Farmer use of merchant credit in the Mid-Yellowstone Valley area of Montana
by Theodore W Witzel

A THESIS Submitted to the Graduate Faculty in partial fulfillment of the requirements for the degree of Master of Science in Agricultural Economics
Montana State University
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Abstract:
The objectives of this thesis were (1) to determine the amount of merchant credit being used by farmers compared to the other types of non-real estate credit being used; (2) to determine the cost and factors affecting the use of merchant credit, and (3) to determine the importance and degree of farmer dependence on merchant credit.

The data were collected by personal interview with 144 farmers in Yellowstone, Treasure, and Custer counties of Montana. Much of the data gathered is presented in descriptive form which summarizes the use of merchant credit by farmers, the credit policies of the merchants, and some of the aspects of understanding between the merchants and the farmers.

Five factors which were thought to influence farmer use of merchant credit were analyzed by a multiple regression technique. These factors were (1) age of the farm operator, (2) years of farming experience of the farm operator, (3) total revenue of the farm operator, (4) total real estate debt of the farm operator, and (5) net worth of the farm operator. The first two items were not significant, and items 3 through 5 accounted for 31.1 per cent of the variation in the amount of merchant credit used by farmers. Two factors which could not be measured numerically, tenure of the farm operator and type of farming enterprise, were submitted to an analysis of variance. Neither factor was statistically significant at the .05 confidence level.

Several implications can be drawn from the data regarding merchant credit use by farmers. Approximately 20.6 per cent of the operating capital used by farmers is obtained through merchant credit. The cost of this credit is generally higher cost than credit from other sources even though some credit arrangements through merchants cost the farmer practically nothing. Credit used from a combination of credit sources may result in lower credit costs to the farmer than is available from any single credit source. Farmers are more aware of credit costs and policies of commercial lenders than of merchants. The primary concern of the farmer, however, seems to be to obtain the credit with the cost of the credit being of secondary concern.

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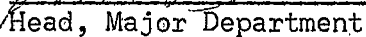
APPROVED:



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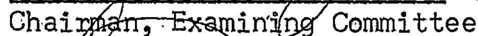

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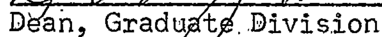

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ABSTRACT

The objectives of this thesis were: (1) to determine the amount of merchant credit being used by farmers compared to the other types of non-real estate credit being used; (2) to determine the cost and factors affecting the use of merchant credit, and (3) to determine the importance and degree of farmer dependence on merchant credit.

The data were collected by personal interview with 144 farmers in Yellowstone, Treasure, and Custer counties of Montana. Much of the data gathered is presented in descriptive form which summarizes the use of merchant credit by farmers, the credit policies of the merchants, and some of the aspects of understanding between the merchants and the farmers.

Five factors which were thought to influence farmer use of merchant credit were analyzed by a multiple regression technique. These factors were (1) age of the farm operator, (2) years of farming experience of the farm operator, (3) total revenue of the farm operator, (4) total real estate debt of the farm operator, and (5) net worth of the farm operator. The first two items were not significant, and items 3 through 5 accounted for 31.1 per cent of the variation in the amount of merchant credit used by farmers. Two factors which could not be measured numerically, tenure of the farm operator and type of farming enterprise, were submitted to an analysis of variance. Neither factor was statistically significant at the .05 confidence level.

Several implications can be drawn from the data regarding merchant credit use by farmers. Approximately 20.6 per cent of the operating capital used by farmers is obtained through merchant credit. The cost of this credit is generally higher cost than credit from other sources even though some credit arrangements through merchants cost the farmer practically nothing. Credit used from a combination of credit sources may result in lower credit costs to the farmer than is available from any single credit source. Farmers are more aware of credit costs and policies of commercial lenders than of merchants. The primary concern of the farmer, however, seems to be to obtain the credit with the cost of the credit being of secondary concern.

CHAPTER I

INTRODUCTION

The Problem Situation

The net income realized by farmers as in other production processes is determined by the combination of their input resources which can be identified broadly as land, labor, capital, and management. In combining these factors of production, the net income of a farmer will be limited by that factor which is depleted first. The highest level of income can be achieved when there is optimum resource use--that is, where all factors of production are utilized to the point where no net economic gain will accrue from additional applications of these factors.

The rapid development of technology in agriculture has increased the need for some factors of production relative to others. One of these is the need for capital in the farm business. Advanced technology has made it possible for a farmer to handle more acres of land. As a result new capital, both long term and short term, is needed to provide for obtaining more acres of land and more machinery and supplies for the new types of operations being performed.

The capital outlays for equipment and operating expenses are now demanding much more attention as the non-real estate assets rise in proportion to real estate assets. The non-real estate debt of the United States farmers was estimated to be equal to the real estate debt as of

January 1, 1960.[1] This may be the result of both technological change and changes in lending and borrowing habits. Of the total non-real estate debt, approximately 69 per cent was carried by commercial institutions specializing in short term credit while non-commercial lenders, merchants, dealers, and others supplied the balance.[2]

Historically, the credit supplied by merchants has been high cost credit. In a 1926 study in North Carolina it was found that tenants paid up to 54.1 per cent interest from merchant credit. At the same time, credit could have been obtained from a commercial lending institution at 10.2 per cent interest for the same risk situation.[3] A Texas study in 1925 indicated that farmers using merchant credit were charged a flat rate averaging 10.23 per cent. This amounted to an annual charge of 19.37 per cent.[4] These high credit charges were made during a period when a smaller amount of operating capital was needed to balance out the other factors of production than is currently necessary.

A 1957 study from Indiana points up the fact that merchant credit is an important present day source of production credit for Indiana farmers.

1/ United States Department of Agriculture, 1960 Agricultural Finance Outlook, Washington, D. C., Agricultural Research Service, November, 1957, p. 5.

2/ United States Department of Agriculture, The Balance Sheet of Agriculture 1959, Agricultural Research Service, Bulletin No. 214, p. 9.

3/ D. L. Wickens, and G. W. Forster, Farm Credit in North Carolina, Its Risks, Cost, and Management, North Carolina Experiment Station, Bulletin No. 270, April, 1930, Figure 12, Greensboro, N.C., p. 68.

4/ V. P. Lee, Short Term Farm Credit in Texas, Division of Farm and Ranch Economics, Texas Agricultural Experiment Station, Bulletin No. 351, March, 1927, pp. 13-21, College Station, Texas, p. 18.

This study indicated that 38 per cent of the production credit used by farmers was held by the merchant and with 20 per cent being held over 30 days.1/

Even though merchant credit has been looked upon traditionally as high cost credit it is still widely used in many instances. It may seem strange for a farmer who is trying to do an efficient job of production to pay exceedingly high prices for the use of capital resources. There are several reasons why farmers use merchants and dealers as credit sources. Some of them are convenience, smaller and more frequently available increments of credit, less red tape involved in opening a credit source, more liberal repayment terms, insufficient knowledge concerning the real annual interest charge being borne, and the inability to acquire credit elsewhere.2/

The historically high cost of merchant credit is absorbed by the merchant in many cases. Merchants usually prefer to sell for cash but give credit to prevent a loss of business to competitors who give credit.3/ Some of the reasons for the high cost of this credit are that merchants do not receive special rates on borrowed money, they forego the use of their own capital, there are expenses of administering credit, debt losses are

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1/ E. E. Carson, Farmer Use of Merchant Credit in Indiana, Department of Agricultural Economics, Purdue University, Agricultural Experiment Station, February, 1957, p. 3.

2/ Robert P. Story, Costs of Rural Merchant Credit in Vermont, Vermont Agricultural Experiment Station, Bulletin No. 555, December, 1949, p. 28.

3/ Ibid.

higher than for other lenders, accounting methods are inefficient, and small volumes of credit business raise credit costs.[1/]

The Research Problem

The large strides in technological development have put short-term operating capital in a very vital position. One question is whether or not the commercial lenders are keeping apace with the needs for this type of credit. The farmer, in his quest for increasing operating funds, may be turning to merchants for credit. If merchant credit is high cost, as has been the case historically, the farmer may benefit from a revised credit program. This study is concerned with the costs of merchant credit and to what extent it is being used by farmers as a part of their operating funds.

This study will try to determine the amount of production credit supplied by these non-commercial sources in the study area and how much the farmers rely on merchants for production credit. The factors affecting the use of merchant credit will also be a part of this study. These factors will be concerned with the farmers' background and financial situation. Other factors include the costs of merchant credit in comparison to commercial credit costs.

Merchant credit, as it will be used in this study, refers to purchases which are made from a merchant or dealer where no cash passes from the purchaser to the merchant at the time of the transaction. This credit could be in the form of an open account, an unsecured note, or a contract secured by the purchased goods. If the note or contract is later sold to

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1/ Ibid.

a commercial lending institution by the dealer, it is still considered merchant credit. This differs from the conventional definition in that it contains contracts sold to and held by commercial lending institutions. These are included in the definition used here because of the difference in cost caused by the merchant handling costs as compared to dealing directly with a lending institution.

Review of Literature

Historical Background of Merchant Credit Use

It is interesting to look back and find out how many people in rural areas have used merchant credit and what their particular situation is. A North Carolina study showed that 80 per cent of the 139 farmers sampled in 1926 used short term credit either in the form of merchandise, cash, or both.[1/] Table I below shows the manner in which this short term credit was used.

TABLE I. PURPOSE OF SHORT TERM CREDIT OBTAINED BY NORTH CAROLINA FARMERS IN 1926 BY TENURE OF FARM OPERATOR SHOWING PERCENTAGE OF TOTAL.*

Tenure	Purpose of Short Term Credit				Total Percentage
	Fertilizer	Farming Expense	Living Expense	Unclassified	
All Farmers	47	33	13	7	100
Owners	50	34	7	9	100
Tenants	37	32	30	1	100

* Source: D. L. Wicken, and G. W. Forster, Farm Credit in North Carolina, Its Cost, Risk, and Management, North Carolina Agricultural Experiment Station, Bulletin No. 270, April, 1930.

1/ Wicken and Forster, op. cit., p. 5.

The amount of credit used by these farmers averaged $416 for tenants and $770 for owners who had bigger operations than tenants, while there were 74 per cent of the owners and 93 per cent of the tenants using short term credit.[1]

A Texas study which was published in 1927 pointed out that in 1925 there were 52 per cent of the farmers sampled who were using merchant credit.[2] Table II below shows how extensive credit use was in relation to retail sales of stores giving credit.

TABLE II. RATIO OF FARMER CREDIT ACCOUNTS IN 1924 TO TOTAL SALES IN 1924 BY KIND OF STORE.*

Kind of Store	Number of Stores	Average Sales Per Store	Total Credit to Farmers Per Store	Per cent of 1924 Sales
General Merchandise	57	$100,069	$18,641	18.6
Hardware	49	85,687	16,234	18.9
Groceries	42	77,327	7,238	9.4
Dry Goods	37	91,662	6,294	6.9
Furniture	19	135,632	3,914	2.9
Hardware and Furniture	16	87,966	35,667	40.5
Hardware and Groceries	6	90,641	37,000	40.8
Unclassified	53	153,256	18,921	12.3

* Source: V. P. Lee, Short Term Farm Credit in Texas, Division of Farm and Ranch Economics, Texas Agricultural Experiment Station, Agriculture and Mechanical College of Texas, March, 1927, p. 15.

The table above indicates that, with the exception of hardware stores, the combination stores of general merchandise, hardware and furniture, and hardware and groceries had the largest percentage of credit sales.

1/ Wicken and Forster, op. cit., p. 11.

2/ Lee, op. cit., p. 13.

In an Oklahoma study a sample of 449 farmers exposed the fact that 65 per cent of the farm owners and 85 per cent of the tenants used short term credit.[1] This study corresponds with all others in showing that tenants are the most frequent users of short term credit. The use of this credit seems to be directly related to the relative liquidity situation regarding the assets of the farmer. Table III will throw a little more light on the use to which short term credit is put. Table I can be compared to Table III to give a more complete picture of credit use. All of the merchant credit was used for living expenses and farm operating expenses. The major portion was used for family living expenses while the larger portion of the cash credit was used for farm operating expenses.

TABLE III. THE PURPOSE OF MERCHANT AND CASH CREDIT USED BY ALL FARMERS IN SAMPLE COUNTIES IN OKLAHOMA.*

Kind of Credit	Purpose				
	Living Expenses	Farming Expenses	Purchase of Land	Payment of Debts	Total Percentage
Merchant	93	7	0	0	100
Cash	30	38	14	18	100

* Source: A. N. Moore, and J. T. Sanders, Credit Problems of Oklahoma Cotton Farmers, Department of Agricultural Economics, Oklahoma Agricultural Experiment Station, Oklahoma Agriculture and Mechanical College, Bulletin No. 198, October, 1930.

A more recent study, which was done by Purdue University in 1957, gives a good comparison of users and non-users of merchant credit. The

1/ A. N. Moore, and J. T. Sanders, Credit Problems of Oklahoma Cotton Farmers, Department of Agricultural Economics, Oklahoma Agricultural Experiment Station, Oklahoma Agriculture and Mechanical College, Bulletin No. 198, October, 1930, Stillwater, Oklahoma, p. 3.

following are some of the comparisons which were found.[1/] Age--users were younger - 42 vs. 48 years; size--users were larger - 332 vs. 280 production man work units; total assets--same for both groups - $42,000; net worth--users had less - $37,000 vs. $39,000; bank, PCA, and other credit--merchant credit users had more credit from other sources - $515 vs. $334.

This Purdue University study also points out that by tenure categories owner-operators were on the smallest farms, had the smallest per cent who were using merchant credit, 44 per cent, and used the least per farm, $258. Tenants ranked next with middle-sized farms and 57 per cent of them using credit which averaged $503 per farm. Part-owners had the largest farms and there were 61 per cent of them using an average of $783 of merchant credit per farm.

Historical Background of Merchant Credit Cost

The cost of merchant credit to farmers has historically been high cost. The 1926 North Carolina study presented the following table to indicate differences in credit costs. Table IV shows that there is a large difference between the costs of the merchant credit and cash credit which were available to the North Carolina farmers in this study. The merchant credit cost is over three times as high as the cash credit when both tenure groups are considered. Another difference which can be seen from Table IV is the charges made for credit to the owner and the tenant. The tenant pays a higher rate of interest for cash credit than

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1/ Carson, op. cit., p. 4.

does the farm owner. Table IV also shows that the farm owner pays more for merchant credit than the tenant but this is due to large credit fertilizer purchases made by owners which carry a very high interest rate. Tenants in the study did not spend a proportionate share of their merchant credit on fertilizer which resulted in a lower over all interest charge. Some areas of North Carolina in the same study reported interest rates of merchant credit to tenants up to 54 per cent.

TABLE IV. COST OF ALL SHORT TERM CREDIT BY TENURE OF FARM OPERATOR AND AMOUNT OF CASH AND MERCHANT CREDIT USED.*

	Merchant Credit				Cash Credit			
Tenure	No. of Borrowers	Amount of Credit $	Cost of Credit $	Cost of Credit %	No. of Borrowers	Amount of Credit $	Cost of Credit $	Cost of Credit %
All farmers	80	30,237	4,920	25.6	89	41,450	1,911	7.7
Owners	51	19,959	3,621	27.7	62	35,500	1,647	7.6
Tenants	29	10,278	1,299	21.0	27	5,950	264	8.1

* Source: D. L. Wicken, and G. W. Forster, Farm Credit in North Carolina, Its Cost, Risk, and Management, North Carolina Agricultural Experiment Station, Bulletin No. 270, April, 1930.

In the 1927 Texas study there were 62 per cent of a 232-farmer sample group using merchant credit who paid interest on their accounts.[1/] The average flat rate was 10.23 per cent which calculated on an average length of time outstanding of 6.34 months duration would be 19.57 per cent per year. Table V shows the rate charged for goods purchased on credit.

1/ Lee, op. cit., p. 17.

Referring back to Table II will give an indication of the amount of credit extended by these merchants as compared to the credit charges.

With an average account duration of 6.34 months, a 10 per cent increase in the price would be nearly the same as a 20 per cent increase on a yearly basis. The stores charging an annual interest rate plus a higher price ranged as high as 32.4 per cent interest per year.

TABLE V. NUMBER OF STORES CHARGING HIGHER PRICES FOR GOODS SOLD ON CREDIT, NUMBER CHARGING INTEREST AND HIGHER PRICES, AND RATE PER YEAR OF INTEREST AND HIGHER PRICE BY TYPE OF STORE.*

Kind of Store	No. of Stores Answering Questions	Number Charging Higher Price	Number Charging Higher Price and Interest	Rate per Annum-- Equivalent to Higher Credit Price	Annual Interest Rate	Annual Rate plus Higher Price
General Merchandise	56	16	9	14.0	12.8	26.8
Hardware	44	20	13	10.4	9.6	20.0
Grocery	41	10	6	16.1	11.6	27.7
Dry Goods	31	0	0	0.0	0.0	0.0
Furniture	16	13	4	20.9	11.5	32.4
Furniture and Hardware	16	6	3	9.5	10.5	20.0
Hardware and Groceries	6	3	3	13.3	14.8	28.1
Unclassified	52	16	8	11.5	10.3	21.8

* Source: V. P. Lee, Short Term Farm Credit in Texas, Division of Farm and Ranch Economics, Texas Agricultural Experiment Station, Agriculture and Mechanical College of Texas, March, 1927, College Station, Texas, p. 17.

There are several reasons for merchant credit being high cost credit. The following reasons are expanded from a merchant credit study made in

Vermont.[1/] (1) Merchants do not receive special rates when borrowing money. The money they lend or credit they give costs them more than a regular lending agency may give for it. (2) The merchants pay interest on or forego the use of their own capital. In one case, the merchants purchased 65 per cent of the goods they sold with their own funds, 25 per cent on credit from the wholesaler, and 10 per cent with loans from banks.[2/] This would necessarily raise the cost of credit to the customer. (3) There are expenses to administering the credit which consists of the initial transaction and collection costs. The smaller loans have higher costs per dollar than larger loans. (4) Merchants' debt losses are higher than for other lenders. The liberal repayment terms, the undetermined due date of the credit, and the probable over-extension of credit are the principle reasons. (5) Merchants have inefficient accounting methods and they have a smaller volume of credit which causes inefficiencies. The fact that credit activity is a supplemental activity means that it usually rates only secondary attention. Inefficiencies are sure to come about when an activity is not given strict attention.

Merchants in the Vermont study were asked why they extended credit. They stated without exception that competition forced them to do so. They preferred to sell for cash but they gave credit to prevent loss of business.

In view of the high costs of merchant credit it may seem strange to find many farmers using this credit. The Vermont study also lists reasons

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1/ Story, op. cit., p. 27.

2/ Lee, op. cit., p. 17.

why farmers are using merchant credit even though it is of higher cost than other short term credit.[1] (1) Some farmers use merchant credit because of convenience. They purchase items at the place of business and can easily say "charge it" with a minimum of inconvenience. The extra trips to the commercial bank or other lending agency are therefore eliminated. (2) Most merchants follow very liberal credit policies. There are usually no terms of repayment or a specific repayment date. This allows for more repayment flexibility. This also may set the stage for over-extension of credit beyond the repayment ability. (3) Merchants give smaller amounts of credit and at more frequent intervals. This does not require much finance planning on the part of the borrower. When the credit is needed it is usually available at the time, and in the amount desired. (4) The lack of understanding of credit costs on both the part of the merchants and the customers has increased the use of merchant credit. The reluctance on the part of the farmer to calculate the true interest rate may lead to a misconception as to what he is really paying for the credit privilege.

These reasons plus the fact that the farmer may have exploited his entire borrowing potential for low cost credit and must turn to credit sources of higher costs are some of the factors affecting merchant credit use. A summary on merchant credit in Credit Problems of Oklahoma Cotton Farmers by A. N. Moore and J. T. Sanders contained the comment,[2]

> "Store credit should be abandoned wherever it is possible, for it is fruitful of poor business both on the farm and in

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1/ Story, op. cit., p. 28.

2/ A. N. Moore and J. T. Sanders, op. cit., p. 53.

town, and is usually not profitable to either the farmer or the townsman."

The last two sections have given a historical background of merchant credit use and cost. Reasons for the cost and use were also given which were evident at the time of the studies. The preceeding paragraph also seems to sum up the attitudes toward merchant credit use in some areas.

Trends in Present Agricultural Credit Needs

The situation may have changed regarding merchant credit costs since the time of the historical data that have been presented. It is fairly evident that the attitudes toward the use of credit have changed even though the costs of credit may not have changed. The consumer credit of today is fairly comparable to merchant credit and it is a high cost type of credit. Since the 1930's the commercial banks have become more competitive in the short term agricultural credit area along with the Production Credit Association, Farmers Home Administration, and others. All of these credit sources are increasing their lending facilities and their capacity to lend. The consumer credit today costs in the neighborhood of 15 to 20 per cent, whereas short term production credit loans to farmers cost between 6 and 8 per cent interest. The farmers may borrow from production loan sources until this source has been completely exploited. With the necessity of larger amounts of production credit to support present day agricultural technology, the limit of the credit available from the low cost credit sources may be reached before the required amount of credit is obtained. As these low cost credit sources are developing improved facilities to handle increased credit demands, farmers may be forced to

use higher cost credit sources. These sources may well be the merchants and dealers with whom they do business.

The need for increased credit is verified by the increase in the farm mortgage debt from $5,108,183,000[1/] in 1949 to over $12,000,000,000[2/] in 1959 to give an increase of 135 per cent. At the same time the non-real estate debt of farmers rose from $3,200,000,000[3/] in 1949 to $9,500,000,000[4/] in 1959 to give an increase of 197 per cent.

The increase in the non-real estate debt of the American farmer over the real estate debt is due in large part to the rapid technological changes which are taking place today in agriculture. In 1940 each American farmer produced enough food for himself and 11 others while today he produces enough for himself and over 23 other people. Between 1950 and 1960 the investment per man on farms grew from $12,000 to $18,000.[5/] This shows the growth that the modern farmer has made. This growth is not only in the form of larger farms but also in the use of a higher degree of mechanization, a greater amount of specialized machinery, more productive cropping practices, and more efficient livestock types. These items plus higher family living costs are the cause of higher non-real estate farm assets and an increased amount of non-real estate farm debt.

1/ United States Department of Agriculture, Agricultural Finance Review, Volume 12, Supplement, Bureau of Agricultural Economics, May, 1950, p. 11.

2/ The Balance Sheet of Agriculture, 1959, op. cit., p. 8.

3/ Agricultural Finance Review, op. cit., p. 11.

4/ The Balance Sheet of Agriculture, 1959, op. cit., p. 8.

5/ Clive R. Harston, "Fewer Persons on Farms But Greater Production," Great Falls Tribune, February 28, 1960, p. 24.

Table VI gives an indication of how the farm non-real estate debt has increased and also how it is being carried by the credit sources. The book credits and miscellaneous category, which makes up 37 per cent of the total non-real estate farm debt, is the area in which the merchant credit is located. This is a large amount to be carried, nearly one-third of the total, by sources whose interest in credit may be only secondary and whose ability to perform the lending service functions may also be secondary.

TABLE VI. FARMERS' NON-REAL ESTATE DEBT AS OF JANUARY 1, 1940, AND JANUARY 1, 1959, SHOWING THE AMOUNT OF THE DEBT CARRIED BY PARTICULAR TYPES OF LENDING INSTITUTIONS.*

Year	Commodity Credit Corporation Loans (billions)	Banks and Federal Agencies (billions)	Book Credits and Miscellaneous (billions)	Total (billions)
1940	$ 0.4	$ 1.5	$ 1.5	$ 3.4
1959	2.5	5.8	3.7	12.0

* Source: United States Department of Agriculture, The Balance Sheet of Agriculture, 1959, Bulletin No. 214.

Objectives

The objectives of this research study are as follows: (1) to determine the amount of merchant credit being used by farmers compared to the other types of non-real estate credit being used, (2) to determine the cost and factors affecting the use of merchant credit, and (3) to determine the importance and degree of farmer dependence on merchant credit with respect to (a) the major categories of farm purchases, (b) type of farming areas, and (c) localities.

Procedures

The procedure used in this study was determined partly by reviewing publications on agricultural credit and reading articles on sampling and schedule taking. The agricultural economics staff at Montana State College also gave suggestions which led to a pre-testing of questionnaires and a revaluation of content and sample size.

The information for the study was gathered from a 7 per cent sample of farmers (144) in Yellowstone, Treasure, and Custer counties of Montana. These counties were chosen because they represent a variety of different farm types and supply center sizes. The information gathered from the farmers was supplemented by contacting 65 farm supply retailers (merchants and dealers) and nine commercial banks. The merchant and dealer schedules represent a cross section of agricultural supply retailers in the three counties. Merchants were picked so that each type of major agricultural supply item was represented. The commercial lender schedules represent all the commercial banks in the three-county area.

To determine the number of farm and ranch schedules needed, the total farm numbers from each county were taken from the 1959 publication of Montana Agricultural Statistics and multiplied by 7 per cent. This gave the total number of farmers to be contacted. Area segments comprised of 30 farm dwellings were then marked off on Montana State Highway Planning Survey maps which indicate each farm dwelling. Every third farmer in the selected segments was to be contacted. This would yield 10 farmers from each area segment. The number of segments needed was determined by the desired 7 per cent farmer sample from each county.

The area segments were then chosen by numbering each thirty-farm segment on the county map and drawing duplicate numbers until the desired number of segments had been chosen. Alternate segments were also chosen from which contacts would be made if circumstances warranted it. This method was used for all three counties.

Within a chosen segment every third farmer was contacted. If the marked dwelling was unoccupied, the next dwelling was substituted in its place. If the occupant of a chosen dwelling refused to cooperate, a substitute was chosen in the prescribed manner from the first alternate segment. After failing to make a contact after three visits to a dwelling, a substitute was also chosen from the alternate segment.

A list of merchants and dealers was made up for the major supply centers to get a representative cross section of dealers handling specific types of farm supplies. In the smaller supply centers all of the farm supply retailers were interviewed to assure getting information on the same types of farm supply retailers that were interviewed in the major supply centers. The two major supply centers were Miles City and Billings, while the smaller supply centers were Laurel, Broadview, Worden, and Hysham. These smaller supply centers were in the areas of the counties where the farm sample segments were located.

CHAPTER II

CREDIT USE BY FARMERS

Summary of Credit Use

In line with the objectives of this study some of the aspects of farmer use of merchant credit have been investigated. This chapter presents some of the findings regarding merchant credit use by farmers compared to credit use from other sources, the comparative costs of the different types of credit used by farmers, and merchant credit policies offered to farmers.

This study indicated that 92.4 per cent of the farmers in the three-county area used some form of production credit. This credit may consist either of short term commercial credit or credit obtained from merchants in the area. In considering just the credit users, there were 96.2 per cent who used merchant credit and 79 per cent who used credit from commercial sources.

The amount of credit used by these farmers ranged from $42 to $160,816 with a mean of $11,087. The amount of commercial credit used ranged from $700 to $150,000 with a mean of $11,146. The amount of merchant credit used ranged from $8 to $16,500 with a mean of $2,366.

The commercial credit in this study refers to the credit from commercial banks, production credit associations, credit unions, and government agencies which is used for production and family living purposes. The merchant credit referred to here is broken down into three categories called (1) merchant open account convenience credit, (2) merchant open account yearly credit, and (3) merchant contract credit.

The merchant open account convenience credit is that which is used by a farmer mainly as a convenience in making purchases. The credit is usually 30 days old or less when it is paid. The merchant open account yearly credit is that which is obtained by the farmer for a period over 30 days in length and carried by the merchant on open account. This type of credit account is usually paid up once or twice a year by the farmer and seldom has a direct interest charge on the balance of the account. The merchant contract credit refers to purchases made by the farmer for which he signs a note or contract. This type of credit includes notes or contracts which are later sold to a bank or other commercial lending agency. This type of merchant credit is most often found in connection with larger purchases such as farm machinery, automobiles, etc.

Table VII gives a percentage breakdown of credit use in these categories both from the total picture and from the tenure status of the farm operator. The part-owner uses the least percentage of commercial credit of the three categories and consequently the largest percentage of merchant credit to fulfill his credit needs. Both the owner and tenant categories use 82 per cent commercial credit and 18 per cent merchant credit.

The merchant credit breakdown indicates that merchant open account yearly credit is used more than either of the merchant contract or merchant open account convenience credit classifications. The part-owner category also uses the most of the merchant open account yearly credit classification. The merchant contract credit classification is again used heaviest by the part-owner while the merchant open account convenience credit is used more extensively by the owner category.

TABLE VII. THE PERCENTAGE AND AMOUNT OF CREDIT USED FROM COMMERCIAL AND MERCHANT SOURCES BY FARMERS IN THE MID-YELLOWSTONE VALLEY AREA OF MONTANA DURING THE YEAR 1959 BY TENURE OF FARM OPERATOR.

	Owner			Part-Owner			Tenant		
Type of Credit	$ Range	$ Mean	Per Cent	$ Range	$ Mean	Per Cent	$ Range	$ Mean	Per Cent
Commercial	800-150,000	15,179	82	700-40,000	10,235	77	4,400-100,000	11,923	82
Merchant Open Account									
Convenience	8-9,566	606	4	10-1,343	334	1	13-1,043	287	1
Yearly	200-5,000	1,171	7	100-6,560	2,372	12	350-5,650	1,633	9
Merchant Contract	520-8,250	3,490	7	215-16,500	3,751	10	700-10,951	3,966	8
Merchant Total	8-9,566	1,901	18	10-16,500	2,693	23	13-10,951	2,501	18

Table VIII shows a breakdown of credit use by type of farming carried on. Under each farming type are three columns showing the range in the amount of credit used, the mean, and the percentage of the different types of credit used. The diversified category uses a higher percentage of commercial credit than the other two categories. The dryland grain category uses the highest percentage of merchant credit to supply its credit needs. The livestock category had the highest mean value for credit use in both the commercial and merchant credit classifications.

In all three categories more commercial credit was used than merchant credit. Within the merchant credit classification the merchant contract credit was used in greater volume except in the diversified farming category. Merchant open account yearly credit was used more than the merchant open

TABLE VIII. CREDIT USE BY FARMERS IN THE MID-YELLOWSTONE VALLEY AREA OF MONTANA IN 1959 INDICATING TYPE OF FARM AND TYPE OF CREDIT USED.

	Diversified			Dryland Grain			Livestock		
Type of Credit	$ Mean	$ Range	Per Cent	$ Mean	$ Range	Per Cent	$ Mean	$ Range	Per Cent
Commercial	12,989	800-150,000	81	6,585	400-29,876	69	13,475	180-100,000	78
Merchant Open Account Convenience	589	8-9,566	2	134	50-250	1	349	33-1,213	2
Yearly	1,860	100-5,650	10	1,165	200-3,330	7	1,913	500-5,350	8
Merchant Contract	3,288	215-16,500	7	3,335	350-8,070	23	6,985	2,150-10,951	12
Merchant Total	2,388	8-16,500	19	2,165	50-8,070	31	2,634	33-10,951	22

account convenience credit by all three farm type categories. The only category in which the merchant open account convenience credit seems to be used to any degree is in Table VII under the owner category and it is still exceeded by other classifications of merchant credit here.

Credit Policy of Merchants

In trying to relate the credit policies of merchants to something more specific than the whole conglomeration of products which are sold to farmers, the merchandise has been divided into 11 separate categories. These categories overlap each other inasmuch as one merchant may distribute

merchandise which may fall into several categories. His credit policies will be shown in the category made up of his major type of merchandise.

The categories into which the merchandise is placed are (1) gas, oil, and petroleum products, (2) feed, seed, fertilizer, and chemicals, (3) farm machinery and equipment, (4) cars, trucks, and repairs, (5) veterinarian services, (6) livestock supplies, (7) building supplies, lumber, and hardware, (8) blacksmithing, welding, and repairs, (9) groceries and general merchandise, (10) drugs and sundries, and (11) furniture and appliances.

This description of merchant credit will cover the entire three-county area. If there are differences in the way the credit is handled between the counties or between areas within a county they will be pointed out within each merchandise category.

Gas, Oil, and Petroleum Products

The category with the highest percentage of its farm sales on credit, is gas, oil, and petroleum products with 84 per cent. The products in this category not only had the highest percentage of their farm sales purchased on credit but these also were the credit accounts which were outstanding the longest with an average of 185 days. Most of the credit, 99 per cent, was given on open account while the remaining 1 per cent was given on a promissory note carried at 7 per cent interest.

There are usually no interest charges made on open account credit in this category because many accounts run until fall and are paid once or twice a year. The credit is given to the customer on the basis of the

past credit history of the customer and so interest is charged only on overdue accounts in some cases. This usually amounts to 6 per cent simple interest on accounts over six months old where there is a specified credit policy set up. Some merchants in this category would like to maintain a 30-day credit policy but have not done so. There were no differences in the terms offered to customers in this category.

The loss on the open account credit amounted to about 1½ per cent of the credit sales and in most areas this loss was borne by the merchant and his total clientele. In Treasure County there was a discount of 2 per cent given for cash payment on bulk deliveries to farms and 6 per cent discount given for sales at the gas pump of the business. In this case, only the credit customers and the merchant bear the cost incurred by extending credit.

All of these merchants would rather have their customers pay cash than use credit but only the one area seems to have done anything to entice cash payment. All of these merchants, however, thought that the extension of credit increased their volume of business enough to pay for the costs of extending credit. There was only one instance in which the supplier of petroleum products carried a portion of the credit for the distributor. Upon application for credit by the customer, the supplier would carry the customer for a 10-month period. If the account were not paid within 10 months, the distributor would pay the supplier and collect the account from the customer himself.

The merchants in this group had the most comparable credit policies and were the most lenient on their repayment terms. The per cent loss from credit sales was no higher than in other merchandise categories, however.

Feed, Seed, Fertilizer and Chemicals

This category also has a high percentage, 70 per cent, of farm sales made on credit. As much as 91 per cent of the credit sales were made on open account while 9 per cent were made on a note or other arrangement.

Approximately 45 per cent of the credit paper in the contract sales were discounted at a bank, 25 per cent were held by the supplier, and 30 per cent were held by the merchant. The paper discounted at a bank was usually paid in the fall and was carried at 7 per cent interest. In one instance, the merchant would turn the credit accounts over to the company that purchased the customer's crop. The company would charge the merchant 10 per cent of the customer's account for handling the credit and then hold the amount that the customer owed out of his crop check. These accounts were usually out only about seven or eight months so the actual interest rate in this case was near 17 per cent. The portion of these credit sales held by the merchant were usually held less than 30 days so there was no charge made to the customer by the merchant.

The open account credit usually carried no charge. The merchants tried to abide by a 30-day repayment policy, but the accounts averaged 57 days outstanding and no charge was made on these accounts. The type of credit arrangement offered a customer was determined by his past credit

record and the type of farming he did. In some cases, the feed dealer would carry the account of a beef feeding operation longer than that of a dairyman because of the difference in their income periods. The dairyman receives a portion of his income every week while the beef feeder has to wait several months for a return from his operation.

The loss from the credit sales amounted to under 1 per cent with the merchants using cash discounts from 5 to 10 per cent on some items. These items were usually the more competitive articles such as twine, chemicals, etc. Although all the merchants preferred to sell for cash instead of credit, they did not think that the farmer who used credit was a poor manager. The majority of the merchants contacted thought that credit extension at least paid its added costs.

Farm Machinery and Equipment

The farm machinery and equipment dealers made 75 per cent of their sales on credit. Most of the credit, up to 56 per cent, was carried on contracts with the remaining on open account. Most of the contracts were sold to a bank with the usual terms being one-third of the purchase price as a down payment with one, two, or three payments a year at 8½ per cent interest to pay off the balance. The 12 per cent of the contract sales carried by the supplier were usually under the same terms except the interest rate was 1 per cent higher to maintain an insurance policy which protects the balance of the contract. The dealers held 8 per cent of the contracts and the terms of the dealers were the same as those contracts sold to the banks.

One farm machinery dealer was given aid by the manufacturer of his equipment. The interest charges assigned contracts held by the manufacturer were slightly higher than those sold to the bank from the same dealer. The manufacturer, however, would carry the contracts longer and accept more risk than the banks. There was no interest charged by this manufacturer on machinery sold on contract during the late fall and winter months. This was an incentive used to help move machinery during the slow business months.

There was usually no charge for open account credit within the credit policy of the dealers which was usually 30 days. Many dealers gave fall payment terms to their customers also. The average account ran for 74 days. The charge on overdue accounts ran from 7 per cent to 12 per cent per year. The charge usually was not added until 60 days had passed. Customers were given credit arrangements according to their credit rating, size of the purchase, and net worth. Large purchases usually were carried on contract.

Losses on credit sales amounted to between 1 and 2 per cent of the credit sales. Cash discounts of 5 per cent on some items were offered to induce cash purchases. In some instances the merchants gave "fleet discounts", which ran from 25 to 50 per cent, to owners of five or more pieces of a certain brand of farm machinery. This, however, is a quantity discount and not a discount for a cash purchase. Most of the dealers would rather have a customer pay cash than use credit. Some dealers indicated that they would rather have good credit risks on contract purchases,

however. The dealers were of divided opinion when indicating whether credit extension paid for its added costs. Many indicated that it increased volume and were afraid to quit the credit extension because of what it might do to their net income.

Veterinarian Service

Veterinarian service was a category which was set up to check the realm of professional services available to farmers and how they are extended to the farmer. About 78 per cent of the veterinarians work is done on a credit basis with all credit being on open account for an average of 50 days. As most of the other businessmen, the veterinarian trys to maintain a 30-day open account credit policy without much success.

In some cases, the price of professional services is raised to the credit customer to take care of the 1 per cent loss which usually results from the credit extended. This is not done on the price of drugs, however, as they are in direct competition with drugs from another veterinarian. Cash is preferred for work done in this area. The veterinarians thought the farmer was a good manager if he could use credit and get someone else to do his bookkeeping for him. It was thought here that the extension of credit undoubtedly paid for its added cost in increased business volume.

Cars, Trucks, and Repairs

In the cars, trucks, and repairs category the merchants had 80 per cent of their credit sales on contracts. The credit sales amounted to about 50 per cent of their total farm sales. The contract sales were handled by selling 94 per cent of the contracts to banks; the supplier