



APPENDIX

16A

SECURED SHORT-TERM
FINANCING

This appendix discusses procedures for using accounts receivable and inventories as security for short-term loans. As noted earlier in the chapter, secured loans involve quite a bit of paperwork and other administrative costs that make them relatively expensive. However, this is often the only type of financing available to weaker firms.

ACCOUNTS RECEIVABLE FINANCING

Accounts receivable financing involves either the pledging of receivables or the selling of receivables (called factoring). The *pledging of accounts receivable*, or putting accounts receivable up as security for a loan, is characterized by the fact that the lender not only has a claim against the receivables but also has *recourse* to the borrower: If the person or firm that bought the goods does not pay, the selling firm must take the loss. Therefore, the risk of default on the pledged accounts receivable remains with the borrower. The buyer of the goods is not ordinarily notified about the pledging of the receivables, and the financial institution that lends on the security of accounts receivable is generally either a commercial bank or one of the large industrial finance companies.

Factoring, or selling accounts receivable, involves the purchase of accounts receivable by the lender, generally without recourse to the borrower, which means that if the purchaser of the goods does not pay for them, the lender rather than the seller of the goods takes the loss. Under factoring, the buyer of the goods is typically notified of the transfer and is asked to make payment directly to the financial institution. Since the factoring firm assumes the risk of default on bad accounts, it must make the credit check. Accordingly, factors provide not only money, but also a credit department for the borrower. Incidentally, the same financial institutions that make loans against pledged receivables also serve as factors. Thus, depending on the circumstances and the wishes of the borrower, a financial institution will provide either form of receivables financing.

Procedure for Pledging Accounts Receivable

The financing of accounts receivable is initiated by a legally binding agreement between the seller of the goods and the financing institution. The agreement sets forth in detail the procedures to be followed and the legal obligations of both parties. Once the working relationship has been established, the seller periodically takes a batch of invoices to the financing institution. The lender reviews the invoices and makes credit appraisals of the buyers. Invoices of companies that do not meet the lender's credit standards are not accepted for pledging.

The financial institution seeks to protect itself at every phase of the operation. First, selection of sound invoices is one way the lender safeguards itself. Second, if the buyer of the goods does not pay the invoice, the lender still has recourse against

the seller. Third, additional protection is afforded the lender because the loan will generally be less than 100 percent of the pledged receivables; for example, the lender may advance the selling firm only 75 percent of the amount of the pledged invoices.

Procedure for Factoring Accounts Receivable

The procedures used in factoring are somewhat different from those for pledging. Again, an agreement between the seller and the factor specifies legal obligations and procedural arrangements. When the seller receives an order from a buyer, a credit approval slip is written and immediately sent to the factoring company for a credit check. If the factor approves the credit, shipment is made and the invoice is stamped to notify the buyer to make payment directly to the factoring company. If the factor does not approve the sale, the seller generally refuses to fill the order; if the sale is made anyway, the factor will not buy the account.

The factor normally performs three functions: (1) credit checking, (2) lending, and (3) risk bearing. However, the seller can select various combinations of these functions by changing provisions in the factoring agreement. For example, a small- or medium-sized firm may have the factor perform the risk-bearing function and thus avoid having to establish a credit department. The factor's service is often less costly than a credit department that would have excess capacity for the firm's credit volume. At the same time, if the selling firm uses someone who is not really qualified for the job to perform credit checking, then that person's lack of education, training, and experience could result in excessive losses.

The seller may have the factor perform the credit-checking and risk-taking functions without performing the lending function. The following procedure illustrates the handling of a \$10,000 order under this arrangement. The factor checks and approves the invoices. The goods are shipped on terms of net 30. Payment is made to the factor, who remits to the seller. If the buyer defaults, however, the \$10,000 must still be remitted to the seller, and if the \$10,000 is never paid, the factor sustains a \$10,000 loss. Note that in this situation, the factor does not remit funds to the seller until either they are received from the buyer of the goods or the credit period has expired. Thus, the factor does not supply any credit.

Now consider the more typical situation in which the factor performs the lending, risk-bearing, and credit-checking functions. The goods are shipped, and even though payment is not due for 30 days, the factor immediately makes funds available to the seller. Suppose \$10,000 worth of goods are shipped. Further, assume that the factoring commission for credit checking and risk bearing is 2.5 percent of the invoice price, or \$250, and that the interest expense is computed at a 9 percent annual rate on the invoice balance, or \$75.¹ The selling firm's accounting entry is as follows:

Cash	\$9,175	
Interest expense	75	
Factoring commission	250	
Reserve due from factor on collection of account	500	
Accounts receivable		\$10,000

¹ Since the interest is only for one month, we multiply 1/12 of the quoted rate (9 percent) by the \$10,000 invoice price:

$$(1/12)(0.09)(\$10,000) = \$75.$$

(footnote continues)

The \$500 due from the factor upon collection of the account is a reserve established by the factor to cover disputes between the seller and buyers over damaged goods, goods returned by the buyers to the seller, and the failure to make an outright sale of goods. The reserve is paid to the selling firm when the factor collects on the account.

Factoring is normally a continuous process instead of the single cycle just described. The firm that sells the goods receives an order; it transmits this order to the factor for approval; upon approval, the firm ships the goods; the factor advances the invoice amount minus withholdings to the seller; the buyer pays the factor when payment is due; and the factor periodically remits any excess in the reserve to the seller of the goods. Once a routine has been established, a continuous circular flow of goods and funds takes place between the seller, the buyers of the goods, and the factor. Thus, once the factoring agreement is in force, funds from this source are *spontaneous* in the sense that an increase in sales will automatically generate additional credit.

Cost of Receivables Financing

Both accounts receivable pledging and factoring are convenient and advantageous, but they can be costly. The credit-checking and risk-bearing fee is 1 to 3 percent of the amount of invoices accepted by the factor, and it may be even more if the buyers are poor credit risks. The cost of money is reflected in the interest rate (usually 2 to 3 percentage points over the prime rate) charged on the unpaid balance of the funds advanced by the factor.

Evaluation of Receivables Financing

It cannot be said categorically that accounts receivable financing is always either a good or a poor way to raise funds. Among the advantages is, first, the flexibility of this source of financing: As the firm's sales expand, more financing is needed, but a larger volume of invoices, and hence a larger amount of receivables financing, is generated automatically. Second, receivables can be used as security for loans that would not otherwise be granted. Third, factoring can provide the services of a credit department that might otherwise be available only at a higher cost.

Accounts receivable financing also has disadvantages. First, when invoices are numerous and relatively small in dollar amount, the administrative costs involved may be excessive. Second, since receivables represent the firm's most liquid noncash assets, some trade creditors may refuse to sell on credit to a firm that factors or pledges its receivables on the grounds that this practice weakens the position of other creditors.

Future Use of Receivables Financing

We may make a prediction at this point: In the future, accounts receivable financing will increase in relative importance. Computer technology is rapidly advancing toward the point where credit records of individuals and firms can be kept on disks and magnetic tapes. For example, one device used by retailers consists of a box which,

(Footnote 1 continued)

The effective annual interest rate is above 9 percent because (1) the term is for less than one year and (2) a discounting procedure is used and the borrower does not get the full \$10,000. In many instances, however, the factoring contract calls for interest to be calculated on the invoice price minus the factoring commission and the reserve account.

when an individual's magnetic credit card is inserted, gives a signal that the credit is "good" and that a bank is willing to "buy" the receivable created as soon as the store completes the sale. The cost of handling invoices will be greatly reduced over present-day costs because the new systems will be so highly automated. This will make it possible to use accounts receivable financing for very small sales, and it will reduce the cost of all receivables financing. The net result will be a marked expansion of accounts receivable financing. In fact, when consumers use credit cards such as MasterCard or Visa, the seller is in effect factoring receivables. The seller receives the amount of the purchase, minus a percentage fee, the next working day. The buyer receives 30 days' (or so) credit, at which time he or she remits payment directly to the credit card company or sponsoring bank.

INVENTORY FINANCING

A substantial amount of credit is secured by business inventories. If a firm is a relatively good credit risk, the mere existence of the inventory may be a sufficient basis for receiving an unsecured loan. However, if the firm is a relatively poor risk, the lending institution may insist upon security in the form of a *lien* against the inventory. Methods for using inventories as security are discussed in this section.

Blanket Liens

The *inventory blanket lien* gives the lending institution a lien against all the borrower's inventories. However, the borrower is free to sell inventories, and thus the value of the collateral can be reduced below the level that existed when the loan was granted.

Trust Receipts

Because of the inherent weakness of the blanket lien, another procedure for inventory financing has been developed—the *security instrument* (also called the *trust receipt*), which is an instrument acknowledging that the goods are held in trust for the lender. Under this method, the borrowing firm, as a condition for receiving funds from the lender, signs and delivers a trust receipt for the goods. The goods can be stored in a public warehouse or held on the premises of the borrower. The trust receipt states that the goods are held in trust for the lender or are segregated on the borrower's premises on the lender's behalf, and that any proceeds from the sale of the goods must be transmitted to the lender at the end of each day. Automobile dealer financing is one of the best examples of trust receipt financing.

One defect of trust receipt financing is the requirement that a trust receipt be issued for specific goods. For example, if the security is autos in a dealer's inventory, the trust receipts must indicate the cars by registration number. In order to validate its trust receipts, the lending institution must send someone to the borrower's premises periodically to see that the auto numbers are correctly listed because auto dealers who are in financial difficulty have been known to sell cars lacking trust receipts and then use the funds obtained for other operations rather than to repay the bank. Problems are compounded if the borrower has a number of different locations, especially if they are separated geographically from the lender. To offset these inconveniences, *warehousing* has come into wide use as a method of securing loans with inventory.

Warehouse Receipts

Warehouse receipt financing is another way to use inventory as security. It is a method of financing that uses inventory as a security and that requires public notification, physical control of the inventory, and supervision by a custodian of the field warehousing concern. A *public warehouse* is an independent third-party operation engaged in the business of storing goods. Items that must age, such as tobacco and liquor, are often financed and stored in public warehouses. Sometimes a public warehouse is not practical because of the bulkiness of goods and the expense of transporting them to and from the borrower's premises. In such cases, a *field warehouse* may be established on the borrower's grounds. To provide inventory supervision, the lending institution employs a third party in the arrangement, the field warehousing company, which acts as its agent.

Field warehousing can be illustrated by a simple example. Suppose a firm that has iron stacked in an open yard on its premises needs a loan. A field warehousing concern can place a temporary fence around the iron, erect a sign stating "This is a field warehouse supervised by the Smith Field Warehousing Corporation," and then assign an employee to supervise and control the fenced-in inventory.

This example illustrates the three essential elements for the establishment of a field warehouse: (1) public notification, (2) physical control of the inventory, and (3) supervision by a custodian of the field warehousing concern. When the field warehousing operation is relatively small, the third condition is sometimes violated by hiring an employee of the borrower to supervise the inventory. This practice is viewed as undesirable by most lenders because there is no control over the collateral by a person independent of the borrowing firm.²

The field warehouse financing operation is best described by an actual case. A California tomato cannery was interested in financing its operations by bank borrowing. It had sufficient funds to finance 15 to 20 percent of its operations during the canning season. These funds were adequate to purchase and process an initial batch of tomatoes. As the cans were put into boxes and rolled into the storerooms, the cannery needed additional funds for both raw materials and labor. Because of the cannery's poor credit rating, the bank decided that a field warehousing operation was necessary to secure its loans.

The field warehouse was established, and the custodian notified the bank of the description, by number, of the boxes of canned tomatoes in storage and under warehouse control. With this inventory as collateral, the lending institution established for the cannery a deposit on which it could draw. From this point on, the bank financed the operations. The cannery needed only enough cash to initiate the cycle. The farmers brought in more tomatoes; the cannery processed them; the cans were boxed; the boxes were put into the field warehouse; field warehouse receipts were drawn up and sent to the bank; the bank established further deposits for the cannery on the basis of the additional collateral, and the cannery could draw on the deposits to continue the cycle.

Of course, the cannery's ultimate objective was to sell the canned tomatoes. As it received purchase orders, it transmitted them to the bank, and the bank directed the

² This absence of independent control was the main cause of the breakdown that resulted in more than \$200 million of losses on loans to the Allied Crude Vegetable Oil Company by Bank of America and other banks. American Express Field Warehousing Company was handling the operation, but it hired men from Allied's own staff as custodians. Their dishonesty was not discovered because of another breakdown—the fact that the American Express touring inspector did not actually take a physical inventory of the warehouses. As a consequence, the swindle was not discovered until losses running into the hundreds of millions of dollars had been suffered.

custodian to release the inventories. It was agreed that as remittances were received by the cannery, they would be turned over to the bank. These remittances thus paid off the loans.

Note that a seasonal pattern existed. At the beginning of the tomato harvesting and canning season, the cannery's cash needs and loan requirements began to rise, and they reached a peak just as the season ended. It was expected that well before the new canning season began, the cannery would have sold a sufficient volume to pay off the loan. If the cannery had experienced a bad year, the bank might have carried the loan over for another year to enable the company to work off its inventory.

Acceptable Products

In addition to canned foods, which account for about 17 percent of all field warehouse loans, many other types of products provide a basis for field warehouse financing. Some of these are miscellaneous groceries, which represent about 13 percent; lumber products, about 10 percent; and coal and coke, about 6 percent. These products are relatively nonperishable and are sold in well-developed, organized markets. Nonperishability protects the lender if it should have to take over the security. For this reason, a bank would not make a field warehousing loan on perishables such as fresh fish, but frozen fish, which can be stored for a long time, can be field warehoused.

Cost of Financing

The fixed costs of a field warehousing arrangement are relatively high; such financing is therefore not suitable for a very small firm. If a field warehousing company sets up a field warehouse, it will typically set a minimum charge of about \$5,000 per year, plus about 1 to 2 percent of the amount of credit extended to the borrower. Furthermore, the financing institution will charge an interest rate of 2 to 3 percentage points over the prime rate. An efficient field warehousing operation requires a minimum inventory of at least \$1 million.

Evaluation of Inventory Financing

The use of inventory financing, especially field warehouse financing, as a source of funds has many advantages. First, the amount of funds available is flexible because the financing is tied to inventory growth, which, in turn, is related directly to financing needs. Second, the field warehousing arrangement increases the acceptability of inventories as loan collateral; some inventories simply would not be accepted by a bank as security without such an arrangement. Third, the necessity for inventory control and safekeeping, as well as the use of specialists in warehousing, often results in improved warehouse practices, which, in turn, save handling costs, insurance charges, theft losses, and so on. Thus, field warehousing companies often save money for firms in spite of the costs of financing that we have discussed. The major disadvantages of field warehousing include the paperwork, physical separation requirements, and, for small firms, the fixed-cost element.

PROBLEMS

16A-1
Receivables financing

Finnerty's Funtime Company manufactures plastic toys. It buys raw materials, manufactures the toys in the spring and summer, and ships them to department stores and toy stores by late

summer or early fall. Funtime factors its receivables; if it did not, its October 2002 balance sheet would appear as follows (thousands of dollars):

Cash	\$ 40	Accounts payable	\$1,200
Receivables	1,200	Notes payable	800
Inventory	<u>800</u>	Accrued liabilities	<u>80</u>
Current assets	\$2,040	Current liabilities	\$2,080
		Mortgages	200
		Common stock	400
Fixed assets	<u>800</u>	Retained earnings	<u>160</u>
Total assets	<u>\$2,840</u>	Total liabilities and equity	<u>\$2,840</u>

Funtime provides extended credit to its customers, so its receivables are not due for payment until January 31, 2003. Also, Funtime would have been overdue on some \$800,000 of its accounts payable if the preceding situation had actually existed.

Funtime has an agreement with a finance company to factor the receivables for the period October 31 through January 31 of each selling season. The factoring company charges a flat commission of 2 percent of the invoice price, plus 6 percent per year interest on the outstanding balance; it deducts a reserve of 8 percent for returned and damaged materials. Interest and commissions are paid in advance. No interest is charged on the reserved funds or on the commission.

- a. Show Funtime's balance sheet on October 31, 2002, including the purchase of all the receivables by the factoring company and the use of the funds to pay accounts payable.
- b. If the \$1.2 million is the average level of outstanding receivables, and if they turn over 4 times a year (hence the commission is paid 4 times a year), what are the total dollar costs of receivables financing (factoring) and the effective annual interest rate?

16A-2
Factoring arrangement

Merville Industries needs an additional \$500,000, which it plans to obtain through a factoring arrangement. The factor would purchase Merville's accounts receivable and advance the invoice amount, minus a 2 percent commission, on the invoices purchased each month. Merville sells on terms of net 30 days. In addition, the factor charges a 12 percent annual interest rate on the total invoice amount, to be deducted in advance.

- a. What amount of accounts receivable must be factored to net \$500,000?
- b. If Merville can reduce credit expenses by \$3,500 per month and avoid bad debt losses of 2.5 percent on the factored amount, what is the total dollar cost of the factoring arrangement?
- c. What would be the total cost of the factoring arrangement if Merville's funds needed rose to \$750,000? Would the factoring arrangement be profitable under these circumstances?

16A-3
Field warehousing arrangement

Because of crop failures last year, the San Joaquin Packing Company has no funds available to finance its canning operations during the next 6 months. It estimates that it will require \$1,200,000 from inventory financing during the period. One alternative is to establish a 6-month, \$1,500,000 line of credit with terms of 9 percent annual interest on the used portion, a 1 percent commitment fee on the unused portion, and a \$300,000 compensating balance at all times. The other alternative is to use field warehouse financing. The costs of the field warehouse arrangement in this case would be a flat fee of \$2,000, plus 8 percent annual interest on all outstanding credit, plus 1 percent of the maximum amount of credit extended.

Expected inventory to be financed are as follows:

MONTH	AMOUNT
July 2003	\$ 250,000
August	1,000,000
September	1,200,000
October	950,000
November	600,000
December	0

- a. Calculate the cost of funds from using the line of credit. Be sure to include interest charges and commitment fees. Note that each month's borrowings will be \$300,000 greater than the inventory level to be financed because of the compensating balance requirement.
- b. Calculate the total cost of the field warehousing operation.
- c. Compare the cost of the field warehousing arrangement to the cost of the line of credit. Which alternative should San Joaquin choose?