more profitable than investments in non-real estate farm loans.
   SA A U D SD

3. Competition in the non-real estate farm credit field will impede this bank’s future commitment to agriculture.
   SA A U D SD

4. Commercial banks should continue to be the leaders in extending non-real estate farm credit.
   SA A U D SD

5. Most of this bank’s management goals are not designed to fulfill non-real estate farm credit needs.
   SA A U D SD

6. Non-real estate loans made to borrowers other than farmers are more desirable than non-real estate farm loans.
   SA A U D SD

7. I believe that this bank should de-emphasize non-real estate farm credit in the future.
   SA A U D SD

8. Non-real estate farm lending is really not very profitable.
   SA A U D SD

9. Most of the management in this bank responds to the non-real estate farm credit needs of its farm customers.
   SA A U D SD

10. Opportunities for our bank to increase its return on investment in non-real estate farm loans are very limited.
    SA A U D SD

11. Our competition for non-real estate farm loans should be permitted to take over the non-real estate farm loan market.
    SA A U D SD

12. Agricultural bankers will probably decrease their non-real estate farm loan commitment in the future.
    SA A U D SD

MANAGEMENT PRACTICES

(Note: The words farm management and financial management appear in the following series of statements. Farm management is to be associated with the decisions that affect the profitability of the farm business and getting things done by the coordination of all resources through the processes of organizational and operational planning, directing and controlling of the business enterprise. Financial management is to be associated with financing the farm and operation of the business, recording business transactions, and safeguarding the financial position of the business as an on-going concern over a long period of time.)

1. Most farmers effectively delegate responsibility to their employees.
   SA A U D SD

2. Most farmers budget their resources quite well.
   SA A U D SD

3. Most farmers effectively implement farm management policies to increase productivity.
   SA A U D SD

4. Most farmers plan their operations efficiently.
   SA A U D SD

5. Few farmers satisfy their income expectations.
   SA A U D SD

6. Most farmers effectively implement financial management policies.
   SA A U D SD

7. Most farmers are effective decision-makers.
   SA A U D SD

8. Most farmers are skilled in the application of financial management tools to decision-making problems.
   SA A U D SD

9. Most of our farm customers are skillful businessmen.
   SA A U D SD

10. Most farmers are ineffective financial managers.
    SA A U D SD

11. Most farmers direct their employees effectively.
    SA A U D SD

12. Most farmers manage their farms efficiently.
    SA A U D SD

13. Most farmers use up-to-date farming practices.
    SA A U D SD

14. Most farmers efficiently allocate enough of their decision-making time to farm management.
    SA A U D SD

15. Most farmers are not competent managers.
    SA A U D SD

BANKING BUSINESS SERVICES

(Note: In the following series of statements, the term business services is to be associated with electronic and farm record keeping services, estate planning and trust services, farm management consulting services, specialized tax management services, and agricultural loan specialist services, etc.)

1. Most farmers are not able to obtain all of the business services they should be receiving from our bank.
   SA A U D SD
2. Our farm clientele is being serviced adequately through our business services.
   SA A U D SD
3. Our banking business services are not meeting the needs of our farm customers.
   SA A U D SD
4. I feel fairly well satisfied with the business services we offer our farm customers.
   SA A U D SD
5. Our existing banking business services do not greatly increase the farmer's effectiveness as a decision maker.
   SA A U D SD
6. Most farmers have to go outside the banking system to obtain the business services they require.
   SA A U D SD
7. The business services of this bank basically satisfy the needs of our farm customers.
   SA A U D SD
8. Most farmers have to do without many banking business services.
   SA A U D SD
9. The banking business services offered to farmers are very insufficient.
   SA A U D SD

CORRESPONDENT BANKING RELATIONSHIPS
(Note: In the following series of statements the words credit service(s) and service(s) are to be associated with participations, loans discounted, and direct loans to your bank or to your customers by correspondent banks, etc.)

1. The effectiveness of most agricultural banks in servicing farmers is not enhanced through the existing correspondent banking system.
   SA A U D SD
2. Most correspondent bankers understand agricultural bankers' needs for lending assistance.
   SA A U D SD
3. Most agricultural banks have limited access to correspondent banking credit services.
   SA A U D SD
4. Correspondent banks show only a nominal interest in assisting agricultural banks in meeting their farm loan demand.
   SA A U D SD
5. Most correspondent bankers understand the credit service needs of agricultural banks.
   SA A U D SD
6. The correspondent banking system is not satisfactorily meeting the credit service demand of agricultural banks.
   SA A U D SD
7. The correspondent banking system is ineffective in providing financial service to agricultural banks.
   SA A U D SD
8. The existing correspondent banking system does not adequately assist agricultural banks in supplying loanable funds to farmers.
   SA A U D SD
9. The correspondent banking system adequately serves agricultural banks in areas where deposits are in short supply.
   SA A U D SD
10. Most agricultural banks are unable to obtain the credit services they need from their correspondent banks.
    SA A U D SD

AGRICULTURAL LENDING RISKS
(Note: The word risk(s) appears frequently in the following series of statements and is to be associated with the risk(s) assumed by your bank in making loans to farmers.)

1. Most of our farm clientele make a sincere effort to meet financial obligations as scheduled.
   SA A U D SD
2. Most of our farm customers tend to take too many financial chances.
   SA A U D SD
3. Most farmers are able to recover from an unexpected drop in income.
   SA A U D SD
4. Farm real estate loans are high risk investments.
   SA A U D SD
5. The unstable economic situation of farming makes farmers poor risks.
   SA A U D SD
6. The risks assumed in most farm loans are basically equivalent to the risks assumed in other types of loans.
   SA A U D SD
7. The risks in farm credit are higher than in non-farm credit.
   SA A U D SD
8. Most farmers follow ethical business practices.
   SA A U D SD
9. Alternative investments are better risks than investments in farm loans.
   SA A U D SD
10. The risks assumed in farm credit are too high to justify lending to farmers in the future.
    SA A U D SD
11. The debt servicing ability of most of our farm borrowers is comparable to other people in this community.
    SA A U D SD
12. The risks involved in farm credit require that our bank maintain a highly liquid position.
    SA A U D SD
13. Non-real estate farm loans are high risk investments.
    SA A U D SD

(Over)
FARM REAL ESTATE CREDIT

(Note: In the following series of statements farm real estate loans or credit are to be associated with all loans to farmers secured by farm land (including farm residential and other improvements). The word commitment is used to signify a willingness to supply farm real estate credit.)

1. I would prefer not to make farm real estate loans to farmers.
   SA A U D SD

2. Alternative investments are more profitable than investments in farm real estate loans.
   SA A U D SD

3. Competition in the farm real estate credit field will impede this bank's future commitment to agriculture.
   SA A U D SD

4. Most of this bank's management goals are not designed to fulfill farm real estate credit needs.
   SA A U D SD

5. Non-farm real estate loans made to borrowers other than farmers are more desirable than farm real estate loans.
   SA A U D SD

6. I believe that this bank should de-emphasize farm real estate credit in the future.
   SA A U D SD

7. Farm real estate lending is really not very profitable.
   SA A U D SD

8. Most of the management in this bank responds to the farm real estate credit needs of its farm customers.
   SA A U D SD

9. Opportunities for our bank to increase its return on investment in farm real estate loans are very limited.
   SA A U D SD

10. Our competition for farm real estate loans should be permitted to take over the farm real estate loan market.
    SA A U D SD

11. Agricultural bankers will probably decrease their farm real estate loan commitment in the future.
    SA A U D SD

Some of the following series of questions may not apply to your bank. In these instances, we ask that you move to another question in order to complete the questionnaire as quickly as possible. Where appropriate, we have indicated the specific question to which you should proceed.

1. NOTE: IF YOUR BANK OPERATES BRANCHES, PLEASE REPORT INFORMATION FOR YOUR ENTIRE BRANCH SYSTEM.

INSTRUCTIONS: Please indicate the information called for as of the December 1970 Call Date. If your answer for any item is NONE, please write the figure "0" in the appropriate answer space.

<table>
<thead>
<tr>
<th>Card 3</th>
<th>Billions</th>
<th>Millions</th>
<th>Thousands</th>
<th>Hundreds</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL DEPOSITS: ............................... 1-8</td>
<td>$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Total demand ............................ 9-16</td>
<td>$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Total time and savings ...................... 13-24</td>
<td>$</td>
<td></td>
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<td></td>
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<tr>
<td>TOTAL ASSETS ................................. 23-32</td>
<td>$</td>
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<tr>
<td>TOTAL LOANS AND DISCOUNTS (GROSS) .............. 33-40</td>
<td>$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL REAL ESTATE LOANS ....................... 41-48</td>
<td>$</td>
<td></td>
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<tr>
<td>TOTAL NON-REAL ESTATE LOANS .................. 49-5*</td>
<td>$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL CAPITAL AND SURPLUS ACCOUNTS ............. 57-64</td>
<td>$</td>
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</tr>
</tbody>
</table>

FARM LOANS AND DISCOUNTS:

A. Real estate loans secured by farmland (including farm residential and other improvements) ............................... 1-8 | $ |
B. Other loans to farmers (secured and unsecured except loans secured by real estate, include loans for household and personal expenditures) ......................................................... 9-16 | $ |
C. Loans to farmers directly guaranteed by the Commodity Credit Corporation (CCC) ......................................................... 17-24 | $ |
TOTAL FARM LOANS AND DISCOUNTS (Add items A, B, and C) ......................... 23-32 | $ |
2. Please indicate the classification(s) of your bank. (Check one only)

- National
- State
- FED Member
- FED Non-Member

3. Does your bank operate branches? (Check one only)

- YES
- NO

If "yes," how many branches?

4. a. During the past ten years has your bank been involved in a merger?

- YES
- NO

If "yes," please describe:

b. During the past ten years has your bank been involved in a holding company acquisition?

- YES
- NO

If "yes," please describe:

5. a. What is your bank's loan-to-deposit ratio: (whole %)

- On an average annual basis?
- At its seasonal high?
- At its seasonal low?

b. In the next 1-5 years do you think your bank's current average annual loan-to-deposit ratio will:

- Increase
- Decrease
- Experience little or no change
- Don't know

6. What is the most common rate of interest your bank is currently paying on?

- Regular savings deposits
- Other time deposits

7. a. Please indicate which of the following statements comes closest to describing the overall trend of farm credit in your bank in the past five years: (Check one only)

- Substantial increase in volume
- Some increase in volume
- Little or no change in volume
- Some decline in volume
- Substantial decline in volume

b. IF VOLUME WAS DOWN in the past five years, please number the reason or reasons why you think this is true in order of importance (1, 2, 3,... No. 1 being the most important).

RANK

- Increase in competition from Production Credit Associations and Federal Land Bank Associations
- Increase in competition from other lending agencies
- More profit on other types of loans
- Lack of resources to service farm credit needs
- Farmers using less credit in area

8. a. The following question relates to the overall financial situation of your farm borrowers. Please estimate the percentage of your farm borrowers who, during the past 12 months

Percent of Total

Farm Borrowers (whole %)

1. Were able to meet their debt payments (to you and other lenders) fairly easily

2. Were able to meet their debt payments (to you and others) but only with considerable difficulty

3. Were unable to meet their debt payments (to you or others) but did not terminate their present farming operations due to financial difficulties

4. Were unable to meet their debt payments (to you or other lenders) and had to terminate their present farming operations due to financial difficulties

Total

(Over)
b. What are some of the most important reasons explaining why some of your farm borrowers were able to meet their debt payments to you only with considerable difficulty or not at all during the past 12 months? (If none of your farm borrowers experienced difficulty, go to 8c).

c. During the past five years has the average net worth position (i.e., debt-to-equity ratio, etc.) of your bank's farm customers: (Check one only)

- Improved substantially
- Improved slightly
- Remained about the same
- Deteriorated slightly
- Deteriorated substantially

9. Five types of loans are listed below. Please indicate the order of emphasis you think your bank is now giving to each of these various kinds of loans (1, 2, 3, ... No. 1 being emphasized the most). Rank All Five Loans.

RANK
1. Residential Mortgages
2. Farm Real Estate Loans
3. Consumer Installment Credit
4. Non-Real Estate Farm Loans
5. Commercial and Industrial Loans

10. Five types of loans are listed below. Please indicate the order of emphasis you think your bank plans to give to each of these various kinds of loans in the next 1-5 years (1, 2, 3, ... No. 1 being given the most emphasis). Rank All Five Loans.

RANK
1. Residential Mortgages
2. Farm Real Estate Loans
3. Consumer Installment Credit
4. Non-Real Estate Farm Loans
5. Commercial and Industrial Loans

11. a. In the next 1-5 years do you think your bank intends to: (Check one only)

- Increase its non-real estate farm loan volume.
- Decrease its non-real estate farm loan volume.
- Implement little or no change in its non-real estate farm loan volume.
- Don't know.

b. In the next 1-5 years do you think your bank intends to: (Check one only)

- Increase its farm real estate loan volume.
- Decrease its farm real estate loan volume.
- Implement little or no change in its farm real estate loan volume.
- Don't know.

c. In the next 1-5 years do you think your bank intends to: (Check one only)

- Increase the total volume of farm loans.
- Decrease the total volume of farm loans.
- Implement little or no change in the total volume of farm loans.
- Don't know.

12. Please estimate the proportion of your bank's outstanding non-real estate farm loans during the past 12 months which were made directly to farmers and those which were made indirectly to farmers through machinery dealers, feed and fertilizer dealers, etc. (An indirect loan implies for example, a situation where a dealer originates a loan to a farmer for the purchase of a tractor and then the dealer offers to sell the contract to your bank with the normal discount and recourse agreements.) (If your bank does not make one type of loan, indicate 0%).

(whole %)

Direct __________ %
Indirect __________ %
Total 100%

13. a. Does your bank have a person on its staff who specializes in working with the farming community on bank matters? (Sometimes called an agricultural or farm specialist) (Check one only)

- YES—Then answer question 13b
- NO—Then proceed to question 14
b. Does your bank's agricultural or farm specialist spend: (Check one only)
   - □ Full-time on agriculture
   - □ Part-time on agriculture—Approximate percent of time spent on agriculture __________% 36-37

Continue to question 15

14. a. Does your bank intend to employ a full- or part-time agricultural specialist within the next 1-5 years? (Check one only)
   - □ YES -2 □ NO -3 □ DON'T KNOW
b. Which officer currently handles loans of an agricultural nature in your bank? (Executive vice president, assistant trust officer, etc.) ____________________________ Title

c. What are some of the major reasons for not employing an agricultural or farm specialist?

Continue to question 15

15. Please estimate the percentage of your farm loan customers who are required to submit the following statements regularly? (Annually or more frequently)

<table>
<thead>
<tr>
<th>Type of Statement</th>
<th>Percent of all Farm Loan Customers (whole %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Financial Statement (Net Worth)</td>
<td>% 04-42</td>
</tr>
<tr>
<td>2. Operating Statement</td>
<td>% 05-45</td>
</tr>
<tr>
<td>3. Farm Budgets</td>
<td>% 06-48</td>
</tr>
<tr>
<td>4. Cash Flow Schedules</td>
<td>% 07-41</td>
</tr>
</tbody>
</table>

16. Does your bank now offer one or more Computer Customer Services to farmers or agriculturally related businesses? (Check one only)
   - □ YES—Then answer questions 16a and 16b
   - □ NO—Then proceed to question 17

a. In Column A please check which of the following service(s) are now made available by your bank to its farm clientele. In Column B please check the service(s) you think your bank intends to make available within the next 1-5 years.

<table>
<thead>
<tr>
<th>A Now Available</th>
<th>B Probably Will Be Made Available In Next 1-5 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Farm Record Keeping—Please indicate trade name, if any ____________________________</td>
<td>55-1 □ 57-1 □</td>
</tr>
<tr>
<td>2. Computer Service used by agribusiness firms, not farms, including payroll, accounts receivable, inventory control, etc.</td>
<td>56-1 □ 58-1 □</td>
</tr>
<tr>
<td>3. Other (Specify) ____________________________</td>
<td>55-1 □ 57-1 □</td>
</tr>
<tr>
<td>4. Other (Specify) ____________________________</td>
<td>56-1 □ 58-1 □</td>
</tr>
</tbody>
</table>

b. Based upon current demand, what proportion of your bank's farm customers do you think would be interested in a Computer Customer Service(s) on a fee basis?
   ___________% 64-1 □ Don't know

Continue to question 18

17. a. Do you think your bank intends to make Computer Customer Service(s) available to farmers or agriculturally related businesses within the next 1-5 years? (Check one only)
   - □ YES—Then answer question 17b
   - □ NO—Then proceed to question 18
   - □ DON'T KNOW—Then proceed to question 18

(Over)
b. Please list the type of Computer Customer Service(s) you think your bank intends to make available to farmers or agriculturally related businesses in the next 1-5 years: ____________________________

Continue to question 18

18. Does your bank now offer one or more Special Business Services (i.e., estate planning, trust, farm management consultation, etc.) to farmers? (Check one only)

- YES—Then answer questions 18a and 18b
- NO—Then proceed to question 19

a. In Column A please check which of the following service(s) are now made available by your bank to its farm clientele. In Column B please check the service(s) you think your bank intends to make available within the next 1-5 years.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Estate Planning Service</td>
<td>2.1</td>
</tr>
<tr>
<td>2. Trust Department Service</td>
<td>3.4</td>
</tr>
<tr>
<td>3. Farm Management—Consulting Service</td>
<td>4.1</td>
</tr>
<tr>
<td>4. Taxes (Filing, etc.)</td>
<td>5.1</td>
</tr>
<tr>
<td>5. Other (Specify)</td>
<td>6.1</td>
</tr>
<tr>
<td>6. Other (Specify)</td>
<td>7.f</td>
</tr>
</tbody>
</table>

b. Based upon the current demand, what proportion of your bank's farm customers do you think would be interested in a Special Business Service(s) on a fee basis? ________% \(^{17-18}\) 17-18

Continue to question 20

19. a. Do you think your bank intends to make Special Business Services available to farmers in the next 1-5 years? (Check one only)

- YES—Then answer question 19b
- NO—Then proceed to question 20
- DON'T KNOW—Then proceed to question 20

b. Please list the type of Special Business Service(s) you think your bank intends to make available to farmers in the next 1-5 years:

Continue to question 20

20. Estimate the approximate radius of the area from which about 75% of your bank's total direct farm loan business is obtained. __________ miles

19-21

21. Approximately how many other lending institutions are located within the radius indicated in question 20?

<table>
<thead>
<tr>
<th>Number of Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Banks</td>
</tr>
<tr>
<td>Savings and Loan Associations</td>
</tr>
<tr>
<td>Production Credit Associations (Main offices and branches)</td>
</tr>
<tr>
<td>Federal Land Bank Associations</td>
</tr>
</tbody>
</table>

22. a. Indicate in the following table: (a) the name and location of each correspondent bank with whom your bank maintains demand balances; (b) the number of years a relationship has existed with each bank; and (c) the average amount of demand balances your bank held at each correspondent in 1971.

(See table next page)
<table>
<thead>
<tr>
<th>Name of each correspondent</th>
<th>Location</th>
<th>Total Years Has Existed</th>
<th>Approximate Average Balances Held in 1971</th>
</tr>
</thead>
<tbody>
<tr>
<td>(List in order of importance and check (V) those that you consider to be primary correspondents)</td>
<td>City</td>
<td>State</td>
<td>$</td>
</tr>
<tr>
<td>Bank:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b. How does the average amount of demand deposits your bank held at all correspondents in 1971 compare with the average annual amount you held during 1970 and 1969? (Check one only)

- □ Higher in 1971?
- □ Lower in 1971?
- □ About the same as in 1969-70?
- □ Don't know.

23. a. During the past year, has your bank experienced difficulty in obtaining funds from your own resources for meeting the financial requirements of your regular farm customers? (Check one only)

- □ YES—Then answer question 23b.
- □ NO—Then proceed to question 24

b. Was the difficulty you experienced during the past year... (Less than ___)  □ (About the same ___)  □ (Greater than ___)  □ (Don't know ___)  □ the difficulty you experienced in other years? (Check one only)

Continue to question 24

24. a. For credit services from correspondents for farm loan purposes in your bank (i.e., participations, discount loans, direct loans, etc.) how does the volume you acquired in 1971 compare with the average annual volume you acquired in 1970 and 1969? (Check one only)

- □ Higher in 1971?
- □ Lower in 1971?
- □ About the same as in 1969-1970?
- □ Don't know

b. Of the additional funds you requested from your correspondents during 1970 and 1971, what percent did you obtain? (Check one only)

1. 100% □  □
2. 75-99% □  □
3. 50-74% □  □
4. Less than 50% □  □

c. If unable to obtain all of the funds that you requested from your correspondents, what were the major reasons? (Please explain)

d. Any additional comments pertaining to your correspondent relationships and/or credit services you utilize would be greatly appreciated.

Continue to question 25
25. Please give the approximate number and the approximate amount of outstanding farm loans in which your bank participated with other banks as follows: (Where the answer is None, fill in "0")

a. Participation loans originated by your bank:

<table>
<thead>
<tr>
<th>Year</th>
<th>1970</th>
<th>1971</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of loans</td>
<td>1-4</td>
<td>5-36</td>
</tr>
<tr>
<td>Total dollar amount now outstanding, including correspondent participations</td>
<td>$3-12</td>
<td>$3-14</td>
</tr>
<tr>
<td>Dollar amount held by your bank</td>
<td>$15-20</td>
<td>$15-45</td>
</tr>
</tbody>
</table>

b. Participation loans originated by other banks:

<table>
<thead>
<tr>
<th>Year</th>
<th>1970</th>
<th>1971</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of loans</td>
<td>21-24</td>
<td>33-36</td>
</tr>
<tr>
<td>Dollar amount held by your bank</td>
<td>$25-32</td>
<td>$57-64</td>
</tr>
</tbody>
</table>

Continue to question 26

26. a. Estimate the percent of total outside funds (for farm loan purposes) that were obtained from each of the following sources during the past year: (Include participation loans). (If "None," for all sources, enter "0" and proceed to question 27.)

<table>
<thead>
<tr>
<th>Source</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correspondent banks</td>
<td>1-3</td>
</tr>
<tr>
<td>Insurance companies</td>
<td>4-6</td>
</tr>
<tr>
<td>Agricultural credit corporations</td>
<td>7-9</td>
</tr>
<tr>
<td>Other</td>
<td>10-12</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

b. Was the dollar volume of outside funds obtained (from all of the sources listed in question 26a) for financing your bank's farm customers during the past year...

(Less than _) 10-1 (About the same _) 2 (Greater than _) 3 (Don't know _) 4 in other recent years? (Check one only)

Continue to question 27

27. a. Did your bank have any loan applications from acceptable farm borrowers in 1970 and 1971 that exceeded your legal loan limit? (Check one only)

- YES—Then answer questions 27b and 27c
- NO—Then proceed to question 28

20-1 2 YES—Then answer questions 27b and 27c

b. Estimate the number and dollar amount of loan applications from acceptable farm borrowers that your bank was unable to grant from its own resources in 1970 and 1971 because the loan request exceeded your bank's legal loan limit to an individual.

<table>
<thead>
<tr>
<th>Year</th>
<th>1970</th>
<th>1971</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approximate number of farm loans</td>
<td>21-24</td>
<td>33-36</td>
</tr>
<tr>
<td>Approximate dollar amount</td>
<td>$25-32</td>
<td>$57-64</td>
</tr>
</tbody>
</table>
27. c. How were these farm loan applications that exceeded your legal loan limit handled?

**Farm Loans Originating Through Your Bank**

<table>
<thead>
<tr>
<th>Card 9</th>
<th>Card 10</th>
<th>Card 11</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Number Of Applications</td>
<td>Total Dollar Amount</td>
</tr>
<tr>
<td>1. Entire farm loan referred to correspondent bank</td>
<td>1-4</td>
<td>21-24</td>
</tr>
<tr>
<td>2. Farm loan handled on participation basis with correspondent bank</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Farm loan funds obtained from other local banks in your area. (Exclude correspondents).</td>
<td>9-12</td>
<td>25-28</td>
</tr>
<tr>
<td>4. Farm loans lost to other lenders or never granted</td>
<td>15-16</td>
<td>35-56</td>
</tr>
<tr>
<td><strong>TOTAL</strong> (Add 1,2,3, and 4)</td>
<td>17-20</td>
<td>37-40</td>
</tr>
</tbody>
</table>

*(NOTE: The total number of applications for each year of the 4 categories given in question 27c should equal the total number of applications for each year in question 27b above. Likewise, the total of the dollar amount in question 27c should equal the total dollar amount in question 27b above for each year.)*

*Continue to question 28*

28. The following information would help us to assess the statistical reliability of estimates based on the sample survey. Please answer only if the data are readily available, or if you can make a close estimate.

1. Number of farm loans held on December 31, 1970 ............. 49-56

2. Number of farm borrowers as of December 31, 1970 ............. 57-64

29. Do you think that the 10% legal restriction (measured by the amount of capital and surplus a State or National bank can loan to an individual borrower) should be changed? Why or why not?
30. What will be the future of farm lending within the next 1-5 years?

REMARKS

PLEASE RETURN THIS QUESTIONNAIRE IN THE ENCLOSED ENVELOPE
THANK YOU
WE APPRECIATE YOUR COOPERATION
APPENDIX II
### TABLE 33

**THE FUTURE ECONOMIC VIABILITY OF THE AGRICULTURAL INDUSTRY SCALE**

Internal Consistency Item Analysis for the Future Economic Viability of the Agricultural Industry

<table>
<thead>
<tr>
<th>Item</th>
<th>LO MEAN</th>
<th>HI MEAN</th>
<th>TOT MEAN</th>
<th>LO STDV</th>
<th>HI STDV</th>
<th>TOT STDV&lt;sup&gt;a&lt;/sup&gt;</th>
<th>LO ND</th>
<th>HI ND</th>
<th>TOT ND</th>
<th>SVD&lt;sup&gt;b&lt;/sup&gt;</th>
<th>C.R.&lt;sup&gt;c&lt;/sup&gt;</th>
<th>MPSVD&lt;sup&gt;d&lt;/sup&gt;</th>
<th>SVDR&lt;sup&gt;e&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.08</td>
<td>4.18</td>
<td>3.63</td>
<td>1.03</td>
<td>.71</td>
<td>1.04</td>
<td>1.10</td>
<td>9.54</td>
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<tr>
<td>2</td>
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<td>.98</td>
<td>1.07</td>
<td>.90</td>
<td>7.16</td>
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<td>3.07</td>
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<td>3.56</td>
<td>1.10</td>
<td>.85</td>
<td>1.10</td>
<td>.99</td>
<td>7.73</td>
<td>1.52</td>
<td>.651</td>
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<tr>
<td>4</td>
<td>2.24</td>
<td>3.66</td>
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<td>.80</td>
<td>.83</td>
<td>1.08</td>
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<td>5</td>
<td>3.82</td>
<td>4.37</td>
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<td>.50</td>
<td>.71</td>
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<td>6.48</td>
<td>.86</td>
<td>.640</td>
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<td>6</td>
<td>4.22</td>
<td>4.75</td>
<td>4.48</td>
<td>.62</td>
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<td>.60</td>
<td>.53</td>
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<tr>
<td>7</td>
<td>2.77</td>
<td>4.03</td>
<td>3.40</td>
<td>.92</td>
<td>.71</td>
<td>1.04</td>
<td>1.26</td>
<td>11.75</td>
<td>1.62</td>
<td>.778</td>
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<td>10</td>
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<td>10.63</td>
<td>1.01</td>
<td>.822</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RSLIP&lt;sup&gt;f&lt;/sup&gt;</th>
<th>RCOOR&lt;sup&gt;g&lt;/sup&gt;</th>
<th>CD COUNT</th>
<th>N&lt;sup&gt;h&lt;/sup&gt;</th>
<th>ND</th>
</tr>
</thead>
<tbody>
<tr>
<td>.6180</td>
<td>.7639</td>
<td>236</td>
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</tbody>
</table>
Footnotes - Table 33

aStandard deviation.
bScale value difference.
cCritical ratio.
dMaximum possible scale value difference.
eScale value difference ratio.
fSplit-half correlation.
gCorrected split-half correlation.
hSample size.
TABLE 34
THE FUTURE ECONOMIC VIABILITY OF THE AGRICULTURAL INDUSTRY SCALE

Internal Consistency Item Analysis for the Future Economic Viability of the Agricultural Industry

<table>
<thead>
<tr>
<th>Item</th>
<th>LO MEAN</th>
<th>HI MEAN</th>
<th>TOT MEAN</th>
<th>LO STDV</th>
<th>HI STDV</th>
<th>TOT STDV</th>
<th>LO ND</th>
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<th>C.R.</th>
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</table>

269
TABLE 35
THE FUTURE EXTENSION OF FARM NON-REAL ESTATE CREDIT SCALE

Internal Consistency Item Analysis for the Future Extension of Farm Non-Real Estate Credit

<table>
<thead>
<tr>
<th>ITEM</th>
<th>LO MEAN</th>
<th>HI MEAN</th>
<th>TOT MEAN</th>
<th>LO STVD</th>
<th>HI STVD</th>
<th>TOT STVD</th>
<th>LO ND</th>
<th>HI ND</th>
<th>TOT ND</th>
<th>SVD</th>
<th>C.R.</th>
<th>MPSVD</th>
<th>SVDR</th>
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<td>.71</td>
<td>.67</td>
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<td>.69</td>
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<tr>
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**THE MANAGEMENT EFFECTIVENESS OF FARMERS SCALE**

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**THE ADEQUACY OF BANKING FARM BUSINESS SERVICES SCALE**

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**THE FUTURE EXTENSION OF FARM REAL ESTATE CREDIT SCALE**

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BIBLIOGRAPHY

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