

CREDIT BY RETAIL FEED DEALERS

by

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INTRODUCTION

The origin of the idea of offering goods for sale on credit is lost in antiquity but, while detailed data are lacking, it is evident from the papyri of Egypt and the clay tablets of Babylonia that credit has had a long history.¹

Coming down to a more recent period, at the beginning of the nineteenth century the practice of extending open-book credit was widespread, especially in rural areas. In such areas the people did not receive their income in a series of regular payments; rather it was received in a few lump payments when crops were sold. In between these payments they desired to buy on credit; the retailer generally extended this credit as he was acquainted with his customers and many of them possessed property which might be attached in case of non-payment. In addition, by extending credit the retailer helped to stabilize the demand for his goods, as otherwise buying would be concentrated in short periods following the receipt of income from the sale of seasonal crops.²

Credit extension to farmers by commercial retail feed dealers was similar to credit extension to farmers by other retail firms selling goods to be used in further production. The increased use of credit, as past experience has shown, may easily result in heavy credit losses and financial difficulties. Credit has become more crucial to feed dealers as this trend continues.

Feed purchases by farmers follow a seasonal pattern in some lines while other lines are purchased at a more or less uniform rate throughout the year.

¹ H. Borland, "The Tale of Credit from Grassus On", New York Times Magazine, January 14, 1940, p. 8.

² M. L. Merriam, "Influence of Retail Credit upon the Continuity of Demand", Journal of Marketing, Vol. IV, No. 4, Part 2, 1940, p. 9.

Usually the high point of feed purchases are during seasons when farm incomes are at a seasonal low. The variations of farm incomes through the year intensify the problem of financing farmers' feeding operations. Feed dealers in the past have met this situation by extending credit to farmers for various periods of time.

The increased feeding of commercial formula feeds by farmers has caused retail feed business to become a very important industry in the United States. The importance of formula feeds to farmers and other livestock producers in the United States was apparent when more than a fifth of all grains and other concentrate fed in 1949-50 were in the form of formula feeds.¹

Kansas is a feed-surplus area most years; therefore, commercial formula feeds are primarily used as supplements to home-produced feeds. Livestock producers and farmers in Kansas have relied on formula feeds primarily as supplements to home-grown grain, mostly as a means of providing needed proteins, minerals, and other nutrients.

Retail feed credit has received increasing consideration since the decline in farm prices in the 1950's, and at the same time drought conditions in the Mid-west led many farmers to ask feed dealers for more credit. As a consequence, the growth of feed sales during this period of declining farm product prices has created various credit problems. Questions such as these arise: How important is credit in selling commercial feeds? What are the losses that have occurred from the extension of credit? What is the cost of extending credit? What are the factors considered in extending credit by feed dealers?

¹ R. D. Jennings, Agricultural Economist, "Feed Consumed By Livestock and Supply and Disposition of Feeds by States, 1949-50", Statistical Bulletin No. 145, U.S.D.A., Agricultural Research Service, June 1954.

PURPOSE OF STUDY AND OBJECTIVES

Various credit practices used by feed dealers raise the question as to which are most satisfactory from the dealer's point of view. Definite information which can be used when deciding upon which of the various credit policies to follow is needed for the feed industry. The purposes of this study were; (a) to analyze the credit practices of feed dealers in Kansas Type-of-Farming areas 4 and 5, and (b) to measure the effects of these practices on retailing of commercial formula feeds by feed dealers in these areas.

Commercial feed industry progress has been based in part on the extending of credit to farmers by feed dealers. Many firms feel obliged to extend credit to meet competition. Credit policies could determine whether a sale would be made or whether a feed dealer's competitors would make the sale. The seasonal nature of farming has caused the installment payment plan of purchase unworkable at times, as employed in retailing to those receiving a regular income. Many feed dealers continue to extend credit to some customers whose financial position may have deteriorated since the firm provided credit for these customers during years of prosperity. In some cases these customers are now unable to obtain credit from banks or other regular lending agencies.

An endeavor was made to keep in mind the managers need for information with which to direct more intelligently the affairs of the organization that pertain to credit. Thus, to point out ways that were being used satisfactorily to control credit for managers and for firms which are having difficulty with credit extension becomes the final purpose.

REVIEW OF LITERATURE

Considerable material has been written about the history of credit, credit and collection, and principles and practices of credit. A number of articles have been written about the financial status and operation of farmers' cooperative associations. Since very little has been written directly about retail feed credit, the following information has been taken from writings on related subjects in which mention was made of the credit problems of retail feed dealers.

Elmore stated that "there is no question but that credit is a great selling tool, and it is becoming more important every day".¹ He noted that since credit had become so important many dealers have lost control of their credit operations. No indication was given about dealers financial conditions or credit policies.

Knudtson and Koller in a study of 87 cooperatives found that credit sales averaged approximately 50 percent of all farm supply sales in 1953.² They found that associations with relatively large amounts of accounts receivables tended to have a relatively poor working capital position. Credit costs amounted to an average of \$1.95 per \$100 of credit sales for the 87 cooperatives studied.

Teachout stated that "Stingy credit practices and cash-on-the-barrel-head attitude are as bad as inadequate stocks or poor merchandise".³ He

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- ¹ D. H. Elmore, "Control of Credit by Feed Dealers", Feedstuffs, Vol. 28, Number 24, June 16, 1956, pp. 38-40.
 - ² Arvid C. Knudtson and E. Fred Koller, "Accounts Receivable Credit Study in Minnesota Farm Supply Cooperatives," Agricultural Experiment Station, University of Minnesota, Station Bulletin 430, May 1955, p. 28.
 - ³ H. R. Teachout, "Credit Discussed at Vermont Conference," Feedstuffs, April 21, 1956, p. 68.

also noted that when a feed account had reached a period of 60 days, it ceased to be of service to the farmer and became a contingent liability to the firm.

Diesslin made the following remark about agricultural equipment dealers, "Dealers have moved in the direction of more liberal financing arrangements on farm equipment which is also true of many other agricultural industries."¹ He believed that some kind of credit was necessary as approximately one-half of the 1955 retail farm sales were made on a credit basis.

McCarthy stated that something must be done with loose credit and definite action should be taken in 1955. He believed that "the only corrective measure for handling this type of situation is for the feed industry to tighten its credit policy. In 1954 a saturation point was very close, and if the 1954 trend continues till 1955, there will be definite danger signs ahead."²

Bakken concluded from a study of retail management of feed dealers "that the retail feed merchants are absorbing unnecessary losses through accounts which run up the costs of doing business. Moreover, it is often questionable whether this service promotes good relations with customers or confirms their loyalty as patrons."³ The idea being expressed in this article that credit was not as important to the firm as many managers believed.

¹ Howard G. Diesslin, "Agricultural Equipment Financing," National Bureau of Economic Research, Occasional paper 50, Chapter 1.

² George McCarthy, "Loose Credit a Problem," Flour & Feed, January 1955, p. 8.

³ Henry H. Bakken, "Some Facts about Retail Feed Distribution," Feedstuffs, June 30, 1956, p. 38.

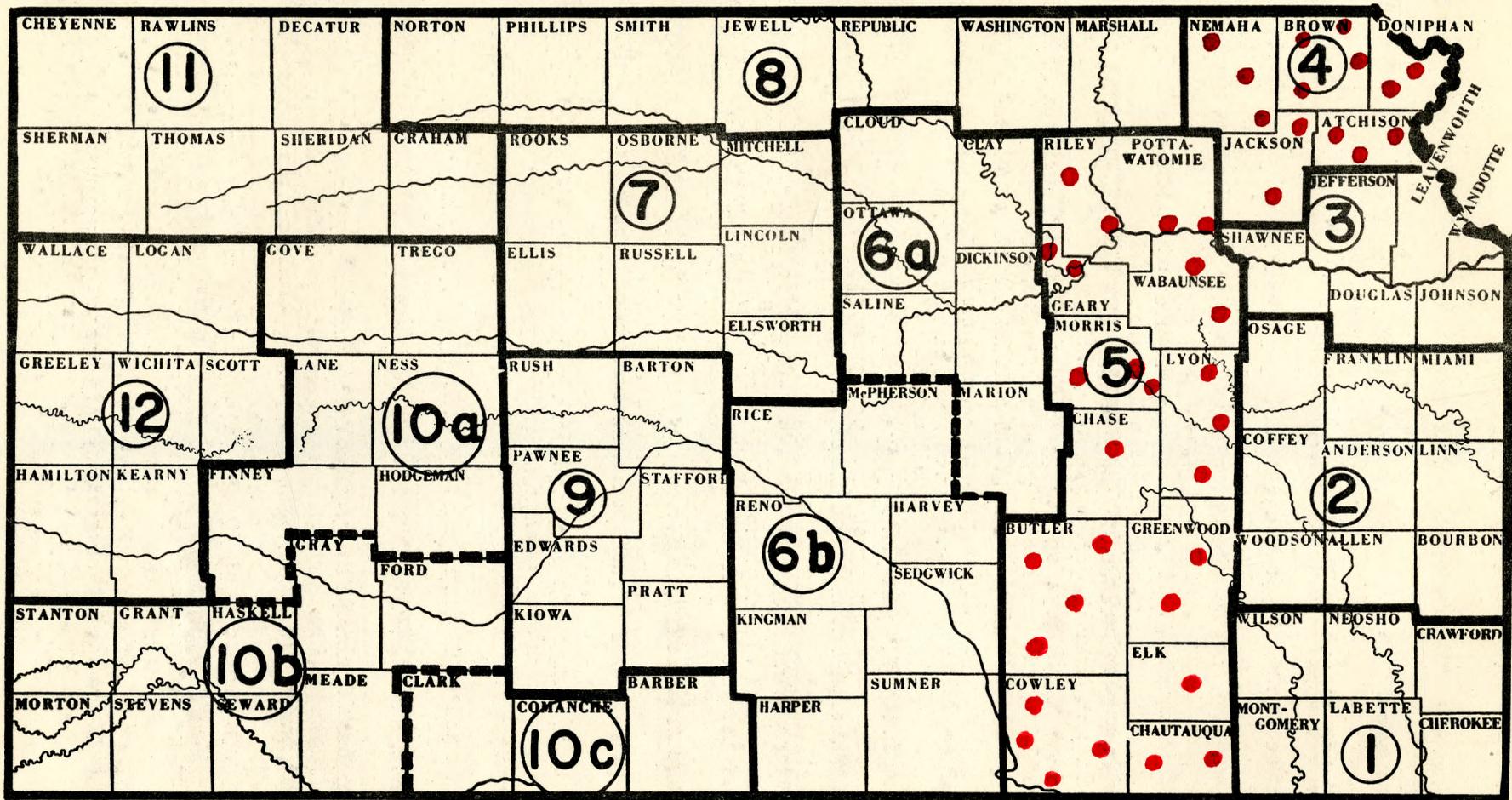
Post believed that "large losses are taken annually through unwise extension of credit by farmers' elevators in South Dakota due to too liberal credit policy." He continues, "close scrutiny of accounts by managers, limiting of credit to customers, the charging of interest on open accounts, and a strictly cash basis in some elevators were doing much to strengthen the credit situation."¹

Maughan found that the average costs for extension of credit in 84 feed stores in New York were: \$735 for interest, \$259 for accounting, \$252 for collections, and \$285 for bad debts.² These total \$1,531, and the credit business was \$25,662. Consequently, the credit costs were nearly six percent of the credit sales. From these records two important conclusions were drawn: First, that the cost of granting credit tended to be lower in stores which (a) collected promptly from their customers, (b) sold relatively large volumes of goods on credit, and (c) sold relatively large amounts per customer on credit. The second conclusion was that stores which were better than average in any one of these three respects were likely to be above average in all three.

SCOPE AND METHOD

Feed dealers from Type-of-Farming areas 4 and 5 in Kansas were chosen for this study. Fig. 1 shows the location of the 42 feed dealers in eastern Kansas which were included in the study. These areas include the

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- ¹ R. E. Post, "Farmers' Elevators in the Spring Wheat Area of South Dakota," South Dakota Agricultural Experiment Station, Bulletin 282, 1933, p. 9.
 - ² Orlo M. Maughan, "Cost of Granting Credit in 84 Feed Stores," Farm Economics, New York State College of Agricultural, Cornell University, 82:1976-1978, August 1933.



TYPE-OF-FARMING AREAS IN KANSAS
 (Revision of Figure 18, Kansas Agricultural Experiment Station Bulletin 251.)

Fig. 1. Location of the 42 feed dealers in this study.

main livestock areas of the state or where livestock are the predominant enterprise. The firms were distributed evenly over the two areas and were located in 17 counties.

The 1956 Kansas Official Directory published by the Kansas Grain and Feed Dealers Association was used in obtaining the names of dealers to be contacted. The 42 feed dealers used in this study were selected at random. Random selection implies that every feed dealer in the two farming areas had an equal probability of appearing in the sample.¹ Forty-two firms were selected in this study because the confident interval was between 31 and 51 for a population of 130 firms at the 95 percent confidence level.² What this means is one may be confident that the true percentage in the sampled population lies in the interval from 31 to 51; and if one makes a practice of sampling and if for each sample he states that the population percentage lies within the corresponding confidence interval, about 95 percent of his statements will be correct.³ Thus, the sample in this study is believed to be representative, and any finding could be applied to all feed dealers in the two areas.

Material was obtained from credit files, accounting records, and from personal interviews with managers and employees of each firm. Data were obtained for the year beginning July 1, 1955, and ending June 30, 1956, for the purpose of this study. Information was obtained concerning business practices, retail credit practices, sales volume, and factors concerning customer's relationship.

¹ George W. Snedcor, "Statistical Methods," Iowa State College Press, Ames, Iowa, Fifth Edition 1956, p. 3.

² George W. Snedcor, "Statistical Methods," Iowa State College Press, Ames, Iowa, Fifth Edition 1956, Table 1.3.1. p. 4.

³ Ibid., p. 7.

Frequency distributions, graphic correlations, averages, and medians are the statistical devices used to summarize and present the data. The frequency distributions were used almost entirely to summarize the different items showing the credit situation and the costs for retail credit for this group of feed dealers. Scatter diagrams were used to show the relationship between sales, accounts receivable, delinquent accounts, and profits. Tables are arranged either by size of retail sales, accounts receivable, credit periods, or credit policy.

An attempt was made to determine the cost of credit for this group of feed dealers. This was done by comparing net profit per dollar of sales and gross profit per dollar of sales with the total cost of extending credit per dollar of sales. Although credit pertains only to the retail departments of the businesses the expense records were not separated so that expenses could be allocated to the various departments nor estimate these expenses by departments, and there was no assurance of their accuracy.

DEFINITION OF TERMS

Accounts receivable are uncollected accounts which will be recovered in the regular order of business.

Accounts delinquent are accounts receivable not paid by customers during the firm's credit period.

Accounts payable are accounts which must be paid by the firm in the regular order of business.

Bad debt losses are customer's accounts receivable and accounts delinquent regarded as uncollectable by the firm and are a loss which must be borne by the business.

Credit extension refers to the selling of merchandise for future payment, or the granting of time to customers for the payment of purchases.

Credit period refers to the number of days given for payment of goods sold on time before requiring payment.

Retail feed dealer refers to a person or group of persons who sells commercial formula feeds to farmers. Firm and business organization are synonymous terms for the purposes of this study.

Commercial formula feed is feed ingredients, combined according to special method for a certain class of livestock.

Credit practice refers to the customary manner in which accounts receivable and accounts delinquent are managed by the management of the firm.

Advertising are net expenditures by the firm for newspaper, direct mail, and other forms of advertising, not including wages.

Gross profit refers to the difference between net sales and cost of goods sold.

Net profit refers to the difference between gross margin and total expense.

Gross margin is the entire receipts without any deduction for selling expenses incurred.

SALES VOLUME

Retail Sales

The 42 retail feed dealers included in this study sold approximately \$8,500,000 of formula feeds to farmers during this period. The retail feed sales of individual dealers ranged from about \$35,000 to \$600,000 with

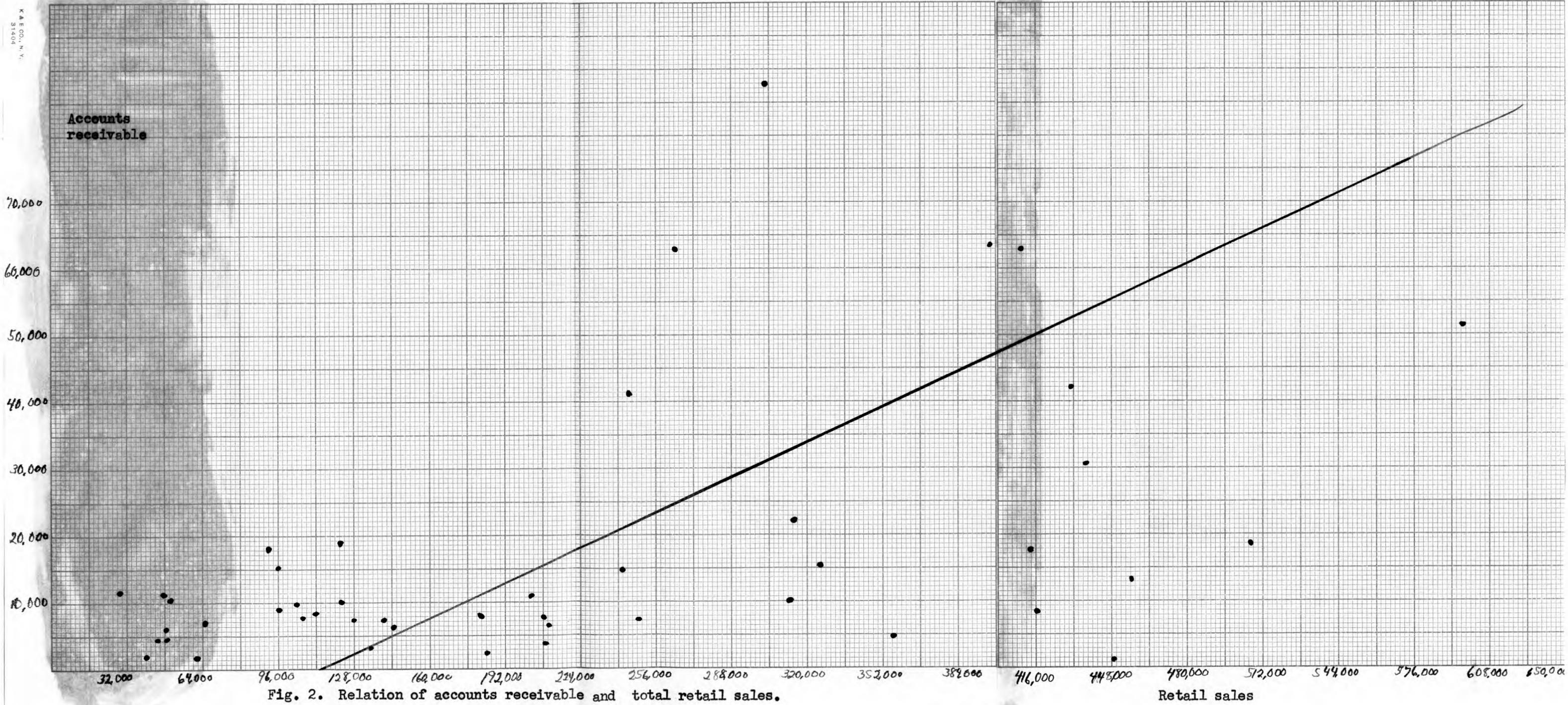
more than half having sales under \$200,000. The median retail feed sales were near \$144,000.

On the average, feed dealers in this study did business with approximately 350 customers. The range in number of customers, however, was extremely great varying from 50 to 1,000 customers. Generally the more customers the feed dealer had, the larger volume of business was done, although some may have catered to special customers of large volume. For example, the group of dealers with only 100 customers had an average of \$100,000 in retail feed sales, but feed dealers in the group with 500 to 600 customers had an average of \$300,000 in retail feed sales.

The average retail feed dealer was not a small business concern, since most feed dealers handled sidelines. These sidelines included the handling of farm supplies, formula feeds, seeds, fertilizers, and petroleum products. The operation of country elevators, which many dealers were operating, was a natural adjunct to the handling of many of these sidelines. For most feed dealers with grain elevators the yearly receipts from grain were larger than the receipts from sidelines, but proceeds from formula feeds were considerable larger than other sidelines.

Some retail feed dealers indicated that the receipts from formula feeds had increased over the past few years. The increase in receipts had resulted from the combined effects of an increased physical volume of business and an increase in prices. The increase in physical volume apparently resulted from an increased use of protein concentrates and other commercial feeds by livestock feeders and poultry producers.

The relationship between retail sales and accounts receivable is shown in Fig. 2. It is assumed the independent variable is accounts



receivable. A regression line is constructed on this figure by a regression equation. The regression line replaces the sample average as a standard of comparison. This standard is not the same for all firms but varies according to the volume of sales. For example, the firm that had a total sales of \$240,000 and accounts receivable of \$15,000 was below average, because the regression line shows the mean for total sales of \$240,000 for the group to be \$21,000 in accounts receivable. There is a decided tendency, emphasized in Fig. 2, for firms with small total sales to be above average in accounts receivable.

The tendency for firms with small total sales to acquire a larger percentage of accounts receivable than firms with large volume of total sales is very evident from the scatter diagram in Fig. 2. This situation was influenced by more frequent use of credit in connection with the smaller purchases of feed than with larger purchases. Some feed dealers mentioned that as a group farmers usually did not purchase large amounts of formula feeds at one time, but these purchases were made at regular interval and on credit. None of the feed dealers with small unit sales exceeded \$100,000 sales volume. The larger feed dealers generally had more cash customers which purchased in lots of larger quantity.

Credit Sales

The 42 feed dealers sold approximately 28 percent of their sales volume on credit during the period covered by this study. Table 1 shows small variation of sales by credit in all class frequencies for the feed dealers in this study. Bakken found in his study of retail cooperatives in

Wisconsin that firms sold 39 percent by credit in 1954.¹ The feed dealers in this study were not extending credit excessively when compared to the Wisconsin experience.

The average number of credit customers was 48 percent for the 42 feed dealers. There was no apparent relationship between the percent of credit sales and the percent of credit customers. Observing the class frequencies for the average percent of credit sales in Table 1, the variation was small as the range was only five percent. The range for the percent of credit customers was 25 percent with the smaller percent being for the larger sales volume class frequencies. The \$100,000 to \$199,999 class frequency had the largest percent of credit customers, but this same class frequency had the smallest percent of sales on credit. Approximately one-half of the customers did business on credit, yet only about one-fourth of the dollar value of sales were made on credit. This indicated that more of the smaller sales were made on credit while the larger sales were cash deals. Also a larger percent of these small credit sales was made with the smaller feed dealers.

Gross and Net Profits

The average gross profit from handling formula feeds was 10.5 percent of sales, ranging from 5 percent in the larger feed dealers to 20 percent in the smaller feed dealers. Net profit per dollar of sales ranged from 1.5 to 16 percent with an average of 4.5 for the 42 feed dealers. Elmore and other credit managers stated that gross profit per dollar of sales should

¹ Henry H. Bakken, "Some Facts About Retail Feed Distribution," Feedstuffs, June 30, 1956, p. 38.

Table 1. Relation between credit sales and the number of credit customers, 1955-56.

Retail sales	Percent of sales on credit	Average number of credit customers in percent of all customers
Less than 100,000	32.3	45
100,000 to 199,999	25.9	61
200,000 to 299,999	27.1	53
300,000 to 399,999	28.3	45
400,000 to 499,999	27.8	38
500,000 or over	26.5	36
Average	28.0	48

Table 2. A comparison of gross profit per dollar of sale with net profit per dollar of sale by retail feed dealers, 1955-56.

Retail sales	Gross profit per dollar of sale (average)	Net profit per dollar of sale (average)
Less than \$100,000.00	13.0	5.58
100,000.00 to 199,999.99	9.36	5.09
200,000.00 to 299,999.99	8.5	3.33
300,000.00 to 399,999.99	9.6	4.4
400,000.00 to 499,999.99	10.04	5.0
500,000.00 or over	11.0	3.5
Average	10.5	4.6

average between 13 and 14 percent and net profit per dollar of sales between 4 and 8 percent.¹

The distribution of gross and net profits for the feed dealers based on the firm's retail sales is shown in Table 2. If Elmore's percentages were considered as standards for the industry, the feed dealers with sales under \$100,000 had a normal average in this study while the other class frequencies might be considered below normal. The averages for the entire 42 feed dealers were about equal to the low range when compared to Elmore's standards.

The gross profits did not decrease in proportion to the increase in retail sales as did net profits, which is brought out in Table 2. However, gross profits did indicate an irregular tendency to decrease slightly until larger retail sales were involved. Records of individual feed dealers indicated that some feed dealers had low percentages for both gross and net profit with a small volume of sales, indicating good management.

The relationship between total gross profit and total net profit is shown in Fig. 3. A regression line was constructed by a regression equation. The independent variable was total gross profit and the dependent variable was total net profit. The regression line replaces the average as a standard of comparison, for this standard is not the same for all firms but varies according to the volume of sales. For example, the firm which had a total net profit of \$12,000 and total gross profit of \$24,000 was above average for total net profit when compared to all firms. Most of the

¹ D. H. Elmore, Credit Manager, Ralston Purina Company, Kansas City, Missouri; Robert Scharf, Nutrena Mills, Minneapolis; Ray P. Briton, Citizens State Bank, Ellsworth, Kansas; Interviewed at Midwest Feed Credit Group Annual Credit Meeting, January 15, 1957, Kansas City, Missouri.

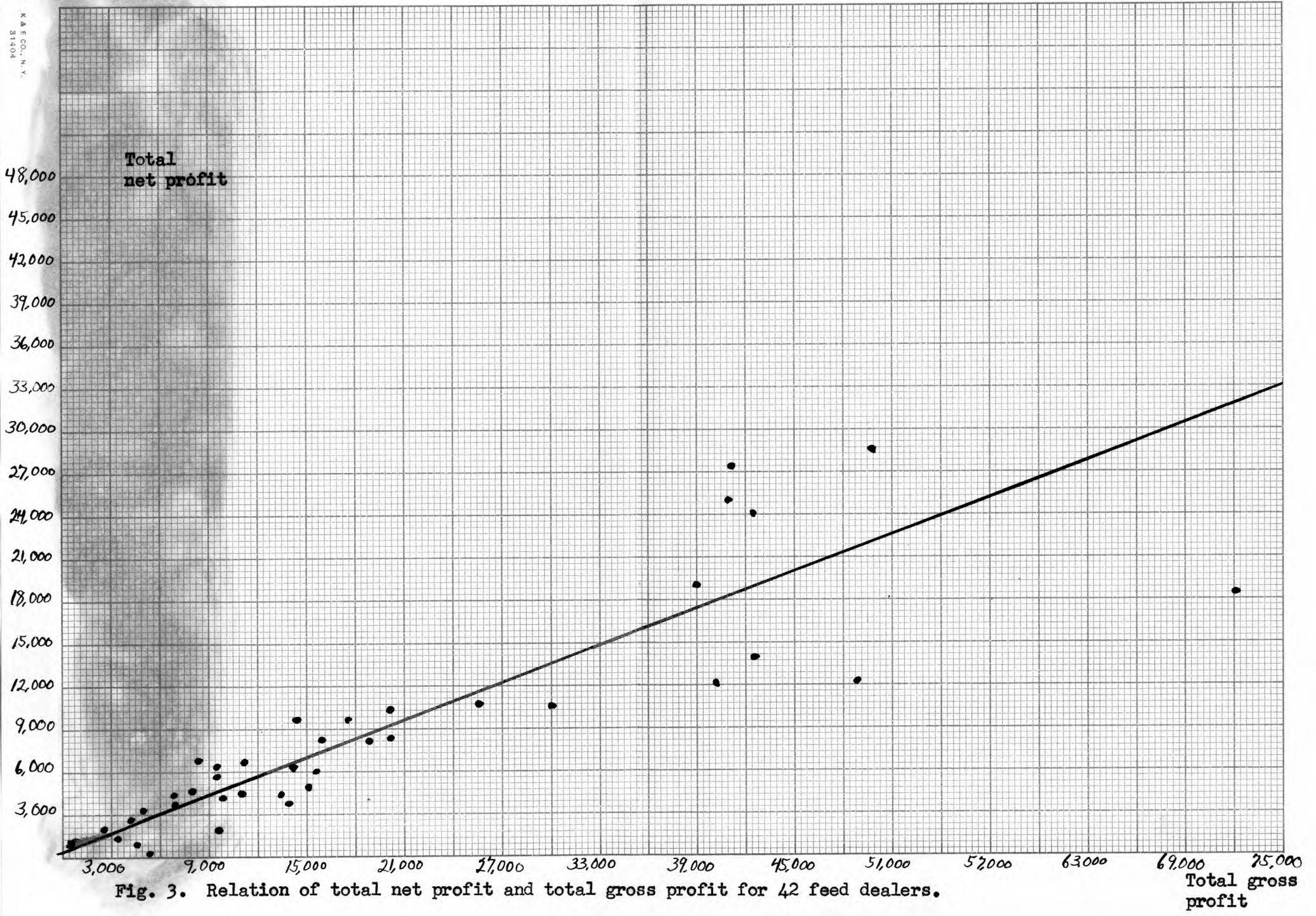


Fig. 3. Relation of total net profit and total gross profit for 42 feed dealers.

firms in Fig. 3 are close to the regression line. It was generally thought that the percentages determined the amount of gross and net profits. Apparently the percentages of gross profit and net profit slightly influenced total gross profit and total net profit, but the volume of sales influenced them to a larger degree. Large percentages do not mean that the firm was making a large profit total, since profit depended to such a large extent on the volume of retail sales. Firms with large volume of retail sales and small percent of net profit could have a larger total net profit than firms with small volume of retail sales and larger percent of gross and net profit. Given a satisfactory gross profit percentage and adequate sales, a business should have sufficient gross profit to cover its operating costs and leave a satisfactory net profit for the owners.

RECEIVABLES

Accounts Receivable and Delinquent

Wide seasonal variations were found in the accounts receivable of the 42 feed dealers. These variations were influenced by the receipts of farm income, the types of commercial feeds handled, type of farming area, and credit tradition in the community. The seasonal variations were measured by taking the 12 month average of accounts receivable and accounts delinquent for each class frequency which were based on total sales of each firm. Table 3 shows that feed dealers reached their highest credit sales in October, November, and December and again in February, March, and April. January credit sales were relatively low because farmers usually paid their accounts at the end of the year before making out their income tax returns.

Table 3. Comparison of average accounts receivable with average accounts delinquent per month with retail sales in 42 feed dealers, 1955-56.

<u>Accounts Receivable</u>						
<u>Retail Sales</u>						
Month	Under 100,000	100,000 to 199,999	200,000 to 299,999	300,000 to 399,999	400,000 to 499,999	500,000 and over
Jan.	\$ 6,032	\$ 6,546	\$ 14,000	\$ 22,686	\$ 31,657	\$ 41,412
Feb.	8,161	6,818	14,857	23,147	26,489	46,539
Mar.	6,371	6,914	15,345	28,357	26,789	59,642
Apr.	6,371	6,964	15,357	24,999	26,775	54,422
May	7,153	6,509	15,000	23,358	39,600	27,827
June	7,209	6,286	13,786	22,736	34,846	24,971
July	6,658	4,955	11,286	19,245	39,810	21,890
Aug.	6,481	4,550	11,500	19,144	41,078	20,121
Sept.	6,621	6,000	13,429	21,743	31,777	21,111
Oct.	8,649	6,909	14,071	25,458	32,416	48,585
Nov.	7,489	7,455	15,143	28,444	33,758	34,459
Dec.	7,637	7,636	15,429	27,352	32,147	36,000

<u>Accounts Delinquent</u>						
Jan.	1,988	2,473	3,471	4,069	3,727	10,042
Feb.	2,008	2,705	3,471	3,815	2,834	9,788
Mar.	2,064	2,482	3,400	5,856	4,227	11,068
Apr.	2,590	2,450	3,429	4,320	2,971	10,176
May	2,115	2,291	3,414	3,896	2,701	10,717
June	2,171	2,138	3,279	3,913	2,916	9,249
July	2,099	1,801	3,114	2,744	3,561	7,987
Aug.	2,142	1,749	3,129	2,756	3,631	8,836
Sept.	2,185	1,996	3,164	3,414	3,593	10,876
Oct.	2,357	2,309	3,486	4,406	2,899	13,733
Nov.	2,307	2,418	3,543	5,464	3,739	12,634
Dec.	2,265	2,605	3,557	4,495	3,322	13,469

Accounts receivable showed a greater seasonal variation than the accounts delinquent for all class frequencies. However, the accounts receivable and accounts delinquent in the class frequencies under \$100,000, \$100,000 to \$199,999, and \$200,000 to \$299,999 were relatively stable as compared with class frequencies of \$300,000 to \$399,999, \$400,000 to \$499,999, and \$500,000 and over.

Some managers mentioned the fact that receipts from the sales of formula feeds declined in years of poor crops and low prices, but receipts nevertheless stayed constant in proportion to other sidelines and grains. Farmers continued to purchase formula feeds when incomes were low and debts were harder to pay which might explain some of the accounts delinquent.

The large proportion of accounts delinquent in small firms might be attributed to slow payments because of lack in management. The lack in management might not have extended to purchasing or marketing, but there might have been carelessness or none at all in control of retail feed credit. The result was the simple neglect of accounts delinquent. Furthermore, the small feed dealers frequently ignored investigating about the ability of customers to pay before credit was extended. Another reason might be that the small feed dealers neglected in pressing collections.

Firms with smaller sales volume had a larger proportion of accounts delinquent than firms with larger sales volume. For example, the class frequency of under \$100,000 in Table 3, the accounts delinquent averaged approximately \$3,000. The retail sales increased 400 percent but the accounts delinquent increased only 50 percent in this example.

The amount of accounts receivable ranged from \$400 to \$95,000, but the majority of the accounts receivable were below \$10,000. This is

brought out by the wide difference between the median of \$8,500 and the simple average of \$15,500 for accounts receivable.

The distribution of feed dealers converged around the less than \$5,000 and \$5,000 to \$9,999 class frequencies, as shown in Table 4. There were 23.8 percent of the 42 feed dealers within the class of less than \$5,000, and 31.0 percent of the feed dealers were within the class of \$5,000 to \$9,999. This tendency might have been due to the fact that management tried to keep accounts receivable below the \$10,000 mark. Feed dealers having larger accounts receivable might adopt a collection goal that would bring the accounts receivable down to about the \$10,000 mark and feed dealers with smaller accounts receivable might aim at the \$5,000 mark. This distribution indicated that the dealers might have had some success at least in attaining these desired goals. Practically all firms made an attempt to collect as much as possible at the end of the year, and farmers usually paid their accounts at this time.

Feed dealers in class frequencies over \$10,000 in accounts receivable were fairly evenly distributed. This might be explained by the fact that firms with large volume of retail credit sales more vigorously stressed collection policies. These firms usually had an aggressive collection policy which brought pressure on all accounts for prompt payment.

The relationship between average accounts receivable and average accounts delinquent for the 42 feed dealers in this study is shown in Table 5. The tendency for large accounts delinquent to occur with large accounts receivable is emphasized in Table 5. If firms had large accounts receivable they also probably had large accounts delinquent. In order for

Table 4. Distribution of feed dealers according to the amount of accounts receivable on their books, 1955-56.

Amount of accounts receivable	: Number of firms	: Percent of total firms
Less than \$5,000.00	10	23.8
5,000 to 9,999.99	13	31.0
10,000 to 14,999.99	7	16.7
15,000 to 19,999.99	4	9.5
20,000 to 24,999.99	3	7.1
25,000 and over	5	11.9
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Average	\$ 15,496.83	
Median	8,500.00	
Range:	Largest Amount	\$95,283.00
	Smallest Amount	406.00

Table 5. Distribution of 42 feed dealers according to the relation of accounts receivable and accounts delinquent, 1955-56.

Amount of receivable	: Number of feed dealers	: Accounts receivable (average)	: Accounts delinquent (average)
under \$ 5,000	10	\$ 2,790	\$ 530
5,000 to 9,999.99	13	7,291	2,619
10,000 to 14,999.99	7	12,000	4,500
15,000 to 19,999.99	2	17,500	5,000
20,000 to 24,999.99	4	21,485	7,083
25,000 to 29,999.99	2	26,617	10,180
30,000 and over	4	68,260	9,803

firms to control accounts delinquent the accounts receivable must be under control first.

Some large feed dealers indicated that they practiced the policy of aging the accounts. The age of an account was the length of time it was outstanding. These feed dealers thought it was important to know the age of each account so that older accounts might receive more collection attention. The aging of accounts is a satisfactory method of checking the age of the accounts according to many accounting authorities.¹ The aging procedure involves listing each account and classifying it into various age groups such as less than 30 days, 30 days to 6 months, and 6 months or over. The older accounts were definitely more difficult to collect as they might have been poor credit risks when received but unrecognized by management, and losses from these accounts increased as they became older. Phelps found that accounts receivable dollar outstanding at 60 days was worth 89 cents, at 6 months the dollar was worth 67 cents, and at the end of 1 year it was worth 45 cents.²

Interest on Receivables

Any interest which was charged to accounts receivable was justified on the basis that capital was costly and each dollar in a business had to earn its way and when capital was tied up in accounts receivable some other part of the business had to forego the cost and use of that capital. Few feed dealers were in a position such that they could not use more operating capital to an advantage.

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- 1 Paul L. Brown and William R. Davidson, "Retailing, Principles and Practices," The Ronald Press Company, New York, 1953, Chapter 22.
 - 2 C. W. Phelps, "The Ten Hidden Losses in Slow Charge Accounts", Household Finance Corporation Bulletin, p. 5, 1937.

Only six of the 42 feed dealers charged interest on accounts delinquent; the distribution of interest rates charged and not charged is shown in Table 6. Four of the firms charged an interest rate of eight percent on all accounts past due. These feed dealers indicated that charging interest on over-due accounts receivable prevented them from becoming excessive. Firms charging interest thought that when customers had to pay interest on their accounts the customers made more of an attempt to pay their accounts during the credit period. It is self-evident that the rate of interest charged by the firm must exceed the current interest rate at the banks in order for the scheme to be effective; otherwise, there is no incentive for some customers to borrow from banks in order to pay cash.

None of the 42 feed dealers gave cash discounts to their customers. A few feed dealers believed that giving discounts would not increase sales volume enough to bother with. Also, giving cash discounts would not reduce the amount of credit sales very much as the gross margins on feeds were not large enough to give customers a large enough cash discount to be effective.

Cash discounts might be considered a premium paid to the buyer by the seller to insure the seller against expenses such as: (a) the use of the money for the time involved, (b) the expenses of carrying the account and making the collection, (c) the losses of bad debts.¹ One manager stated that by charging interest on accounts receivable was like a cash discount to customers that paid cash.

¹ Albert F. Chapin, "Credit and Collection, Principles and Practice," McGraw-Hill Book Company, 1953, Chapter 11.

Table 6. Distribution of retail feed dealers according to the relation of accounts receivable to interest rates charged and not charged on delinquent accounts, 1955-56.

Accounts receivable	: Interest rate : charged : (average)	: Number of : firms charg- : ing int.	: Number of : firms not : chg. int.
Less than \$ 5,000.00	0	0	10
5,000.00 to 9,999.99	6	3	10
10,000.00 to 14,999.99	8	2	5
15,000.00 to 19,999.99	0	0	4
20,000.00 to 24,999.99	0	0	3
25,000.00 and over	6	1	4

Notes Receivable and Chattel Mortgages

The 42 feed dealers in this study used notes receivable and chattel mortgages to a very limited extent. In Table 7 only 11 firms had approximately \$19,000.00 in notes receivable or an average of \$1,730 per firm. Only one firm discounted notes at the bank which was for \$3,000.00. Five of the 11 firms had obtained chattel mortgages on some of their notes receivable in this study. These chattel mortgages averaged \$1,500.00 per firm or approximately \$6,000.00 for the five firms.

Hancock stated, "Consider using a chattel mortgage on any account requiring over \$1,000.00 total credit."¹ If this can be considered as a standard for the feed business then the average chattel mortgages and notes receivable were above this standard and only one average chattel mortgage was below this standard.

Notes receivable are a written promise to pay a certain amount on a definite date and superior to accounts receivable in some ways. Although it should be remembered that in comparatively few industries, which the feed business is not one, it is customary to give notes for goods. If it was not the general practice, then what was the reason for substituting notes for accounts receivable? It will be found that notes either represented accounts which have become due or were settled by notes because the creditors insisted upon notes under the impression that it would lessen the risks. Such notes were obviously inferior to good accounts receivable, because superiority of the credit instrument will not overcome the inferiority of

¹ J. G. Hancock, General Credit Manager Albers Milling Company, "Revised Credit Program for Retail Feed Dealers," Washington State Feed Association, Inc., Seattle, Washington.

Table 7. Distribution of retail feed dealers according to relation of accounts receivable to notes obtained, notes discounted and chattel mortgages obtained, 1955-56.

Accounts receivable	Notes receivable		Notes discounted at bank		Chattel mortgage obtained	
	No. of firms	Total	No. of firms	Amount	No. of firms	Amount
Less than \$ 5,000.00	2	3,200.00	0	0	1	1,250.00
5,000.00 to 9,999.99	1	2,500.00	0	0	1	1,250.00
10,000.00 to 14,999.99	4	6,330.00	0	0	2	2,890.00
15,000.00 to 19,999.99	1	3,000.00	1	3,000.00	0	0
20,000.00 to 24,999.99	0	0	0	0	0	0
25,000.00 and over	3	4,000.00	0	0	1	500.00

obligor. Feed dealers might find that notes and chattel mortgages were somewhat frozen instead of a very liquid asset, and dealers can encounter large bad debt losses from these notes. The feed dealers in this study did not have an excessive amount of notes receivable on their books, because most feed dealers indicated that they did not care about notes and mortgages as banks usually had all of the farmers' assets pledged.

Chattel mortgages on livestock given to feed dealers by farmers for the payment of formula feeds may be justified, but any lien upon any of the farmer's assets might be very damaging to his credit standing with other firms. Therefore, farmers refused to give chattel mortgages and notes in many situations if at all possible. This explains to some degree the small number of chattel mortgages and notes receivable in possession of the 42 feed dealers.

Credit Periods

A wide variety of credit periods was offered by the 42 feed dealers in this study. The most popular credit periods with firms in this study were either for 30 or 60 days. In some cases credit was granted to customers for periods that were tailored to meet the individual's needs even though the firm had a definite credit period. Feed dealers using the "individual basis" usually specified a limit on either the time period or dollar amount.

Many managers mentioned that when farmers were granted credit it was not for 30 or 60 days, but for 6 months or until the livestock being fed was sold. Farmers generally do not receive their income in a series of

regular payments, rather it is received in a few lump payments when crops or livestock are sold. This makes strict credit periods impossible for any firm to maintain which sell to farmers. Some managers mentioned that credit periods were used for new customers and for customers that were not a sound financial risk.

Two-thirds of the feed dealers had credit periods that were 30 days, but more than two-thirds of the feed dealers in this study had a collection period of 30 days as illustrated in Table 8. A number of firms in this study had shorter collection periods than their credit periods. These shorter collection periods were practiced especially with feed dealers that were extending credit for more than 30 days. This denotes that the firms in this study with credit periods over 30 days were trying to collect more often from their customers. Five of the 42 feed dealers had a policy of extending no credit or strictly on a cash basis.

Many managers stated that their credit periods were influenced considerably by competition in the community. No firm can adopt an unduly strict policy of prompt collections and still maintain retail sales, unless the firm has something of a monopolistic field, especially if its competitors were lax in enforcing their credit periods. It would be difficult then for one firm to overcome what might be a customary condition in the community. Also firms might have made some concessions in their credit periods to cause this situation. Once concessions on credit periods have been made, more concessions follow, and a few special cases soon spread until they become general. Consequently, feed dealers' credit periods were influenced by a considerable extent on what was customary in the community and concessions made by the firm or other firms.

Table 8. Distribution of retail feed dealers according to the credit periods offered, 1955-56.

<u>Credit period</u>	:	<u>Number of dealers</u>
Cash		5
30 days		28
60 days		8
90 days		2
 <u>Collection period</u>		
Cash		5
30 days		31
60 days		6
90 days		1

Accounts Payable and Accounts Receivable

It seemed unreasonable for feed dealers to borrow money for the purpose of extending credit and few managers would term it a good business policy. Yet the average accounts payable for the 42 feed dealers was \$13,500 as compared to an average accounts receivable of \$15,500 and an average accounts delinquent of \$4,000. On the average, the feed dealers in this study could have paid off the entire amount of accounts payable if the accounts receivable could have been collected.

Accounts payable, accounts receivable, and accounts delinquent of the 42 feed dealers for each class frequency based on sales are compared in Table 9. Not all organizations had accounts payable in this study, and in many cases the accounts receivable and accounts delinquent were larger than the accounts payable. However, for some firms the accounts payable were in excess of both accounts receivable and accounts delinquent. Money was not always borrowed for the purpose of extending credit, but more often money was obtained to replenish the operating capital after the accounts receivable were incurred. Therefore, it seemed logical that the interest paid and cash discounts lost on accounts payable might be classed as expenses for extending credit. When firms were short of operating capital they were not permitted to carry a full line of merchandise in order to maximize retail sales or take advantage of cash discounts on purchases.

Sales and Receivables Ratio

The ratio of sales and receivables is a measurement used in this study to determine the effectiveness of credit policies. So much progress has been made in the area of ratio method of analysis that it has now

Table 9. A comparison of sales with accounts payable, accounts receivable and accounts delinquent in retail feed dealers, 1955-56.

Retail sales	: Accounts : payable : (average)	: Accounts : receivable : (average)	: Accounts : delinquent : (average)
Less than \$ 100,000.00	11,652.21	7,637.00	2,265.08
100,000.00 to 199,999.99	12,353.16	7,636.36	2,604.55
200,000.00 to 299,999.99	5,075.71	15,498.29	3,557.14
300,000.00 to 399,999.99	5,400.00	27,351.60	4,495.20
400,000.00 to 499,999.99	28,790.00	32,146.80	7,322.20
500,000.00 or over	45,469.50	36,000.00	13,469.00
Average	15,000.00	15,500.00	4,000.00

commonly been accepted by students of the subject and widely used by governmental agencies like the Securities and Exchange Commission and by most of the progressive credit managers in their daily work in mercantile organization and in commercial banking and other financial institutions.¹

A number of organizations, governmental and private, have made careful and extensive studies of ratios; these organizations have developed ratios for a representative number of business lines. Attempts have thus been made by these organizations to evolve sets of normal or standard ratio representing averages or medians derived from an examination of a number of statements. One such organization is Dun and Bradstreet, Inc. that has published annually certain ratios for 72 lines of business activity. No standard ratio for the feed industry was included in these 72 lines of business activity published annually by Dun and Bradstreet, Inc.² However, a survey conducted in 1951 by Dun and Bradstreet, Inc. for 230 Farm Supply Stores was available for comparison. The following was an excerpt from the article, "The stores used in this survey were primarily engaged in selling at retail, feed hay, grain, fertilizer, seed, and farm tools. No concerns operated more than three stores. All sections of the country as well as cities of all sizes were represented in this survey."³ This indicated that Dun and Bradstreet, Inc. survey could be compared satisfactorily with the 42 feed dealers in this study.

The sales and receivables ratio is found by dividing the total net sales for the year by the total of accounts and notes receivable. To

¹ Albert F. Chapin, "Credit and Collection, Principles and Practice," McGraw-Hill Book Company, 1953, Chapter 12.

² Ibid., Chapter 12.

³ E. T. Stevertsen, "230 Farm Supply Stores," Dun & Bradstreet, Inc., 1951.

determine the normal ratio of sales to receivables, a knowledge of the concern's terms of sales is essential. To illustrate, assume that sales for the year amounted to \$1,000,000 and that the receivables were \$110,000. By dividing the sales by the receivables a figure was obtained showing the number of times these receivables were turned over during the year, which was 9.09 ($1,000,000 \div 110,000$). To determine the number of days that sales were carried on the books, 9.09 was divided into 365, the days of the year ($365 \div 9.09$), the result being approximately 40.2. If the firm sold on 30-day terms, the ratio approached a normal condition. Under ordinary circumstances a comfortable condition of affairs is indicated as long as no more than 25 percent of the previous month's receivables are outstanding at the end of the current month.¹ Thus, 35 to 40 days' receivables outstanding on a statement of a concern selling on 30-day terms would be a favorable showing.

The average ratio of receivables for the 42 feed dealers in this study was 35 days, and 32 days was the average number of days credit was extended as shown in Table 10. A relationship ratio of 35 to 32 days might be considered subnormal in many cases. This relation of sales to receivables ratio seemed to enhance the firms' credit; such a relationship had significance which was not so favorable. This indicated a strict credit policy which caused sales to be sacrificed for a good collection record and low bad debt losses.

A significant ratio prevailed in the less than \$100,000 class frequency where the turnover of receivables was 58 days and the average number of days' credit was extended by firms was 33 days. Most feed dealers declared

¹ Albert F. Chapin, "Credit and Collection, Principles and Practice," McGraw-Hill Book Company, 1953, Chapter 13.

Table 10. Relation between volume of retail feed sales and accounts receivable in retail feed dealers, 1955-56.

Retail sales	: Turnover of : accounts : in days	: Average length : of period credit : was extended
Less than \$ 100,000.00	58 days	33 days
100,000.00 to 199,999.99	32 days	35 days
200,000.00 to 299,999.99	34 days	34 days
300,000.00 to 399,999.99	37 days	24 days
400,000.00 to 499,999.99	35 days	30 days
500,000.00 or over	34 days	30 days
Average	35 days	32 days

that they were on a 30-day credit basis. Abnormal ratio of 58 days indicated a longer period to collect a given sum of money, and it was caused by too liberal credit policies or a lax of collection methods. This meant an added expense to financing, because the firm used more capital to carry these accounts, a greater collection cost, and increased debt losses. In the remaining class frequencies the receivable's ratios and number of days' credit was extended were very close together.

For the 230 Farm Supply Stores surveyed by Dun and Bradstreet, Inc. a ratio for all stores was 28.8 days. The stores in this survey were also grouped by principal lines of merchandise. For 146 concerns having a feed line they had an average ratio of 23.4 days. When the 42 feed dealers were compared with Dun and Bradstreet, Inc. Stores, there was indication that the 42 feed dealers were extending credit for a longer period of time than might be considered customary. It should be mentioned that in Dun and Bradstreet, Inc. Study there were no bad debt losses for the 230 Farm Supply Stores.

COST OF CREDIT

Credit sales involve added cost above the costs incurred in making cash sales. There are certain costs for extending credit which are tangible and which can be measured. The most important of these measurable costs of extending credit were: (a) the losses on uncollectible accounts or bad debt losses, (b) interest on the capital tied up in receivables, (c) additional managerial duties and legal expenses, and (d) additional accounting work associated with accounts and office supplies used. One

cost not measurable involved the amount of patronage lost from those who were under pressure to pay their accounts by undiplomatic collection policies.

In spite of the care which credit was extended, some bad debt losses were inevitable. These losses seemed to be relatively more noticeable to the feed dealers even though it was a very small part of the actual cost of granting credit. Bad debt losses are usually separated on the books of the organization but the other credit expenses are not separated which makes bad debt losses so outstanding to the owners of a business. As will be shown and contrary to much popular opinion, bad debt losses were far less significant than were interest, managerial duties, and accounting costs.

The manager of a feed firm must be a salesman, which he attempts to sell all he can; and as a credit man, he attempts to restrict to a minimum those sales for which there is any doubt in his mind as to the ability and willingness of the customer to pay. On the other hand it has been stated that, "the sale is not made until the money is paid."

The fact still remains that when credit is extended costs are incurred. Additional bookkeeping is necessary. Time and money must be spent in collecting these accounts if they are not paid within a reasonable time. Funds must either be borrowed or the firm must forego the use of its own funds to extend credit. In the following pages these costs of credit extension will be analyzed.

Bad Debts

One of the actual costs which were charged entirely to credit extended was losses from bad debts. Some bad debts will occur in any business

regardless of the work done to avoid them. The most frequent reason mentioned by managers for bad debt losses were "crop failures" the last few years. Other causes mentioned by managers were "extension of too much credit to one farmer" and "dishonesty."

There are two methods accepted by accountants to provide for bad debt losses. One method is by directly writing off the uncollectible accounts as bad debt losses. Firms which practiced this method determined which accounts were uncollectible and then wrote these accounts off as a current year's expense. Generally it is considered good accounting practice to write off accounts when they are more than one year old. This method has the effect of varying net profit considerably because of the yearly variations in uncollectible accounts and determining which accounts to write off. The majority of the 42 feed dealers used this method of handling bad debt losses.

Bad debt reserves were the other method used by firms in this study for providing bad debt losses. Bad debt reserves were provided on the basis of losses anticipated in view of past experiences with credit losses. The annual additions to the reserves were charged as bad debt expense for that year. The most common methods of determining the amount to add to the reserve each year were: (a) percentage of outstanding receivables, (b) a percentage of credit sales or total sales, or (c) a flat amount added each year. The reserve method provided for losses in advance of their occurrence. Losses on accounts receivable really occurred when the sales were made. This method reduced the fluctuations in net margins caused by variations in bad debt losses.

Only four retail feed dealers in this study used the reserve method of providing for bad debt losses as compared with 28 retail feed dealers directly writing off the uncollectible accounts. Ten of the 42 feed dealers encounter no bad debt losses. Nearly 82 percent of the 42 feed dealers had an average bad debt loss of less than \$300.00.

It was less satisfactory to use bad debt losses for any one year since there might be a tendency on the part of managers to write off accounts delinquent and accounts receivables in years when profits were large and to write off none in years of losses or small incomes. This caused firms to shift losses of bad debts to years when profits were showed, thus reducing income taxes since losses of previous years were not deductible on years when profits were made. In Table 11 this tendency is not revealed because the average bad debt losses were rather small while average accounts delinquent were rather large. This was due to the fact that profits were about normal and farm incomes have decreased, but managers did not consider these accounts a complete loss yet. However, a direct relationship appears for accounts delinquent and bad debt losses for all class frequencies in Table 11. This table shows that large accounts delinquent existed with large bad debt losses indicating that when feed dealers had large accounts delinquent they probably encountered large bad debt losses.

Bad debt losses are compared to retail sales and accounts receivable in Table 12. Bad debt losses varied considerably with the volume of retail sales. The larger bad debt losses were for five feed dealers in the class of \$300,000 to \$399,999 which had .046 percent of retail sales as bad debt losses. The National Credit Bureau Association stated that bad debt losses

Table 11. Distribution of retail feed dealers according to account written off and accounts delinquent, 1955-56.

Amount of accounts receivable	: Number of dealers	: Accounts delinquent (average)	: Bad debt losses (average)
Less than \$ 5,000.00	10	530.00	88.43
5,000.00 to 9,999.99	13	2,619.23	274.79
10,000.00 to 14,999.99	7	4,500.00	200.00
15,000.00 to 19,999.99	4	3,750.00	75.00
20,000.00 to 24,999.99	3	6,610.33	381.48
25,000.00 and over	5	9,415.00	2,700.00

should average $\frac{1}{2}$ of one percent of retail sales.¹ None of the class frequencies in Table 12 were above the Association's standard.

Probably a better measure of the actual losses for bad debts might be the percent of losses incurred on the accounts receivable rather than the percent of total sales. Using accounts receivable as a basis, bad debt losses ranged from 2.59 to 5.48 percent of accounts receivable while the large volume sales class frequency had bad debt losses of only .28 percent of accounts receivable. Very little was concluded from the large class frequency of \$500,000 or over because only two firms were in this class, although these larger firms were in a better financial position to bring pressure and proceed vigorously to collect from slow patrons which could reduce bad debt losses for this class.

The bad debt losses varied considerably with the volume of retail sales. The three smaller class frequencies lost an average of 2.85 percent of accounts receivable as bad debts while the two larger class frequencies lost 4.11 percent of accounts receivable. This tendency for smaller bad debt losses of accounts receivable to occur in the small volume feed dealers might be due to a combination of factors. First, the smaller firms built more goodwill which fostered a psychological attitude such that the customer did all possible to pay, or at least not pay all the rest of his bills first. The second reason was that smaller firms were in a better position to know their customers better and not accept poor credit risks.

¹ Raymond Algott, Manhattan Credit Bureau Association, Personal Interview, September 28, 1956.

Table 12. Distribution of retail feed dealers according to the relation between volume of retail sales and bad debts, 1955-56.

Retail sales	: : Number of retail : feed dealers	: : Average : bad debts	: : Bad debts in : percent of re- : tail sales	: : Bad debts in : percent of ac- : count receivable
Less than \$ 100,000.00	12	198.23	.032	2.59
100,000.00 to 199,999.99	11	199.09	.015	2.61
200,000.00 to 299,999.99	7	518.90	.023	3.35
300,000.00 to 399,999.99	5	1,500.00	.046	5.48
400,000.00 to 499,999.99	5	980.00	.024	3.05
500,000.00 or over	2	100.00	.002	.28

Accounting and Managerial Costs

Some costs associated with the granting of credit are unavoidable. In the small firm the proprietor usually made the decision as to whom credit should be extended. This took time away from his other activities, so that credit extension should be considered as carrying part of his salary. In the medium and large-sized feed store, making credit decisions was the full-time activity of one or more persons which resulted in an increase in the feed dealer's payroll. In addition persons were employed to keep records, make out statements, and attempt collections besides furnishing office space and office supplies for these employees.

As shown in Table 13 more than 538 hours a year were spent by the average manager and an average of more than 1,268 hours by employees for management and bookkeeping due to credit extension. Other credit expenses such as postage, stationery, fees for professional collectors, legal fees, fees for filing chattel mortgages, etc. in addition to those above.

The proportion of credit costs to the gross profit of formula feeds was important as a measurement of the relative profitableness of credit. In Table 14 credit costs of retail sales and credit sales were compared to average gross profit and net profit on sales for firms with credit policies and no definite credit policies, respectively. There was no significant difference between credit costs for firms with credit policies and those who had no definite credit policies in this study. The average credit costs were 17.3 and 22.1 percent of total credit sales for firms with credit policies and firms with no definite credit policies, respectively. Credit costs were approximately 50 percent more than average gross profit on sales and approximately 500 percent above average net profit for

Table 13. Average number of hours worked by managers and other employees directly related to credit extension in 42 feed dealers, 1955-56.

Accounts receivable	:	Average number of hours for managers	:	Average number of hours for other employees
Under \$ 5,000.00		213		1,170
5,000.00 to 9,999.99		447		506
10,000.00 to 14,999.99		801		0
15,000.00 to 19,999.99		780		120
20,000.00 to 24,999.99		608		0
25,000.00 to 29,999.99		560		300
30,000.00 and over		908		2,136
Average		538		1,268

Table 14. A comparison of the costs of retail credit in firms with credit policy and no definite credit policy, 1955-56.

Items of average credit cost per credit policy group	: Credit policy : for business	: No definite credit : policy for business
a) Number of firms	17	25
b) Bad debts	10,273.21	10,527.82
c) Interest	21,501.96	17,715.43
d) Accounting costs	24,645.00	28,597.00
e) Managerial costs	5,483.00	8,501.05
Total credit costs	61,903.17	65,341.35
f) Credit costs in percent of retail sales	1.3	1.7
g) Credit costs in percent of credit sales	17.3	22.1
h) Average gross profit on sales per dollar (%)	10.3	11.1
i) Average net profit on sales per dollar (%)	4.7	4.5

both credit policies in this study. This indicated that feed dealers incurred a large loss when sales were made on credit as compared to cash sales.

When percent of credit costs were compared with the percent of total sales no loss occurred from credit sales. The average credit costs in percent of total retail sales were 1.3 percent for firms having credit policies and 1.7 percent for firms having no definite credit policies. The percent of credit costs of retail sales was only approximately one-third of the average net profit per dollar of retail sales for both policies. This did not mean a great deal since cash sales were included which caused the low percent credit costs.

The high percentage of gross profits on formula feeds that was taken to pay for the accounting and managerial costs of credit extension is brought out in Table 15. These costs excluded the bad debt losses and interest on accounts receivable and delinquent that these firms encountered. The smaller accounts receivable groups used all of their gross margin to meet just these costs. Certainly these firms had difficulty in making the credit sales bear their share of the operating load. It follows that the gross margin on formula feeds should be higher in firms extending credit as compared to the firms strictly selling on cash.

If average gross margin per dollar of sales were compared with credit costs in percent of credit sales, the average credit operation was not a profitable operation for most of the 42 feed dealers in this study. The average credit costs for the 42 feed dealers was \$3,029.63. Knudtson and Koller found that credit costs for the 42 feed dealers was \$2,766.33.¹

¹ Arvid C. Knudtson and E. Fred Koller, "Accounts Receivable Credit Study in Minnesota Farm Supply Cooperatives," Agricultural Experiment Station, University of Minnesota, Station Bulletin 430, May 1955, p. 28.

Table 15. A comparison of accounting and managerial costs for credit extension with gross profit on formula feeds in 42 feed dealers, 1955-56.

Accounts receivable	:	Number	:	Average account- ing & managerial costs for credit	:	Average gross profit on credit sales
Under \$ 5,000.00	:	10	:	\$ 851.00	:	\$ 362.00
5,000.00 to 9,999.99	:	13	:	982.00	:	656.00
10,000.00 to 14,999.99	:	7	:	1,492.00	:	1,057.00
15,000.00 to 19,999.99	:	2	:	1,617.00	:	2,420.00
20,000.00 to 24,999.99	:	4	:	905.00	:	2,330.00
25,000.00 to 29,999.99	:	2	:	998.00	:	2,930.00
30,000.00 and over	:	4	:	6,640.00	:	5,072.00

The feed dealers' credit costs in this study were only \$263,30 over Knudtson and Koller study of Minnesota Farm Supply Cooperatives. This indicated that the 42 feed dealers were about average when compared with Minnesota Cooperatives.

Credit costs amounted to an average of \$19.47 per \$100 of credit sales for the feed dealers in this study. Credit costs of \$19.47 were relatively large when the average gross profit per \$100 was only \$10.70 for the 42 feed dealers. This showed the large amount of sales necessary to pay for the cost of credit. Thus, the average feed dealer in this study lost money as far as credit sales were concerned when based on just actual costs. Why did firms continue to extend credit in the face of these costs. The reason given by feed dealers was that competition must be met and therefore the firm extended credit, and many managers did not realize how much credit extension really cost.

Intangible Factors

Other intangible factors that are not measurable must be considered which offset some of these credit costs. For instance, nearly every feed dealer found that a number of his potential customers demanded credit service, and unless he was willing to meet their demands, he was limiting the number of customers his firm could attract. In part, customers' demand for credit arose from the fact that credit made their buying more convenient. Credit facilitated buying over the telephone, so that children or hired men could be sent to pickup purchases without intrusting money to their care. Hert indicated that these various conveniences which go with credit

buying were responsible for about 35 percent of all credit customers.¹

The demand for credit service also arose because many farmers received their incomes at seasonal intervals. Thus, they found it necessary to buy on credit during a considerable part of the period between seasons. Hert believed that 65 percent of all open-account credit buying could be traced to this lack of readily available funds.² This lack of funds was especially significant for farmers who received the bulk of their incomes from annual crops and livestock sales.

A customer having a credit account with a firm was apt to be a more steady customer and, hence, buy a greater proportion of his feed requirement from one source than was the cash customer.³ In many communities competition practically forced the feed dealer to extend credit or lose a considerable amount of business.

Many farmers appreciated this courtesy and service, but they probably would patronize the firm without the credit service. Then the customer who asked for credit and was turned down became dissatisfied because he felt he should be granted credit if his neighbor received this service. There were injustices involved when credit was extended to some and not to others, for certainly the cost was excessive in most cases and when the cash and credit customers were charged the same there was an element of unfair treatment among customers.

¹ A. H. Hert, "Charge Accounts of Retail Merchants," *The Annals*, Volume 196, 1938, p. 111.

² *Ibid.*, p. 111.

³ H. D. Wolfe, "The Retail Executive," July 12, 1939, p. 13.

CREDIT CONTROL

Effective credit control must start with a good credit policy. The word credit control is a very inclusive term. Generally it includes the rules necessary to select successfully credit applicants, extend credit, and collect outstanding accounts. These rules which were established by each firm were influenced by the financial position of the organization and the degree of competition it faced. A firm faced with little competition would find it advantageous from the cost standpoint to transact all business on a cash basis or to extend smaller amounts of credit for shorter periods than they otherwise would. In view of the factors that affect credit policy, each firm tailored its own credit policy to a considerable extent.

Customer's Credit Limits

One of the most baffling problems that confronted each firm is to determine how much credit could reasonably be extended to a certain credit risk. Credit managers have adopted many different methods of fixing customer's credit limits. There is no substitute for the expert judgment and experience in determining a customer's ultimate credit limit.

The most common methods used in fixing credit limits for the 42 feed dealers in this study were: (a) the customer's need for credit, (b) accounts not paid during the credit period, (c) liquidation value of livestock or net worth, and (d) amount of credit extended by other organizations. Table 16 shows the relationship for these various methods used by the 42 feed dealers. There is significant indication from this table that the first three methods were the most satisfactory, and the last method least satisfactory to the feed dealers in this study.

Table 16. A comparison of the methods used in fixing customers credit limits by retail feed dealers, 1955-56.

Factors	: Very : important	: Fairly : important	: Not considered : at all
1.) Customer's needs for credit	32	5	5
2.) Accounts not paid during credit period	26	8	8
3.) Liquidation value of livestock	24	11	7
4.) Gauge credit limit by amount of credit extended by others	1	3	38

The most common method used in fixing customer's limits was to gauge the customer's credit according to his need for credit. Thirty-two of the 42 feed dealers believed that the customer's need for credit was very important in this study. This method included a consideration for the farmer's seasonal needs and the method approaches the concept that what the debtor may prudently use the creditor might prudently extend. It obviously did not cover the problem of how the financing of the merchandise was divided between farmers and retail feed dealers. Therefore, the retail feed dealers might find themselves doing a disproportionate share of the financing, resulting in slow and unsatisfactory collections.

The second most used method in fixing customer's credit limits was the practice of limiting the amount if the accounts were not paid during the credit period. Twenty-six feed dealers in this study thought that this method was very satisfactory. The customer's purchases could not appear unreasonable at first. However, later, any amount the customer ordered was sold only as long as prompt payments were made. This practice could be dangerous as the manager could discover that the credit extended was far beyond the realms of prudence when it was too late.

Another method used by feed dealers was to limit credit by the amount of liquidation value of livestock. This method assumed that all farmers with like net worth were entitled to the same credit, yet one customer might have used his capital more efficiently than the other one. This method was considered very successful by 24 retail feed dealers in this study.

The most infrequent method was to gauge credit by the amount of credit extended by other feed dealers. This method assumed that the other creditors

used their best judgment in determining the amount of credit extended. Many managers mentioned this factor was important, but there was no available information on the amount of credit extended to customers by other feed dealers or firms.

Probably no one method is satisfactory in fixing customer's credit limits, but a combination of all methods should be used. Most feed dealers mentioned that they used a combination of two or more factors in determining the customer's credit limits.

Merchandise Credit Limits

Many factors influenced the firm's merchandise credit limits for the retail feed dealers in this study. Some of the important factors that influenced merchandising credit limits were: (a) the competitive situation in the community, (b) amount of capital, (c) cost of doing business, (d) class of trade, and (e) line of business. Table 17 shows the relationship among factors which influenced merchandise credit limits in the 42 feed dealers.

The competitive situation in the community was considered first by the 42 feed dealers out of the five most important merchandise credit limit factors. Twenty-three feed dealers considered this factor important in fixing the firm's merchandise credit limits. Many managers said they found it extremely difficult to keep limits within the bounds of safety according to their own judgment if the customers were granted much larger amounts by competitors. This situation caused the dealers to be confronted with credit extended without proper investigation and analysis which could result in large bad debt losses.

The amount of credit a single feed dealer was able to extend was influenced greatly by the amount of capital available to the dealer. It must be realized that the greater proportion of capital in relation to the accounts receivable, the less risk involved which caused capital to be so important to feed dealers. The 42 feed dealers were very divided on capital as a limiting factor. This might be explained by the fact that some feed dealers had larger amounts of capital. The amount of capital was considered first by 12 feed dealers, second by 14 feed dealers, and fifth by 11 feed dealers. The 11 feed dealers that considered capital relatively unimportant were usually rather large feed dealers.

The cost of doing business was considered second, third, and fourth by the 42 feed dealers as shown in Table 17. The reason for the wide consideration for this factor by the feed dealers was due to the fact that many concerns did not really know their actual expenses. In many small stores where only a small proportion of sales was made on credit, proprietors were not particularly conscious of credit expense. The reason was that a large proportion of such costs were hidden, or were absorbed in the payroll expense of non-specialized employees who would probably be needed even if no credit sales were made. Where the profit is small many more dollars of sales are required to wipe out a loss than where the profit is large. Therefore, the lower the margin of profit on sales, the higher the credit standard would be.

The class of trade served by the feed dealers was considered third, fourth, and fifth. The occupation of the farmer gave added risk to the feed dealers because farmers' incomes could be affected by violent price fluctuations, weather conditions, and other factors beyond the farmers' control. Therefore the credit risk was increased by these factors.

Table 17. Comparison of factors that influence merchandise credit limits in retail feed dealers, 1955-56.

Factors	: First	: Second	: Third	: Fourth	: Fifth
Competitive situation in the community	23	3	7	5	4
Amount of capital	12	14	2	3	11
Cost of doing business	2	12	15	10	3
Class of trade	2	6	12	12	10
Line of business	3	7	6	12	14

The line of business was considered least important by the 42 feed dealers in this survey. There is risk in all business, but there is not added risk in the feed industry like rapid style changes and violent changes in demand.

From Table 17 there is indication that the competitive situation in the community determined the amount of credit extended, followed by the amount of capital were the important factors in determining the merchandise credit limits for the feed dealers in this study. The other factors that managers emphasized when extending credit were in the following order: the cost of doing business, third; class of trade, fourth; and line of business, fifth.

Selling Activities

It was impossible to generalize with respect to the character and number of services feed dealers provided for their customers. The feed dealers in this study employed primarily the following selling activities: (a) feed milling service, (b) delivery service, (c) advertising, (d) credit extension, and (e) contracts with customers. Conclusive evidence appears in Table 18 that the 42 feed dealers considered that feed milling service, delivery service, and advertising were more important than credit extension and contracts.

Feed Milling Service. A very large percentage of feed dealers were equipped to grind, mix, crack, shell, clean, treat, chop, hull, and do other services in preparing grain, grain products, and other ingredients for effective use in livestock feeding. Feed milling services were considered very important by the 42 feed dealers to the firm's business. With so

Table 18. A comparison of the different kinds of selling activities offered by retail feed dealers, 1955-56.

Factors	: Very : important	: Fairly : important	: Not used : at all
1.) Feed milling service	25	7	10
2.) Delivery service	20	10	12
3.) Advertising	20	7	15
4.) Credit extension	13	23	6
5.) Contracts with customers	5	8	29

many dealers rendering this service it must be necessary. If feed milling service was not offered then the feed dealer had to have a very attractive alternative advantage to entice and hold his customers.

Delivery Service. With certain types of goods, delivery is a necessity. More often, however, this service is simply a convenience farmers wanted and have come to expect. Among the main factors contributing to the growing importance of the delivery service was that farmers could telephone for feeds to be delivered which saved considerable time during busy seasons. Many feed dealers operated weekly delivery routes over their trading area for the farmers convenience.

Almost three-fourths of the feed dealers in this study provided delivery service for their customers. Most feed dealers that provided delivery service usually charged a small fee for the service. Twenty of the feed dealers considered that delivery service was very important to the firm, and many of these feed dealers indicated that they were offering the service only to meet competition in the community. In brief, the performance of a delivery service was one of the feed dealer's important services, and apparently it is becoming more important.

Advertising. Advertising is the promotion effort that reaches out beyond the firm. It informs, arouses interest, invites, and otherwise attempts favorably to influence customers and potential customers. In the competitive feed market, it was very difficult to attract new customers and hold the patronage of existing ones without such promotion. The central problem that faced most of the feed dealers was not whether to advertise, but rather how to employ advertising effectively. Because of this factor many feed dealers mentioned that they used personal salesmanship

instead of advertising since more effective results were obtained. Farmers often visited stores during slack periods when sales or future sales could be made, or an indication then received as to what the firm should handle.

Feed dealers in this study did a very limited amount of advertising of formula feeds, but they still considered it important. The main reasons for the limited amount of advertising was that the manufacturers usually advertise their own feeds, and feed dealers did not know how to use advertising effectively for best results. Only 64 percent of the feed dealers did some advertising, and 48 percent considered advertising very important. A third of the feed dealers in this study did not use advertising at all as a selling activity. Usually the advertising expenditures varied directly with the volume of total sales. Firms that spent large sums on advertising had a larger sales volume.

Credit. The use of credit in the feed business probably is essential as in most other lines of business. Credit provides an essential service to society as a medium of exchange. Credit extension by the feed dealers made many transactions more convenient for the farmers. Approximately three-fourths of the feed dealers in this study considered credit extension as an important selling factor and only six did not use credit at all in their operation. Only 13 of the 42 feed dealers considered credit very important as a selling activity and 23 considered credit only fairly important.

No one can say decisively, of course, that the feeding of formula feeds aspect of agriculture's technological revolution would not have occurred in the absence of credit which enabled the farmer to purchase formula feeds on a credit basis, but there was little doubt that the pace of this

momentous change was quickened by the availability of credit. In the past, banks financed a large part of the livestock feeding enterprises, but at the same time they have almost refused entirely to finance the feeds for these same livestock loans. Feed dealers were confronted by a lack of financial facilities to finance their feeds, but they have assumed this financing task themselves.¹ In general, feed dealers have provided farmers with an important service by extending credit.

Contracts. Contracts with customers were started 15 to 20 years ago by the feed manufacturers extending credit on feeds only, but later they were forced by competition to finance the customers approximately 100 percent.² These contracts usually set forth terms of payment, warranty, liability, and regularity of deliveries or assurance of supplies. Approximately two-thirds of the feed dealers in this study did not use contracts with customers at all. The main reason for the lack of contracts among feed dealers was that most feed manufacturers negotiated contracts directly with the farmers.

The main advantage of contracts are the supervision the feed company can offer to farmers. With this close relationship the feed companies have a "personalized service" which aides in selling their feeds. Feed contracts add to the stability and assurance of sales for both feed companies and feed dealers.

¹ D. H. Elmore, Credit Manager of Ralston Purina Company, Kansas City, Missouri; Robert Scharf, Nutrena Mills, Minneapolis; Ray P. Briton, Citizens State Bank, Ellsworth, Kansas; Interviewed at Midwest Feed Credit Group Annual Credit Meeting, January 15, 1957, Kansas City, Missouri.

² Ibid.

The main faults with feed contracts are that it was impossible to keep track of the livestock. Diseases often struck the livestock, and the feed dealer did not have any security as the bank usually had all of the customer's assets pledged. During the past few years, manufacturers and feed dealers were financing these customers without security or in other words they were giving credit on management. Financing the farmer 100 percent was not a sound investment for the farmer or feed dealer as this was close to the market value of the livestock; therefore, the farmer would have very little interest in the livestock.

The feed dealers should not overlook the opportunities that contracts offer in the nature of increased sales volume. With good selection of customers, feed dealers could use contracts more extensively and to an advantage in their operations than at present.¹

Credit Information

Sources of credit information used by the 42 feed dealers ranged from those commonly used to those disclosed only by managers employing unusual sources. Only those sources which were commonly used by feed dealers were studied in this paper. A comparison of the different kinds of information most commonly used by feed dealers is shown in Table 19. This table shows definite indications that managers considered knowing their customers personally was their most valuable source of information in extending credit to farmers.

Application Forms. Requiring customers to fill out application forms for credit is usually considered a good business policy. Such application

¹ Henry H. Bakken, "Some Facts About Retail Feed Distribution," Feedstuffs, June 30, 1956, p. 38.

Table 19. A comparison of the different kinds of information obtained by retail feed dealers in the extension of credit to new credit customers, 1955-56.

Factors	: Very : important	: Fairly : important	: Not used : at all
1.) Customers are required to fill out applications	3	1	38
2.) References	3	2	37
3.) Obtain reports from banks and credit associations	12	7	23
4.) Have a complete understanding with customer on how bills are to be paid	27	0	15
5.) Know customers personally	42	0	0

forms serve as a basis for further investigation through the references given. This was one way of obtaining information concerning the customer's existing obligations that were to be paid. One then could fully judge the customer's ability to assume additional obligations, because this factor should determine the acceptance of a credit risk rather than the vendor's ability to obtain a prior lien, a judgment, or some other means of protection.

Only four of the feed dealers in this study required and considered application forms important. These four firms were located in rather large communities or served large territories where it would be impossible to know every customer personally. A few managers mentioned that farmers resented filling out application forms which might explain the small number of application forms used by the 42 feed dealers.

References. Referring to Table 19 again, the same four feed dealers using application forms used references given by customers on these forms, and one other feed dealer obtained recommendations from sources not given by the customer. The value of such names given by customers as sources of information was not very great in some cases. Naturally, in giving references the customers selected only names which would make the best report. More valuable as references were the names which were obtained from some other source. Feed dealers might meet and talk with customer's neighbors and other firms selling to the same customers. Such references when they could be obtained might disclose the customer's real paying habits.

Banks. Banks are valuable sources of reliable credit information, particularly in regard to its borrowers. Banks usually made a very careful and thorough investigation before an unsecured loan is made, and if the

banks have the accounts for any length of time it has a thorough knowledge of their customers.

In addition to the bank's borrowing accounts, the bank usually has information about the checking accounts and the business activities of the community. Banks as a class possess a great deal of credit information. Although banks often possess the information desired, they are not always productive of as much valuable credit information as might be expected. Nineteen feed dealers used banks as a source of credit information, but twenty-three of the feed dealers did not use information from banks.

Understanding with Customers. Almost all managers of the 42 feed dealers considered that having a complete understanding with customers on how and when bills were to be paid was very important. Only 15 managers said they had an understanding with customers, but most of the 42 managers believed it was very important and had just neglected it in their organizations.

Many managers mentioned that controversies over terms of sales and difficulties in making collections promptly were due to false impressions left by the salesman as insinuations that terms could be infringed upon with impunity. The salesman needed to be impressed with the fact that terms were as vital a part of the contract as the price and that terms were not to be changed either by direct statement or by implication.

Know Customers Personally. All feed dealers in this study considered knowing customers personally to be the most important information in extending credit. All managers used this source of information along with other sources, but some managers relied on this information only in extending credit. Managers that relied on knowing customers personally were in small

communities where the people were well acquainted. Even in small communities knowing customers personally was not a satisfactory source of information in extending credit, because customers were apt to change their paying habits or financial conditions change over a very short time. Thus, managers would accept risks which they did not even know about and would otherwise be unsatisfactory if the true facts were revealed.

SUMMARY AND CONCLUSIONS

Credit transactions made up approximately 30 percent of retail feed sales for the 42 feed dealers in this study. Retail feed sales for the feed dealers in this study averaged \$205,000 per feed dealer. The average feed dealer did business with approximately 350 customers, varying from 50 to 1,000 customers. About 50 percent of the customers did business on credit.

The average gross profit was 10.5 percent of retail sales for the 42 feed dealers and net profit was 4.5 percent of retail sales. Total net profits depend to a large degree on the volume of sales and not on the percentages of net profit.

Accounts receivable were turned over on the average of once each 35 days, and 32 days was the average number of days credit was extended. Most feed dealers claimed that they had a 30-day credit period, and feed dealers that had credit periods longer than 30 days tried to collect more often. Interest on overdue accounts was charged only by six firms. Having no definite credit policy and extending credit according to the individual was as satisfactory as having a definite credit policy according to the 42 feed dealers.

Accounts receivable ranged from \$400 to \$95,000, but the majority of the organizations had less than \$10,000 in accounts receivable. This is brought out when the average accounts receivable was \$15,500 while the median was \$8,500. Analysis of the seasonal patterns of accounts receivable indicates that they reached their highest amount in the 42 feed dealers in October, November, and December and then again in February, March, and April. January accounts receivable were relatively low as farmers usually paid their accounts before making out income tax returns. Accounts delinquent were very stable during the entire year regardless of fluctuation in sales or accounts receivable. If firms had large amounts of accounts receivable they also had large accounts delinquent. Firms with small sales volume tended to have a larger proportion of accounts receivable and accounts delinquent than larger volume firms.

Average accounts payable were slightly less than average accounts receivable for the 42 feed dealers. Money may not be borrowed expressly for the purpose of extending credit, but when it is borrowed to replenish inventories and pay accounts payable and these in turn are sold on credit the loan finally comes to be represented by the receivables.

Many firms failed to make adequate bad debt provisions to protect themselves from losses on uncollectible accounts. Only 4 of the 42 firms provided for bad debts by setting up reserves for this purpose. Thirty-eight firms wrote off uncollectible accounts when they thought the accounts were uncollectible. Ten firms encountered no bad debt losses or made any write-off during the period. This situation has resulted in not writing off bad debts when they probably should be and as a result a large amount of accounts delinquent appear on feed dealers books.

Out of the 42 feed dealers only 11 firms had an average of \$1,730 in notes, and 5 of the 11 firms obtained chattel mortgages averaging \$1,500 per firm. Notes were not very popular with feed dealers as banks usually had all of the farmer's assets pledged.

The average total credit costs per feed dealer was \$3,029. These costs were: \$1,600 for accounting and managerial costs, \$495 for bad debt losses, and \$928 for interest on receivables. Credit extension required 538 hours per year of the average manager's time and in addition the average employee worked 1,268 hours. Total credit costs amounted to an average of \$19.47 per \$100 of credit sales for feed dealers in this study but average gross profit was only \$10.70 per \$100 of credit sales. The costs for credit are excessive and the average firm would find considerable difficulty in showing any profit at all if all sales were on credit. Many intangible factors which cannot be measured must be considered which will offset some of these credit costs. A large number of customers are lost because credit is not extended to them and by undiplomatic collection policies.

Feed dealers in this study determined customer's credit limits mainly by the customer's needs for credit and if accounts were paid during the credit period. The firm's merchandise credit limits were mainly influenced by competition in the community and amount of capital. Feed milling service was the most important selling activity and credit extension was considered only fourth by the 42 feed dealers.

Many of the firms included in this study did not make the patron aware of credit terms at the time of sale. Information required before extending credit varied from knowing the customers, which most firms used, to requiring customers to fill out an application form. All possible sources should

be used when credit is extended to find out the customers paying habits and his financial condition.

More adequate records should be kept by feed dealers in order to have better credit control and to facilitate checking the age of accounts so management will know their business better. Perhaps no other asset is of greater importance or needs more careful scrutiny than debtors credit.

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BIBLIOGRAPHY

Books

- Beckman, Theodore N. "Credit and Collections in Theory and Practice," McGraw-Hill Book Company, Inc., 1939, Chapter 5.
- Brown, Bishop. "Delivery Costs-Their Measurement and Comparison," University of Pittsburgh Press, 1953, Chapter 1.
- Brown, Paul L., and William R. Davidson, "Retailing Principles and Practices," The Ronald Press Company, New York, 1953, Chapters 22 and 25.
- Chapin, Albert F. "Credit and Collection, Principles and Practice," McGraw-Hill Book Company, 1953, Chapters 1, 7, 11, 12, and 13.
- Snedecor, George W. "Statistical Methods," The Iowa State College Press, Ames, Iowa, Fifth Edition 1956, Chapter 1.

Periodical

- Bakken, Henry K. "Some Facts About Retail Feed Distribution," Feedstuffs, June 30, 1956, p. 38.
- Diesslin, Howard G. "Agricultural Equipment Financing," National Bureau of Economic Research, Occasional Paper 50, Chapter 1.
- Elmore, D. H. "Control of Credit by Feed Dealers," Feedstuffs, Volume 28, Number 24, June 16, 1956, pp. 38-40.
- Hert, A. H. "Charge Accounts of Retail Merchants," The Annals, Volume 196, 1938, p. 111.
- _____ "Kansas Official Directory," Kansas Grain and Feed Dealers Association.
- McCarthy, George. "Loose Credit a Problem," Flour and Feed, January, 1955, p. 8.
- Merriam, J. L. "Influence of Retail Credit upon the Continuity of Demand," Journal of Marketing, Volume IV, Number 4, Part 2, 1940, p. 91.
- Phelps, C. W. "The Ten Hidden Losses in Slow Charge Accounts," Household Finance Corporation Bulletin, 1937, p. 5.
- Teachout, H. R. "Credit Discussed at Vermont Conference," Feedstuffs, April 21, 1956, p. 68.
- Wolfe, H. D. "The Retail Executive," July 12, 1939, p. 13.

Government and State Bulletins

- Jennings, R. D., Agricultural Economist, "Feed Consumed by Livestock and Supply and Disposition of Feeds by States, 1949-50," Statistical Bulletin Number 145, USDA, Agricultural Research Service, June 1954.
- Knudtson, Arvid C., and E. Fred Koller, "Accounts Receivable Credit Study in Minnesota Farm Supply Cooperatives," Agricultural Experiment Station, University of Minnesota, Station Bulletin 430, May, 1955, p. 28.
- Maughan, Orlo M., "Cost of Granting Credit in 84 Feed Stores," Farm Economics, New York State College of Agricultural, Cornell University, 32:1976-1976, August, 1933.
- Post, R. E. "Farmers' Elevators in the Spring Wheat Area of South Dakota," South Dakota Agricultural Experiment Station, Bulletin 282, 1933, p. 9.

Private Bulletins

- Hancock, J. G., General Credit Manager of Albers Milling Company, "Revised Credit Program for Retail Feed Dealer," Washington State Feed Association, Inc., Seattle, Washington.
- Stevertsen, E. T. "230 Farm Supply Stores," Dun and Bradstreet, Inc., New York City, New York, 1951.

Newspapers

- Borland, H. "The Tale of Credit From Grasses On," New York Times Magazine, January 14, 1940, p. 8.

Interviews

- Elmore, D. H., Credit Manager, Ralston Purina Company, 2334 Rochester Ave., Kansas City 20, Missouri, Personal Letter, July 19, 1956.
- Elmore, D. H., Credit Manager of Ralston Purina Company, Kansas City Missouri; Robert Scharf, Nutrena Mills, Minneapolis; Ray P. Briton, Citizens State Bank, Ellsworth, Kansas; Interviewed at Midwest Feed Credit Group Annual Credit Meeting, January 15, 1957, Kansas City, Missouri.
- Algott, Raymond, Manhattan Credit Bureau Association, Personal Interview, September 28, 1956.

CREDIT BY RETAIL FEED DEALERS

by

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Credit problems of feed dealers in Kansas have increased at a rapid rate in recent years. The various credit practices of firms raise the question as to which are the most satisfactory. It is not unusual to find one community having a different credit practice being used by firms to that of firms in another community. A careful analysis is required of these credit practices and its effects on retailing of commercial formula feeds by feed dealers to help managers direct credit affairs of the organization as they pertain to credit and to point out ways that are being used satisfactorily to control credit.

The method used to evaluate the credit practices of feed dealers in this study was by personal interviews. Forty-two firms were selected at random from the 130 feed dealers in Type-of-Farming areas 4 and 5 of Kansas where livestock are the predominant enterprise. Information was obtained by personal interview with the managers and other employees. Data was obtained concerning business practices, retail credit practices, sales volume, and factors concerning customer's relationships. Data was obtained for the year beginning July 1, 1955, and ending June 30, 1956, for the purpose of this study.

The average volume for feed dealers was \$205,000 with more than half of the feed dealers having feed sales under \$200,000. Gross profit averaged 10.5 percent of retail sales and 4.5 percent for net profit.

Accounts receivable were turned over on the average of once every 35 days, and the average length of time credit was extended was 32 days. Most of the feed dealers declared that they were on a 30-day credit basis and six firms charged interest beyond their credit period. Six of the 42 feed dealers had a policy of extending no credit or on a strict cash basis and no firm gave a discount for cash.

Accounts receivable were largest in the winter months except January when most accounts were usually paid. Fluctuation in accounts delinquent were small during the whole year regardless of changes in sales or accounts receivable. A larger proportion of accounts receivable and accounts delinquent were held by firms with small sales volume, and firms having large amounts of accounts receivable usually had large accounts delinquent.

Bad debt losses were very small in most feed dealers as bad debt losses averaged about $1/4$ of one percent of retail sales. The National Credit Bureau Association stated that bad debt losses should average $1/2$ of one percent of retail sales when firms were selling on credit. Most firms failed to make adequate provisions for bad debts as only 4 firms provided reserves for this purpose.

The average feed dealer in this study could have paid off the accounts payable if the accounts receivable could have been collected. Accounts payable were not encountered expressly for the purpose of extending credit, but when accounts payable represent inventories they finally become receivables. Feed dealers used notes and chattel mortgages only to a limited extent.

Credit extension costs for the average feed dealer were: \$1,600 for accounting and managerial costs, \$495 for bad debts, and \$928 for interest on receivables. These total \$3,029. Managers spent an average of 528 hours directly related to credit and the average employee worked 1,268 hours. The total credit costs were \$19.47 per \$100 of sales, but gross profit averaged only \$10.70 per \$100 of credit sales. Credit costs were large for the 42 feed dealers, but bad debts were only a minor part of the cost of extending credit which is usually the only credit cost considered.

Many intangible factors which cannot be measured must be considered which will offset some of these credit costs. A large number of customers are lost because of undiplomatic collection policies and credit not extended to them but to others.

Customer's credit limits were determined by the feed dealers in this study by the customer's needs for credit and if accounts were paid during the credit period. The firm's merchandise credit limits were influenced by the competitive situation in the community and the amount of capital available to the firm. The feed dealers considered feed milling service the best selling activity available to them, and knowing customers personally was considered the most valuable source of credit information by the 42 feed dealers. All managers consider that having a complete understanding with customers on how and when bills were to be paid was important, but only 15 managers said they had this understanding with customers.

Firms in general did not keep adequate records to give managers a complete description of their business. Perhaps no other asset is of greater importance or needs more careful scrutiny than debtors credit.