



EXTENDING CUSTOMER CREDIT IN THE RURAL MARKET

Much has been written and no doubt much more will be written about the cost, benefits, and pitfalls of extending customer credit in the rural markets for farm supplies and/or commodities. As interest rates approached record levels in the late 1970s, agribusiness trade literature filled with admonitions regarding the penalties of unwise credit management. Many agribusiness firms took seriously such warnings, forcibly imposed restrictions on their accounts receivable programs, and survived the period of financial and economic stress. Others failed to heed the warnings, forged ahead with ambitious marketing schemes, and were eventually left with burdensome unpaid accounts receivables, working capital shortages, and a rapidly deteriorating financial base.

By the early 1980s, the interest rate spiral began to ease. Slowly, often too slowly, the prime rate began to drop. If one argues that the prime rate should mirror the inflationary components of our economy, then as we approach the mid-1980s, interest rates remain far too high. Industry and our money market investors must first be convinced that inflation is now under control. As this happens, interest rates will again be subject to downward pressures. Insofar as the prime rate has now dropped below the 12% level, the question is will agribusiness firms return to their earlier practices of granting easy and/or low-cost customer credit? I hope not. To do so would, in my opinion, be unwise and unwarranted. Too many agribusiness firms fail to appreciate and fully accommodate the full cost of extending credit. Even when competitive pressures force such businesses

to extend this service, the skills required to control/manage the process are lacking. Finally, while interest rates have declined, they remain substantial. And, even with prospects for further reductions in this rate, the economic viability of our production agriculture sector has deteriorated in recent years to the point where additional producer-credit, as provided freely by agribusiness firms, is suspect, risk ridden, and potentially damaging to borrower and lender alike. These judgments may appear harsh and uncompromising. The objective of this discussion is to provide support for this point of view.

Extending Credit and the Real World

Despite what has been said above, the "real world" in which the agribusiness manager operates often does not give rise to the question of whether or not credit is to be extended. More realistically, credit is viewed as a traditional and necessary service. The very nature of the agricultural economy requires it.

First, one must acknowledge that agricultural production is, by necessity, a seasonal enterprise producing dramatic fluctuations in income flows. Many producers are reluctant to, or unable to, prearrange an adequate line of operating credit. Second, conditions of stress have recently arisen throughout the Farm Credit System. As a result, credit traditionally granted through their system of PCAs, while still available, will be more costly and more difficult to obtain. Third, the practice of granting liberal customer financing remains a deeply ingrained competitive factor, particularly in the farm supply industry. Finally, because of the variety of functions performed and/or services provided by our

agribusiness firms, often by a single firm, credit takes on a particularly complex nature. This results largely from the fact that such a vast array of products/functions/services generates a wide divergence of margins for the agribusiness enterprise; e.g., grain merchandising may generate gross margins of only 1-3%, while the sale of some chemical products may generate gross margins of nearly 40%. A single customer credit policy applied uniformly across all products/functions/services could easily cause small margins to vanish in some areas.

If the agribusiness manager really has no choice over whether or not some credit-based service is to be provided, then the first major question he/she must answer is "how much does it cost?"

What Is the Cost?

As I visit with agribusiness managers, most are aware that customer/patron credit is a costly item. When asked to quantify this cost, few are able to provide an accurate response. Most managers pull from their desks a recent copy of their "aged accounts receivables." Others point to their most recent annual report where bad debt losses (write-offs) are acknowledged. Neither reference represents a truly accurate answer to the question, what does customer/patron credit cost?

Let's begin first with the most basic formula:

$$(1.1) \quad I = P(i)T$$

where: I = interest paid
P = principal
i = interest rate
T = time

Now by applying a common industry customer/patron credit policy, we shall attempt to determine the true cost. First, let's assume our hypothetical "Wazzu Farm Supply Store" allows customers 30 days to pay their accounts, and charges a monthly

finance charge of 1.5% on the balance due thereafter. Further, let's assume that to cover delays in its receipts of customer payments, Wazzu must borrow operating capital from the local bank at an annual rate of 3% over prime (currently the prime rate is 12%). Wazzu generally assumes that 1.5% per month earns 18% per year and, therefore, compensates for the 15% they currently pay against their operating loan. Is this true? Of course not, as it can be shown by transposing our formula, that a customer paying their account, in full, on the 60th day following purchase pays to the retailer an effective annual rate of interest of only about 9%; e.g.,

$$(1.2) \quad i = \frac{I}{PT} = \frac{\$.015}{(\$1.)\left(\frac{60}{365}\right)} = \frac{\$.15}{.1643} = 9.13\%$$

Therefore credit costing Wazzu 15% per year is earning for them the annual equivalent of only 9%, the negative difference of which must be extracted from operating margins.

Should this same account go 90 days before payment, the customer pays about 12% for credit, which cost the retailer 15% to provide; i.e.,

$$i = \frac{\$.030}{(\$1.)\left(\frac{90}{365}\right)} = 12.1\%$$

Figure 1 demonstrates the dilemma confronted by the farm supply retailer. Only after a customer waited a full six months before paying in full would his payment of credit charges compensate for the retailer's cost of providing that credit (excluding those bookkeeping and billing costs associated with the credit extension). To make matters worse, unpaid customer accounts extending beyond 90-120 days incur the added, and rapidly growing, risk of nonpayment. If one discounted the unpaid aging customer accounts to reflect this allowance for nonpayment, it could be shown that the credit

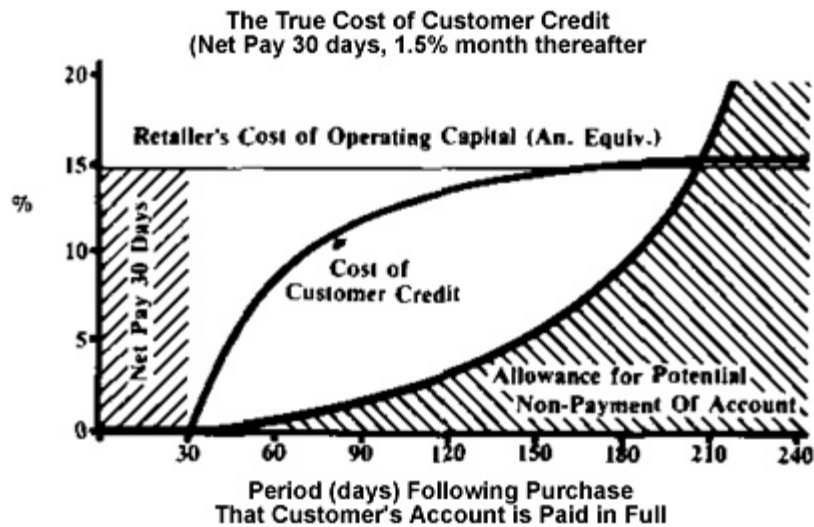


Figure 1. The true cost of customer credit.

policy demonstrated here likely results in a retailer loss throughout its period of application.

Trade Credit Offset

Suppose, as a farm supply retailer, you choose not to secure working capital via a commercial line of credit. Instead, you provide customer credit under the terms described above, and plan to cover cash flow deficiencies through your use of credit provided by your wholesale suppliers. Trade credit is, thereby, used to offset the delayed cash flow accruing due to your extension of customer/patron credit. Your hope is to pass some, if not all, of the costs of such a customer service on to the wholesaler or manufacturer.

Trade credit in the agribusiness industry varies, but let's assume it is quoted as "2/10, n/30," meaning that a 2% discount is provided on the amount of the invoice if paid within 10 days, with the full amount due and payable by the 30th day. Because you are selling retail on the "net 30 day pay" basis, funds are not available to routinely access the 2% wholesale discount. What is your cost of credit, given your inability to realize the wholesaler's discount? Here the formula becomes:

$$(1.3) \text{ Cost} = \frac{\text{Discount \%}}{100 - \text{Discount \%}} \times \frac{360}{\text{Final Due Date} - \text{Discount Period}}$$

In our example, for a \$100 wholesale purchase, you pay \$2 more for the merchandise at 30 days than you would have, had you paid cash within 10 days. In other words, you pay \$2 to borrow from the wholesale supplier \$98 for 20 days. The cost to you, based on the above formula, becomes:

$$\frac{2\%}{100 - 2\%} \times \frac{360}{30 - 10} = \frac{2}{98} \times \frac{360}{20} = 36.72\%$$

It's interesting to note that other common trade credit terms produce similarly high costs. Under these hypothetical terms, the agribusiness firms incurs a 36.7% interest cost (annual equivalent) to provide customer credit which may net to the retailer interest proceeds no greater than 12-15%, and often even less. Once again, the negative differential (e.g., 36-15 = 21%) must be extracted from gross margins, which as a percent of total sales may fall short for many products/functions/services.

Customer Discounts

Now suppose instead of offering your customer/patrons the "net pay 30 days + 1.5%/month" credit terms, you elect to provide customer discounts as a prompt payment incentive. You elect to provide terms described as "2/7, n/30 + 1.5%/month." Assume further that you have just sold \$1,000 worth of merchandise under these terms and you're borrowing at 15% from your local commercial bank to supplant working capital deficits. Now what are the relevant costs of credit?

If the customer elects to take the discount and pay within seven days, the costs are:

Cost of 2% discount (on \$1,000)	\$20.00
Cost of carrying bank loan at 15% for 7 days	2.92
Finance charge earnings paid by customer	0
Net cost of credit to retailer	<u>\$22.92</u>

Returning now to our formulae (1) and (2), one discovers that the retailer's cost of this credit policy is:

$$i = \frac{I}{PT} = \frac{22.92}{\$1,000 \left(\frac{7}{365} \right)} = \frac{22.92}{19.178} = 119.5\% \text{ annual equivalent}$$

Now let's assume the customer foregoes the discount and pays the full retail price in 30 days. The relevant costs are:

Cost of 2% discount (on \$1,000)	0
Cost of carrying bank loan at 15% for 30 days	12.50
Finance charge earnings paid by customer	0
Net cost of credit to retailer	<u>\$12.50</u>

Again, using our formulae (1) and (2), the retailer's cost of this credit policy is:

$$\frac{12.50}{\$1,000 \left(\frac{30}{365} \right)} = \frac{12.50}{82.19} = 15\%, \text{ or as expected,}$$

just about equal to that rate paid for the bank loan.

Finally, let us assume the customer elects not to pay in 30 days and incurs a finance charge of 1.5%, for an additional 30 days of credit. The retailer's costs are:

Cost of 2% discount (on \$1,000)	0
Cost of carrying bank loan at 15% for 60 days	25.00
Finance charge earnings paid by customer for 1.5% for one month	<u>-15.00</u>
Net cost of credit to retailer	\$10.00

With an annual equivalent interest cost of:

$$\frac{12.50}{\$1000 \left(\frac{60}{365} \right)} = \frac{12.50}{164.38} = 7.60\%$$

It should be noted that where discounts are provided as an incentive for early customer payment, they may still prove to be the most costly policy. As shown above, extending the customer's credit an additional 30 days proved to be the least costly alternative from the retailer's point of view.

We cannot always conclude, however, that discounts are bad. For example, if the discounts encourage payment before the invoices are prepared and mailed, some accounting costs will be reduced. Second, if the discount is attractive to the customer, it removes the potential that the customer's account will some day accrue to bad debt losses. Third, through early payment by the customer, the agribusiness firm can reduce both the magnitude and the duration of its working capital loan. Finally, the discount program may provide an incentive to your sales volume, resulting in a more efficient use of personnel and business assets.

Credit Costs and Gross Margins

As described above, a retailer's cost of extending customer credit may vary from modest to astronomical levels, depending on the composition of the credit policy and the manner in which customers elect to use the components. As shown, however, it is possible for the agribusiness retailer to computationally determine the approximate cost (in annual equivalent rates) of alternative credit policies.

Many agribusiness managers profess difficulty in accepting the high level of such computed costs. The reason lies in their logical argument that the credit policy is inseparable from their competitive market strategy. This is true, of course, as terms of credit are judged to have a positive influence on gross sales. Perhaps, therefore, a more acceptable measure of the cost of extending credit is one which references gross sales and/or net profit margin.

It's relatively easy, for example, to describe the impact of bad debt on profits. If a firm was generating a 5% net margin on monthly sales of \$20,000, a single \$1,000 uncollectable account would fully offset a month of realized profit. If we exclude consideration for bad debt, the analysis becomes somewhat more complex.

For example, assume a customer charges \$1,000 worth of product/function/services in a month when the business was budgeted to show a 5% net margin on sales and where that business incurs a 12% cost of capital financing. In this simple example, net margin on this customer's business is reduced by 1% per month for every month the account remains unpaid. If it remains uncollected beyond the fifth month following the sale, the firm will incur a net loss on the transaction. In this case, net margin is reduced by 20% for each month the sale remains charged to accounts receivable. It is now easier to see why different credit policies may apply to different products/functions/services. Those generating a high margin on sales suffer a

smaller percentage loss of margin for each month in which the sale remains charged to accounts receivable.

Once again discounts, as a credit policy component, must be assessed from the point of view of their impact on sales and/or margins. Quite clearly, discounts, when utilized by customers, reduce percentage gross margins. If gross margins (in dollars) are to remain unaffected by discounts, additional sales must result. Table 1 clearly describes this relationship.

To offset these direct and indirect costs of offering a discount, agribusiness retailers may seek to increase their gross margin (%) through price increases or other adjustments. When attempting to adjust upwards the gross margin (%) through "price" increases, sales may decline. If management wishes to retain pre-existing levels of gross profit (in dollars) following an upward adjustment in gross margin (%), sales cannot drop precipitously. As shown in Table 2, sales must remain within 50 to 96.8% of their earlier levels if 1-5% increases in margins are to generate the same gross dollar profit.

As has been shown, the interrelationships between credit policy revisions, discounts, the retailer's cost and source of working capital, gross margins, and sales are complex. Complex though they may be, agribusiness managers must compute these costs and study the options carefully if the cost of extending credit is to be controlled. The net profit margin generated by a product/function/service must be considered in the establishment of a credit policy.

Rules of Thumb

The discussion provided above gives the bases for several "rules of thumb" agribusiness managers must consider. First, free front-end credit is always costly. When combined with revolving credit provisions, the practice rarely earns enough to cover the cost of the funds required to support the procedure. Second, use customer discounts where it is necessary to encourage rapid

payment, but it may become necessary to raise the list price of those items bearing the discounts so that margins are not dramatically altered. Third, try not to provide for your customers credit terms measurably more attractive than the terms provided you by your wholesale supplier or manufacturer. Similarly, if your supplier offers you early payment discounts, it is generally to your advantage to utilize them. Finally, the impact on margins and sales must always be considered before new or adjusted customer credit programs are implemented.

If the prime rate continues its slow decline, agribusiness managers may be subject to pressures for the easing or extension of customer credit policies. This is always an expensive proposition, often more costly than managers care to acknowledge. Compute the real cost of extending credit in the rural market and then reconsider the decision.

Table 1. Additional sales needed to maintain same Gross Margin in dollars as compared to before a discount.

Percent Gross Margin	5.0	10.0	15.0	20.0	25.0	30.0
Percent Discount	Percent of Additional Sales Needed					
1.0	25.0	11.1	7.1	5.3	4.2	3.4
2.0	66.7	25.0	15.4	11.1	8.7	7.1
3.0	150.0	42.9	25.0	17.6	13.6	11.1
4.0	400.0	66.7	36.4	25.0*	19.0	15.4
5.0		100.0	50.0	33.3	25.0	20.0
6.0		150.0	66.7	42.9	31.6	25.0
7.0		233.3	87.5	53.8	38.9	30.4
8.0		400.0	114.3	66.7	47.1	36.4
9.0		900.0	150.0	81.8	56.3	42.9
10.0			200.0	100.0	66.7	50.0


*For example: If the gross operating margin on a certain product is 20% and the manager offers a discount for cash of 4%, the chart indicates 25% additional sales would be needed to yield the same gross margin in dollars as before the discount.

Table 2. Percent of sales needed to attain the same Gross Dollar Profit as before Margin Increase.

Percent Gross Margin	5.0	10.0	15.0	20.0	25.0	30.0
Increase of Margin (%)	Percent of Pre-Margin Sales Increase Needed					
1	83.3	90.9	93.8	95.2	96.2	96.8
2	71.4	83.3	88.2	90.9	92.6	93.8
3	62.5	76.9	83.3	87.0	89.3	90.9
4	55.6	71.4	78.9	83.3	86.2	88.2
5	50.0	66.7	75.0	80.0*	83.3	85.7

*For example: If the gross operating margin on a product presently merchandised at a 20% margin could be increased 5%, the chart indicates only 80% as many sales would be needed to attain the same gross margin in dollars as before margin increase.

Sincerely,



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