CHAPTER 15

CURRENT LIABILITIES MANAGEMENT

LEARNING GOALS

- LG1 Review the key components of a firm's credit terms and the procedures for analyzing them.
- LG2 Understand the effects of stretching accounts payable on their cost, and the use of accruals.
- LG3 Describe the interest rates and basic types of unsecured bank sources of short-term loans.
- LG4 Discuss the basic features of commercial paper and the key aspects of international short-term loans.
- LG5 Explain the characteristics of secured short-term loans and the use of accounts receivable as short-term-loan collateral.
- LG6 Describe the various ways in which inventory can be used as short-term-loan collateral.

Across the Disciplines WHY THIS CHAPTER MATTERS TO YOU

Accounting: You need to understand how to analyze supplier credit terms in order to decide whether the firm should take or give up cash discounts; you also need to understand the various types of short-term loans, both unsecured and secured, that you will be required to record and report.

Information systems: You need to understand what data the firm will need in order to process accounts payable, track accruals, and meet bank loans and other short-term debt obligations in a timely manner.

Management: You need to know the sources of short-term loans so that if short-term financing is needed, you will understand its costs, both financial and ethical.

Marketing: You need to understand how accounts receivable and inventory can be used as loan collateral; the procedures used by the firm to secure short-term loans with such collateral could affect customer relationships.

Operations: You need to understand the use of accounts payable as a form of short-term financing and the effect on one's suppliers of stretching payables; you also need to understand the process by which a firm uses inventory as collateral.

Bennett Footwear Group

Bennett Steps Toward Growth

You won't see "**Bennett Footwear Group**" on any shoeboxes in your closet, but you may own some of its shoe brands, which include Franco Sarto and Danelle. Bennett designs, imports, and distributes women and children's footwear and also markets its footwear through private-label programs with many key customers. Founded in 1961 as Bennett Importing, the company merged in 1998 with two other footwear companies, positioning the combined enterprise to serve a wide range of footwear markets. The company imports shoes from Italy, Brazil, China, and Portugal. Today Bennett's customers include value-oriented retailers such as Payless ShoeSource and Wal-Mart, as well as major department stores such as Nordstrom, Filene's, and Macy.

Although the merger created economies of scale and better market penetration, it also brought Bennett a complex financial structure with much debt. Bennett also needed funds to "grow its business" quickly in three areas: to take advantage of the increasing popularity of the Franco Sarto brand, to branch out into men's shoes and accessories, and to expand its private-label products for mass merchandisers.

Bennett and **CIT Commercial Services**, a leading lender to apparel and footwear companies, worked together to develop a sound program to restructure the company's debt, provide growth capital, and improve liquidity. CIT's industry knowledge and its experience lending to similar companies helped it arrive at a fair value for the inventory and accounts receivable that would serve as loan collateral (security). CIT provided Bennett with a $20-million secured revolving line of credit and a $6-million, 3-year term loan. With these short- and intermediate-term credit facilities, Bennett Footwear was able to refinance a portion of its outstanding debt and pay off most of its subordinated notes while continuing to expand its Franco Sarto lines.

Short-term bank financing is just one current liabilities management strategy that firms use to fund the buildup of inventory and accounts receivable until they can turn them back into cash. Other methods include spontaneous sources of short-term financing—accounts payable and accruals—and commercial paper. In this chapter, we'll explain how to use these strategies to the firm's advantage.

15.1 Spontaneous Liabilities

spontaneous liabilities
Financing that arises from the normal course of business; the two major short-term sources of such liabilities are accounts payable and accruals.

Spontaneous liabilities arise from the normal course of business. The two major spontaneous sources of short-term financing are accounts payable and accruals. As the firm's sales increase, accounts payable increase in response to the increased purchases necessary to produce at higher levels. Also in response to increasing sales, the firm's accruals increase as wages and taxes rise because of greater labor requirements and the increased taxes on the firm's increased earnings. There is normally no explicit cost attached to either of these current liabilities, although they do have certain implicit costs. In addition, both are forms of **unsecured short-term financing**—short-term financing obtained without pledging specific assets as collateral. The firm should take advantage of these "interest-free" sources of unsecured short-term financing whenever possible.

unsecured short-term financing
Short-term financing obtained without pledging specific assets as collateral.

Accounts Payable Management

Hint An account payable of a purchaser is an account receivable on the supplier's books. Chapter 14 highlighted the key strategies and considerations involved in extending credit to customers.

Accounts payable are the major source of unsecured short-term financing for business firms. They result from transactions in which merchandise is purchased but no formal note is signed to show the purchaser's liability to the seller. The purchaser in effect agrees to pay the supplier the amount required in accordance with credit terms normally stated on the supplier's invoice. The discussion of accounts payable here is presented from the viewpoint of the purchaser.

Role in the Cash Conversion Cycle

The average payment period is the final component of the *cash conversion cycle* introduced in Chapter 14. The average payment period has two parts: (1) the time from the purchase of raw materials until the firm mails the payment and (2) payment float time (the time it takes after the firm mails its payment until the supplier has withdrawn spendable funds from the firm's account). In the preceding chapter, we discussed issues related to payment float time. Here we discuss the management by the firm of the time that elapses between its purchase of raw materials and its mailing payment to the supplier. This activity is **accounts payable management.**

accounts payable management
Management by the firm of the time that elapses between its purchase of raw materials and its mailing payment to the supplier.

The firm's goal is to pay as slowly as possible without damaging its credit rating. This means that accounts should be paid on the last day possible, given the supplier's stated credit terms. For example, if the terms are net 30, then the account should be paid 30 days from the *beginning of the credit period,* which is typically either the *date of invoice* or the *end of the month* (*EOM*) in which the purchase was made. This allows for the maximum use of an interest-free loan from the supplier and will not damage the firm's credit rating (because the account is paid within the stated credit terms).

EXAMPLE In the demonstration of the cash conversion cycle in Chapter 14 (see pages 601–602), MAX Company had an average payment period of 35 days (consisting of 30 days until payment was mailed and 5 days of payment float),

which resulted in average accounts payable of $473,958. Thus the daily accounts payable generated by MAX was $13,542 ($473,958/35). If MAX were to mail its payments in 35 days instead of 30, its accounts payable would increase by $67,710 ($13,542 × 5). As a result, MAX's cash conversion cycle would decrease by 5 days, and the firm would reduce its investment in operations by $67,710. Clearly, if this action did not damage MAX's credit rating, it would be in the company's best interest.

Analyzing Credit Terms

The credit terms that a firm is offered by its suppliers enable it to delay payments for its purchases. Because the supplier's cost of having its money tied up in merchandise after it is sold is probably reflected in the purchase price, the purchaser is already indirectly paying for this benefit. The purchaser should therefore carefully analyze credit terms to determine the best trade credit strategy. If a firm is extended credit terms that include a cash discount, it has two options—to take the cash discount or to give it up.

Taking the Cash Discount If a firm intends to take a cash discount, it should pay on the last day of the discount period. There is no cost associated with taking a cash discount.

EXAMPLE Lawrence Industries, operator of a small chain of video stores, purchased $1,000 worth of merchandise on February 27 from a supplier extending terms of 2/10 net 30 EOM. If the firm takes the cash discount, it must pay $980 [$1,000 − (0.02 × $1,000)] by March 10, thereby saving $20.

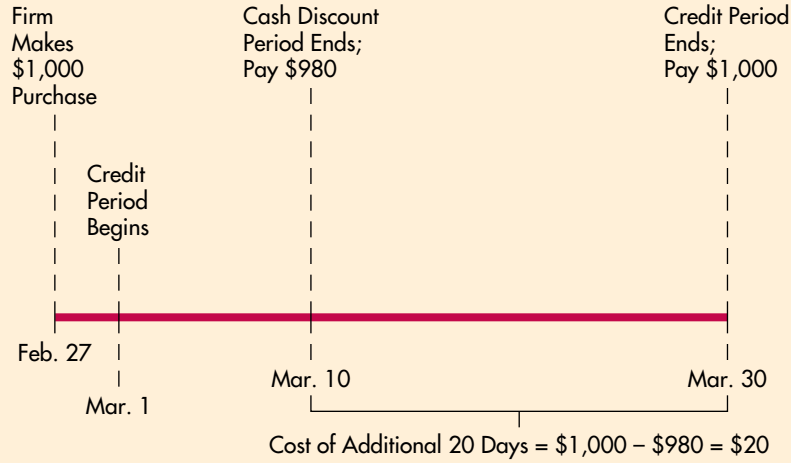
Giving Up the Cash Discount If the firm chooses to give up the cash discount, it should pay on the final day of the credit period. There is an implicit cost associated with giving up a cash discount. The **cost of giving up a cash discount** is the implied rate of interest paid to delay payment of an account payable for an additional number of days. In other words, the amount is the interest being paid by the firm to keep its money for a number of days. This cost can be illustrated by a simple example. The example assumes that payment will be made on the last possible day (either the final day of the cash discount period or the final day of the credit period).

cost of giving up a cash discount The implied rate of interest paid to delay payment of an account payable for an additional number of days.

EXAMPLE In the preceding example, we saw that Lawrence Industries could take the cash discount on its February 27 purchase by paying $980 on March 10. If Lawrence gives up the cash discount, payment can be made on March 30. To keep its money for an extra 20 days, the firm must give up an opportunity to pay $980 for its $1,000 purchase. In other words, it will cost the firm $20 to delay payment for 20 days. Figure 15.1 shows the payment options that are open to the company.

To calculate the cost of giving up the cash discount, the *true purchase price* must be viewed as the *discounted cost of the merchandise,* which is $980 for

FIGURE 15.1
Payment Options
Payment options for Lawrence Industries



Lawrence Industries. The annual percentage cost of giving up the cash discount can be calculated using Equation 15.1:[1]

$$\text{Cost of giving up cash discount} = \frac{CD}{100\% - CD} \times \frac{360}{N} \qquad (15.1)$$

where

CD = stated cash discount in percentage terms
N = number of days that payment can be delayed by giving up the cash discount

Substituting the values for CD (2%) and N (20 days) into Equation 15.1 results in an annualized cost of giving up the cash discount of 36.73% [(2% ÷ 98%) × (360 ÷ 20)]. A 360-day year is assumed.[2]

A simple way to *approximate* the cost of giving up a cash discount is to use the stated cash discount percentage, CD, in place of the first term of Equation 15.1:

$$\text{Approximate cost of giving up cash discount} = CD \times \frac{360}{N} \qquad (15.2)$$

1. Equation 15.1 and the related discussions are based on the assumption that only one discount is offered. In the event that multiple discounts are offered, calculation of the cost of giving up the discount must be made for each alternative.

2. This example assumes that Lawrence Industries gives up only one discount during the year, which costs it 2.04% for 20 days (that is, 2% ÷ 98%) or 36.73% when annualized. However, if Lawrence Industries *continually* gives up the 2% cash discounts, the effect of compounding will cause the annualized cost to rise to 43.84%:

$$\text{Annualized cost when discounts are } \textit{continually} \text{ given up} = \left(1 + \frac{CD}{100\% - CD}\right)^{360/N} - 1 \qquad (15.1a)$$

$$= \left(1 + \frac{2\%}{100\% - 2\%}\right)^{360/20} - 1 = \underline{\underline{43.84}}\%$$

The smaller the cash discount, the closer the approximation to the actual cost of giving it up. Using this approximation, the cost of giving up the cash discount for Lawrence Industries is 36% [2% × (360 ÷ 20)].

Using the Cost of Giving Up a Cash Discount in Decision Making The financial manager must determine whether it is advisable to take a cash discount. Financial managers must remember that taking cash discounts may represent an important source of additional profitability.

EXAMPLE Mason Products, a large building-supply company, has four possible suppliers, each offering different credit terms. Otherwise, their products and services are identical. Table 15.1 presents the credit terms offered by suppliers A, B, C, and D and the cost of giving up the cash discounts in each transaction. The approximation method of calculating the cost of giving up a cash discount (Equation 15.2) has been used. The cost of giving up the cash discount from supplier A is 36%; from supplier B, 8%; from supplier C, 21.6%; and from supplier D, 28.8%.

If the firm needs short-term funds, which it can borrow from its bank at an interest rate of 13%, and if each of the suppliers is viewed *separately,* which (if any) of the suppliers' cash discounts will the firm give up? In dealing with supplier A, the firm takes the cash discount, because the cost of giving it up is 36%, and then borrows the funds it requires from its bank at 13% interest. With supplier B, the firm would do better to give up the cash discount, because the cost of this action is less than the cost of borrowing money from the bank (8% versus 13%). With either supplier C or supplier D, the firm should take the cash discount, because in both cases the cost of giving up the discount is greater than the 13% cost of borrowing from the bank.

The example shows that the cost of giving up a cash discount is relevant when one is evaluating a single supplier's credit terms in light of certain *bank borrowing costs*. However, other factors relative to payment strategies may also need to be considered. For example, some firms, particularly small firms and poorly managed firms, routinely give up *all* discounts because they either lack alternative sources of unsecured short-term financing or fail to recognize the implicit costs of their actions.

TABLE 15.1 Cash Discounts and Associated Costs for Mason Products

Supplier	Credit terms	Approximate cost of giving up a cash discount
A	2/10 net 30 EOM	36.0%
B	1/10 net 55 EOM	8.0
C	3/20 net 70 EOM	21.6
D	4/10 net 60 EOM	28.8

Effects of Stretching Accounts Payable

stretching accounts payable
Paying bills as late as possible without damaging the firm's credit rating.

A strategy that is often employed by a firm is **stretching accounts payable**—that is, paying bills as late as possible without damaging its credit rating. Such a strategy can reduce the cost of giving up a cash discount.

EXAMPLE

Lawrence Industries was extended credit terms of 2/10 net 30 EOM. The cost of giving up the cash discount, assuming payment on the last day of the credit period, was found to be approximately 36% [2% × (360 ÷ 20)]. If the firm were able to stretch its account payable to 70 days without damaging its credit rating, the cost of giving up the cash discount would be only 12% [2% × (360 ÷ 60)]. Stretching accounts payable reduces the implicit cost of giving up a cash discount.

Although stretching accounts payable may be financially attractive, it raises an important ethical issue: It may cause the firm to violate the agreement it entered into with its supplier when it purchased merchandise. Clearly, a supplier would not look kindly on a customer who regularly and purposely postponed paying for purchases.

Accruals

accruals
Liabilities for services received for which payment has yet to be made.

The second spontaneous source of short-term business financing is accruals. **Accruals** are liabilities for services received for which payment has yet to be made. The most common items accrued by a firm are wages and taxes. Because taxes are payments to the government, their accrual cannot be manipulated by the firm. However, the accrual of wages can be manipulated to some extent. This is accomplished by delaying payment of wages, thereby receiving an interest-free loan from employees who are paid sometime after they have performed the work. The pay period for employees who earn an hourly rate is often governed by union regulations or by state or federal law. However, in other cases, the frequency of payment is at the discretion of the company's management.

EXAMPLE

Tenney Company, a large janitorial service company, currently pays its employees at the end of each work week. The weekly payroll totals $400,000. If the firm were to extend the pay period so as to pay its employees 1 week later throughout an entire year, the employees would in effect be lending the firm $400,000 for a year. If the firm could earn 10% annually on invested funds, such a strategy would be worth $40,000 per year (0.10 × $400,000).

Review Questions

15–1 What are the two major sources of spontaneous short-term financing for a firm? How do their balances behave relative to the firm's sales?

15–2 Is there a cost associated with *taking a cash discount?* Is there any cost associated with *giving up a cash discount?* How do short-term borrowing costs affect the cash discount decision?

15–3 What is "stretching accounts payable"? What effect does this action have on the cost of giving up a cash discount?

In Practice

FOCUS ON ETHICS Amazon Stays Ethical to Avoid Biting the Hands That Feed It

Top managers in a tiny central Ohio company fret but say nothing publicly as a giant retailer routinely waits 120 days to pay its invoices marked "due in 30 days." The credit manager is quiet, partly because the company depends on this key account for survival and partly because "stretching payables" is the most widespread unethical practice in corporate America.

Unlike the retailer above, e-tailer **Amazon**, despite its size and marketing success, pays its suppliers on time amidst intense pressures on it to become profitable. Amazon has changed strategy, emphasizing profitability over growth. In fact, during 2001 it reported its first profit—1¢ per share. CFO Warren Jensen, describing the critical role management of working capital plays in the quest for profits, was quoted in *CFO* magazine as saying, "This isn't about trying to string our vendors out." Amazon has negative net working capital (that is, its current liabilities exceed current assets) but has chosen to employ just-in-time inventory delivery from book publishers—not delayed payments—to reduce the need for short-term bank loans. One advantage of Amazon's payables policy is that suppliers would be likely to work with Amazon should its cash position temporarily drop below that needed to cover payables.

In economic downturns, companies face even greater temptation to delay payments, and many do so. Stephen Payne, of REL Consultancy Group, warns that this unethical practice "can bite you in the rear end" as suppliers detect it and simply jack up prices to counter the effect. The buyer's average payment period represents its suppliers' average collection periods, after all.

Stretching payables is unethical for two reasons. First, the buyer is violating the terms of its trade credit agreement. Second, the buyer is in effect doing additional borrowing from its suppliers without their knowledge or authorization. "Everybody's doing it" is never a valid excuse for trying to add to shareholder wealth through such blatantly unethical behavior. Shareholder wealth maximization is once again seen to be subject to ethical constraints.

LG3 LG4 15.2 Unsecured Sources of Short-Term Loans

Businesses obtain unsecured short-term loans from two major sources, banks and commercial paper. Unlike the spontaneous sources of unsecured short-term financing, bank loans and commercial paper are negotiated and result from actions taken by the firm's financial manager. Bank loans are more popular, because they are available to firms of all sizes; commercial paper tends to be available only to large firms. In addition, international loans can be used to finance international transactions.

Bank Loans

short-term, self-liquidating loan
An unsecured short-term loan in which the use to which the borrowed money is put provides the mechanism through which the loan is repaid.

Banks are a major source of unsecured short-term loans to businesses. The major type of loan made by banks to businesses is the **short-term, self-liquidating loan.** These loans are intended merely to carry the firm through seasonal peaks in financing needs that are due primarily to buildups of inventory and accounts receivable. As inventories and receivables are converted into cash, the funds needed to retire these loans are generated. In other words, the use to which the borrowed money is put provides the mechanism through which the loan is repaid—hence the term *self-liquidating*. Banks lend unsecured, short-term funds in three basic ways: through single-payment notes, lines of credit, and revolving

credit agreements. Before we look at these types of loans, we consider loan interest rates.

Loan Interest Rates

prime rate of interest (prime rate)
The lowest rate of interest charged by leading banks on business loans to their most important business borrowers.

The interest rate on a bank loan can be a fixed or a floating rate, typically based on the prime rate of interest. The **prime rate of interest (prime rate)** is the lowest rate of interest charged by leading banks on business loans to their most important business borrowers.[3] The prime rate fluctuates with changing supply-and-demand relationships for short-term funds.[4] Banks generally determine the rate to be charged to various borrowers by adding a premium to the prime rate to adjust it for the borrower's "riskiness." The premium may amount to 4 percent or more, although most unsecured short-term loans carry premiums of less than 2 percent.[5]

fixed-rate loan
A loan with a rate of interest that is determined at a set increment above the prime rate and at which it remains fixed until maturity.

floating-rate loan
A loan with a rate of interest initially set at an increment above the prime rate and allowed to "float," or vary, above prime *as the prime rate varies* until maturity.

Fixed- and Floating-Rate Loans Loans can have either fixed or floating interest rates. On a **fixed-rate loan,** the rate of interest is determined at a set increment above the prime rate on the date of the loan and remains unvarying at that fixed rate until maturity. On a **floating-rate loan,** the increment above the prime rate is initially established, and the rate of interest is allowed to "float," or vary, above prime *as the prime rate varies* until maturity. Generally, the increment above the prime rate will be *lower* on a floating-rate loan than on a fixed-rate loan of equivalent risk, because the lender bears less risk with a floating-rate loan. As a result of the volatile nature of the prime rate during recent years, today *most short-term business loans are floating-rate loans.*

Method of Computing Interest Once the *nominal (or stated) annual rate* is established, the method of computing interest is determined. Interest can be paid either when a loan matures or in advance. If interest is paid *at maturity,* the *effective (or true) annual rate*—the actual rate of interest paid—for an assumed 1-year period[6] is equal to

$$\frac{\text{Interest}}{\text{Amount borrowed}} \tag{15.3}$$

Most bank loans to businesses require the interest payment at maturity.

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3. A trend away from using the prime rate as a benchmark has begun in the United States in response to various borrower lawsuits against banks. Some banks now use the term *base rate* or *reference rate* rather than *prime rate* for pricing corporate and other loans. In fact, the use of the *London Interbank Offered Rate* (*LIBOR*) is gaining momentum as a base lending rate in the United States.

4. During the past 25 years, the prime rate has varied from a record high of 21.5% (December 1980) to a low of 4.75% (December 2001 through the middle of 2002). Since 1995, it has fluctuated in the range from a high of about 9.50% to a low of about 4.75%.

5. Some, generally very large, firms can borrow from their banks at an interest rate slightly below the prime rate. This typically occurs when the borrowing firm either maintains high deposit balances at the bank over time or agrees to pay an upfront fee to "buy down" the interest rate. Below-prime-rate loans are clearly the exception rather than the rule.

6. Effective annual rates (EARs) for loans with maturities of less than 1 year can be found by using the technique presented in Chapter 4 for finding EARs when interest is compounded more frequently than annually. See Equation 4.23.

discount loans
Loans on which interest is paid in advance by being deducted from the amount borrowed.

When interest is paid *in advance,* it is deducted from the loan so that the borrower actually receives less money than is requested. Loans on which interest is paid in advance are called **discount loans.** The *effective annual rate for a discount loan,* assuming a 1-year period, is calculated as

$$\frac{\text{Interest}}{\text{Amount borrowed} - \text{Interest}} \tag{15.4}$$

Paying interest in advance raises the effective annual rate above the stated annual rate.

EXAMPLE

Wooster Company, a manufacturer of athletic apparel, wants to borrow $10,000 at a stated annual rate of 10% interest for 1 year. If the interest on the loan is paid at maturity, the firm will pay $1,000 ($0.10 \times \$10{,}000$) for the use of the $10,000 for the year. Substituting into Equation 15.3 reveals that the effective annual rate is therefore

$$\frac{\$1{,}000}{\$10{,}000} = 10.0\%$$

If the money is borrowed at the same *stated* annual rate for 1 year but interest is paid in advance, the firm still pays $1,000 in interest, but it receives only $9,000 ($10,000 − $1,000). The effective annual rate in this case is

$$\frac{\$1{,}000}{\$10{,}000 - \$1{,}000} = \frac{\$1{,}000}{\$9{,}000} = 11.1\%$$

Paying interest in advance thus makes the effective annual rate (11.1%) greater than the stated annual rate (10.0%).

Single-Payment Notes

single-payment note
A short-term, one-time loan made to a borrower who needs funds for a specific purpose for a short period.

A **single-payment note** can be obtained from a commercial bank by a creditworthy business borrower. This type of loan is usually a one-time loan made to a borrower who needs funds for a specific purpose for a short period. The resulting instrument is a *note,* signed by the borrower, that states the terms of the loan, including the length of the loan and the interest rate. This type of short-term note generally has a maturity of 30 days to 9 months or more. The interest charged is usually tied in some way to the prime rate of interest.

EXAMPLE

Gordon Manufacturing, a producer of rotary mower blades, recently borrowed $100,000 from each of two banks—bank A and bank B. The loans were incurred on the same day, when the prime rate of interest was 9%. Each loan involved a 90-day note with interest to be paid at the end of 90 days. The interest rate was set at 1 1/2% above the prime rate on bank A's *fixed-rate note.* Over the 90-day period, the rate of interest on this note will remain at 10 1/2% (9% prime rate + 1 1/2% increment) regardless of fluctuations in the prime rate. The total interest cost on this loan is $2,625 [$\$100{,}000 \times (10\frac{1}{2}\% \times 90/360)$]. The effective 90-day rate on this loan is 2.625% ($2,625/$100,000).

Assuming that the loan from bank A is rolled over each 90 days throughout the year under the same terms and circumstances, its effective *annual* interest rate is found by using Equation 4.23. Because the loan costs 2.625% for 90 days, it is necessary to compound (1 + 0.02625) for four periods in the year (that is, 360/90) and then subtract 1:

$$\begin{aligned}\text{Effective annual rate} &= (1 + 0.02625)^4 - 1 \\ &= 1.1092 - 1 = 0.1092 = \underline{\underline{10.92}}\%\end{aligned}$$

The effective annual rate of interest on the fixed-rate, 90-day note is 10.92%.

Bank B set the interest rate at 1% above the prime rate on its *floating-rate note*. The rate charged over the 90 days will vary directly with the prime rate. Initially, the rate will be 10% (9% + 1%), but when the prime rate changes, so will the rate of interest on the note. For instance, if after 30 days the prime rate rises to 9.5%, and after another 30 days it drops to 9.25%, the firm will be paying 0.833% for the first 30 days (10% × 30/360), 0.875% for the next 30 days (10.5% × 30/360), and 0.854% for the last 30 days (10.25% × 30/360). Its total interest cost will be $2,562 [$100,000 × (0.833% + 0.875% + 0.854%)], resulting in an effective 90-day rate of 2.562% ($2,562/$100,000).

Again, assuming the loan is rolled over each 90 days throughout the year under the same terms and circumstances, its effective *annual* rate is 10.65%:

$$\begin{aligned}\text{Effective annual rate} &= (1 + 0.02562)^4 - 1 \\ &= 1.1065 - 1 = 0.1065 = \underline{\underline{10.65}}\%\end{aligned}$$

Clearly, in this case the floating-rate loan would have been less expensive than the fixed-rate loan because of its generally lower effective annual rate.

Lines of Credit

line of credit
An agreement between a commercial bank and a business specifying the amount of unsecured short-term borrowing the bank will make available to the firm over a given period of time.

A **line of credit** is an agreement between a commercial bank and a business specifying the amount of unsecured short-term borrowing the bank will make available to the firm over a given period of time. It is similar to the agreement under which issuers of bank credit cards, such as MasterCard, Visa, and Discover, extend preapproved credit to cardholders. A line-of-credit agreement is typically made for a period of 1 year and often places certain constraints on the borrower. It is *not a guaranteed loan* but indicates that if the bank has sufficient funds available, it will allow the borrower to owe it *up to* a certain amount of money. The amount of a line of credit is the *maximum amount the firm can owe the bank* at any point in time.

When applying for a line of credit, the borrower may be required to submit such documents as its cash budget, its pro forma income statement, its pro forma balance sheet, and its recent financial statements. If the bank finds the customer acceptable, the line of credit will be extended. The major attraction of a line of credit from the bank's point of view is that it eliminates the need to examine the creditworthiness of a customer each time it borrows money.

Interest Rates The interest rate on a line of credit is normally stated as a floating rate—the *prime rate plus a premium*. If the prime rate changes, the interest rate charged on new *as well as outstanding* borrowing automatically changes.

The amount a borrower is charged in excess of the prime rate depends on its creditworthiness. The more creditworthy the borrower, the lower the premium (interest increment) above prime, and vice versa.

operating-change restrictions
Contractual restrictions that a bank may impose on a firm's financial condition or operations as part of a line-of-credit agreement.

Operating-Change Restrictions In a line-of-credit agreement, a bank may impose **operating-change restrictions,** which give it the right to revoke the line if any major changes occur in the firm's financial condition or operations. The firm is usually required to submit up-to-date, and preferably audited, financial statements for periodic review. In addition, the bank typically needs to be informed of shifts in key managerial personnel or in the firm's operations before changes take place. Such changes may affect the future success and debt-paying ability of the firm and thus could alter its credit status. If the bank does not agree with the proposed changes and the firm makes them anyway, the bank has the right to revoke the line of credit.

compensating balance
A required checking account balance equal to a certain percentage of the amount borrowed from a bank under a line-of-credit or revolving credit agreement.

Compensating Balances To ensure that the borrower will be a good customer, many short-term unsecured bank loans—single-payment notes and lines of credit—require the borrower to maintain, in a checking account, a **compensating balance** equal to a certain percentage of the amount borrowed. Compensating balances of 10 to 20 percent are frequently required. A compensating balance not only forces the borrower to be a good customer of the bank but may also raise the interest cost to the borrower.

EXAMPLE

Estrada Graphics, a graphic design firm, has borrowed $1 million under a line-of-credit agreement. It must pay a stated interest rate of 10% and maintain, in its checking account, a compensating balance equal to 20% of the amount borrowed, or $200,000. Thus it actually receives the use of only $800,000. To use that amount for a year, the firm pays interest of $100,000 ($0.10 \times \$1{,}000{,}000$). The effective annual rate on the funds is therefore 12.5% ($\$100{,}000 \div \$800{,}000$), 2.5% more than the stated rate of 10%.

Hint Sometimes the compensating balance is stated as a percentage of the amount of the line of credit. In other cases, it is linked to both the amount borrowed and the amount of the line of credit.

If the firm normally maintains a balance of $200,000 or more in its checking account, the effective annual rate equals the stated annual rate of 10% because none of the $1 million borrowed is needed to satisfy the compensating-balance requirement. If the firm normally maintains a $100,000 balance in its checking account, only an additional $100,000 will have to be tied up, leaving it with $900,000 of usable funds. The effective annual rate in this case would be 11.1% ($\$100{,}000 \div \$900{,}000$). Thus a compensating balance raises the cost of borrowing *only if* it is larger than the firm's normal cash balance.

annual cleanup
The requirement that for a certain number of days during the year borrowers under a line of credit carry a zero loan balance (that is, owe the bank nothing).

Annual Cleanups To ensure that money lent under a line-of-credit agreement is actually being used to finance seasonal needs, many banks require an **annual cleanup.** This means that the borrower must have a loan balance of zero—that is, owe the bank nothing—for a certain number of days during the year. Insisting that the borrower carry a zero loan balance for a certain period ensures that short-term loans do not turn into long-term loans.

All the characteristics of a line-of-credit agreement are negotiable to some extent. Today, banks bid competitively to attract large, well-known firms. A

prospective borrower should attempt to negotiate a line of credit with the most favorable interest rate, for an optimal amount of funds, and with a minimum of restrictions. Borrowers today frequently pay fees to lenders instead of maintaining deposit balances as compensation for loans and other services. The lender attempts to get a good return with maximum safety. Negotiations should produce a line of credit that is suitable to both borrower and lender.

Revolving Credit Agreements

revolving credit agreement
A line of credit *guaranteed* to a borrower by a commercial bank regardless of the scarcity of money.

commitment fee
The fee that is normally charged on a *revolving credit agreement;* it often applies to the average unused balance of the borrower's credit line.

A **revolving credit agreement** is nothing more than a *guaranteed line of credit*. It is guaranteed in the sense that the commercial bank assures the borrower that a specified amount of funds will be made available regardless of the scarcity of money. The interest rate and other requirements are similar to those for a line of credit. It is not uncommon for a revolving credit agreement to be for a period greater than 1 year.[7] Because the bank guarantees the availability of funds, a **commitment fee** is normally charged on a revolving credit agreement.[8] This fee often applies to the average unused balance of the borrower's credit line. It is normally about 0.5 percent of the *average unused portion* of the line.

EXAMPLE

REH Company, a major real estate developer, has a $2 million revolving credit agreement with its bank. Its average borrowing under the agreement for the past year was $1.5 million. The bank charges a commitment fee of 0.5%. Because the average unused portion of the committed funds was $500,000 ($2 million − $1.5 million), the commitment fee for the year was $2,500 (0.005 × $500,000). Of course, REH also had to pay interest on the actual $1.5 million borrowed under the agreement. Assuming that $160,000 interest was paid on the $1.5 million borrowed, the effective cost of the agreement was 10.83% [($160,000 + $2,500)/$1,500,000]. Although more expensive than a line of credit, a revolving credit agreement can be less risky from the borrower's viewpoint, because the availability of funds is guaranteed.

Commercial Paper

commercial paper
A form of financing consisting of short-term, unsecured promissory notes issued by firms with a high credit standing.

Commercial paper is a form of financing that consists of short-term, unsecured promissory notes issued by firms with a high credit standing. Generally, only quite large firms of unquestionable financial soundness are able to issue commercial paper. Most commercial paper has maturities ranging from 3 to 270 days. Although there is no set denomination, it is generally issued in multiples of $100,000 or more. A large portion of the commercial paper today is issued by finance companies; manufacturing firms account for a smaller portion of this type of financing. Businesses often purchase commercial paper, which they hold as marketable securities, to provide an interest-earning reserve of liquidity.

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7. Many authors classify the revolving credit agreement as a form of *intermediate-term financing,* defined as having a maturity of 1 to 7 years. In this text, we do not use the intermediate-term financing classification; only short-term and long-term classifications are made. Because many revolving credit agreements are for more than 1 year, they can be classified as a form of long-term financing; however, they are discussed here because of their similarity to line-of-credit agreements.

8. Some banks not only require payment of the commitment fee but also require the borrower to maintain, in addition to a compensating balance against actual borrowings, a compensating balance of 10% or so against the unused portion of the commitment.

In Practice

FOCUS ON PRACTICE GM Keeps America Rolling

After the attacks of September 11, 2001, further stalled consumer spending, which was already down during the recession, **General Motors (GM)** decided to jump-start auto sales. On September 19, America's largest auto manufacturer offered car buyers 0 percent financing for up to 5 years on all 2002-model passenger cars, pickups, and sport utility vehicles. Its "Keep America Rolling" campaign launched a major effort to gain significant market share, and it worked. Consumers flocked to GM dealer showrooms and gave the car manufacturer its third-best sales year ever—and its first increase in market share since 1988. Higher demand also kept GM's plants operating and its workers employed. The promotion was so successful that GM extended it through January 2, 2002, although it kept 0 percent only for 3-year loans, which were less popular, raised interest rates for the more popular 4- and 5-year loans, and excluded Chevy Corvettes and Cadillacs from the extended plan.

But the increased sales came at a cost to GM and to the other car manufacturers that were forced to follow its lead. GM's more lenient credit-per-car-basis receivables dropped without the financing charges. The free financing amounted to incentives averaging $2,600 per vehicle—hundreds of millions of dollars that GM needed to cover the difference between what its finance company paid to borrow (about 5 percent) and the 0 percent that consumers received. Profits also dropped, because GM earned only about $360 for each vehicle it sold in North America. Auto industry analysts also questioned the long-term effect on GM, concerned that consumers simply moved up their new-car purchases by a few months so that the program merely cannibalized future sales rather than representing any real gain.

The increased risk and cloudy profit picture were among the factors that, in mid-October, led Standard & Poor's to downgrade senior unsecured debt and short-term debt for both GM and its GMAC financing arm. This increased GM's cost of issuing commercial paper for its short-term financing requirements and also pushed up its longer-term financing costs at a time when its overall financing needs were on the rise.

Sources: Adapted from Sholnn Freeman and Gregory White, "GM to Extend 0% Financing Deal to Jan. 2," *Wall Street Journal* (November 13, 2001), p. A2; Micheline Maynard, "Auto Sales Dip Slightly from 2000 Record," *San Diego Union-Tribune* (January 4, 2002), pp. C1, C3; Jonathan Stempel, "S&P Cuts Ford, General Motors Ratings," *Reuters Business Report* (October 15, 2001); and Gregory White, "GM's 0% Finance Plan Is Good for Economy, Risky for the Company," *Wall Street Journal* (October 30, 2001), pp. A1, A8.

Interest on Commercial Paper

Commercial paper is sold at a discount from its *par*, or *face*, *value*. The interest paid by the issuer of commercial paper is determined by the size of the discount and the length of time to maturity. The actual interest earned by the purchaser is determined by certain calculations, illustrated by the following example.

EXAMPLE Bertram Corporation, a large shipbuilder, has just issued $1 million worth of commercial paper that has a 90-day maturity and sells for $980,000. At the end of 90 days, the purchaser of this paper will receive $1 million for its $980,000 investment. The interest paid on the financing is therefore $20,000 on a principal of $980,000. The effective 90-day rate on the paper is 2.04% ($20,000/$980,000). Assuming that the paper is rolled over each 90 days throughout the year, the effective annual rate for Bertram's commercial paper, found by using Equation 4.23, is 8.41% $[(1 + 0.0204)^4 - 1]$.

An interesting characteristic of commercial paper is that its interest cost is *normally* 2 to 4 percent below the prime rate. In other words, firms are able to

raise funds more cheaply by selling commercial paper than by borrowing from a commercial bank. The reason is that many suppliers of short-term funds do not have the option, as banks do, of making low-risk business loans at the prime rate.[9] They can invest safely only in marketable securities such as Treasury bills and commercial paper. The yields on these marketable securities on May 1, 2002, when the prime rate of interest was 4.75 percent, were about 1.73 percent for 3-month Treasury bills and about 1.80 percent for 3-month commercial paper.

Although the stated interest cost of borrowing through the sale of commercial paper is normally lower than the prime rate, the *overall cost* of commercial paper may not be less than that of a bank loan. Additional costs include the fees paid by most issuers to obtain the bank line of credit used to back the paper, fees paid to obtain third-party ratings used to make the paper more salable, and flotation costs. In addition, even if it is slightly more expensive to borrow from a commercial bank, it may at times be advisable to do so to establish a good working relationship with a bank. This strategy ensures that when money is tight, funds can be obtained promptly and at a reasonable interest rate.

Hint Commercial paper is directly placed with investors by the issuer or is sold by dealers in commercial paper. Most of it is purchased by other businesses and financial institutions.

International Loans

In some ways, arranging short-term financing for international trade is no different from financing purely domestic operations. In both cases, producers must finance production and inventory and then continue to finance accounts receivable before collecting any cash payments from sales. In other ways, however, the short-term financing of international sales and purchases is fundamentally different from that of strictly domestic trade.

International Transactions

The important difference between international and domestic transactions is that payments are often made or received in a foreign currency. Not only must a U.S. company pay the costs of doing business in the foreign exchange market, but it also is exposed to *exchange rate risk*. A U.S.-based company that exports goods and has accounts receivable denominated in a foreign currency faces the risk that the U.S. dollar will appreciate in value relative to the foreign currency. The risk to a U.S. importer with foreign-currency-denominated accounts payable is that the dollar will depreciate. Although *exchange rate risk* can often be *hedged* by using currency forward, futures, or options markets, doing so is costly and is not possible for all foreign currencies.

Typical international transactions are large in size and have long maturity dates. Therefore, companies that are involved in international trade generally have to finance larger dollar amounts for longer time periods than companies that operate domestically. Furthermore, because foreign companies are rarely

9. Commercial banks are legally prohibited from lending amounts in excess of 15% (plus an additional 10% for loans secured by readily marketable collateral) of the bank's unimpaired capital and surplus to any one borrower. This restriction is intended to protect depositors by forcing the commercial bank to spread its risk across a number of borrowers. In addition, smaller commercial banks do not have many opportunities to lend to large, high-quality business borrowers.

well known in the United States, some financial institutions are reluctant to lend to U.S. exporters or importers, particularly smaller firms.

Financing International Trade

letter of credit
A letter written by a company's bank to the company's foreign supplier, stating that the bank guarantees payment of an invoiced amount if all the underlying agreements are met.

Several specialized techniques have evolved for financing international trade. Perhaps the most important financing vehicle is the **letter of credit,** a letter written by a company's bank to the company's foreign supplier, stating that the bank guarantees payment of an invoiced amount if all the underlying agreements are met. The letter of credit essentially substitutes the bank's reputation and creditworthiness for that of its commercial customer. A U.S. exporter is more willing to sell goods to a foreign buyer if the transaction is covered by a letter of credit issued by a well-known bank in the buyer's home country.

Firms that do business in foreign countries on an ongoing basis often finance their operations, at least in part, in the local market. A company that has an assembly plant in Mexico, for example, might choose to finance its purchases of Mexican goods and services with peso funds borrowed from a Mexican bank. This not only minimizes exchange rate risk but also improves the company's business ties to the host community. Multinational companies, however, sometimes finance their international transactions through dollar-denominated loans from international banks. The *Eurocurrency loan markets* allow creditworthy borrowers to obtain financing on very attractive terms.

Transactions Between Subsidiaries

Much international trade involves transactions between corporate subsidiaries. A U.S. company might, for example, manufacture one part in an Asian plant and another part in the United States, assemble the product in Brazil, and sell it in Europe. The shipment of goods back and forth between subsidiaries creates accounts receivable and accounts payable, but the parent company has considerable discretion about how and when payments are made. In particular, the parent can minimize foreign exchange fees and other transaction costs by "netting" what affiliates owe each other and paying only the net amount due, rather than having both subsidiaries pay each other the gross amounts due.

Review Questions

15–4 How is the *prime rate of interest* relevant to the cost of short-term bank borrowing? What is a *floating-rate loan?*

15–5 How does the *effective annual rate* differ between a loan requiring interest payments *at maturity* and another, similar loan requiring interest *in advance?*

15–6 What are the basic terms and characteristics of a *single-payment note?* How is the *effective annual rate* on such a note found?

15–7 What is a *line of credit?* Describe each of the following features that are often included in these agreements: (**a**) operating-change restrictions; (**b**) compensating balance; and (**c**) annual cleanup.

15–8 What is a *revolving credit agreement?* How does this arrangement differ from the line-of-credit agreement? What is a *commitment fee?*

15–9 How is *commercial paper* used to raise short-term funds? Who can issue commercial paper? Who buys commercial paper?

15–10 What is the important difference between international and domestic transactions? How is a *letter of credit* used in financing international trade transactions? How is "netting" used in transactions between subsidiaries?

LG5 LG6 15.3 Secured Sources of Short-Term Loans

secured short-term financing
Short-term financing (loan) that has specific assets pledged as collateral.

security agreement
The agreement between the borrower and the lender that specifies the collateral held against a secured loan.

When a firm has exhausted its sources of unsecured short-term financing, it may be able to obtain additional short-term loans on a secured basis. **Secured short-term financing** has specific assets pledged as collateral. The *collateral* commonly takes the form of an asset, such as accounts receivable or inventory. The lender obtains a security interest in the collateral through the execution of a **security agreement** with the borrower that specifies the collateral held against the loan. In addition, the terms of the loan against which the security is held form part of the security agreement. They specify the conditions required for the security interest to be removed, along with the interest rate on the loan, repayment dates, and other loan provisions. A copy of the security agreement is filed in a public office within the state—typically, a county or state court. Filing provides subsequent lenders with information about which assets of a prospective borrower are unavailable for use as collateral. The filing requirement protects the lender by legally establishing the lender's security interest.

Characteristics of Secured Short-Term Loans

Although many people believe that holding collateral as security reduces the risk of a loan, lenders do not usually view loans in this way. Lenders recognize that holding collateral can reduce losses if the borrower defaults, but *the presence of collateral has no impact on the risk of default.* A lender requires collateral to ensure recovery of some portion of the loan in the event of default. What the lender wants above all, however, is to be repaid as scheduled. In general, lenders prefer to make less risky loans at lower rates of interest than to be in a position in which they must liquidate collateral.

Collateral and Terms

Lenders of secured short-term funds prefer collateral that has a duration closely matched to the term of the loan. Current assets—accounts receivable and inventory—are the most desirable short-term-loan collateral, because they can normally be converted into cash much sooner than fixed assets. Thus the short-term lender of secured funds generally accepts only liquid current assets as collateral.

percentage advance
The percent of the book value of the collateral that constitutes the principal of a secured loan.

Typically, the lender determines the desirable **percentage advance** to make against the collateral. This percentage advance constitutes the principal of the secured loan and is normally between 30 and 100 percent of the book value of the collateral. It varies according to the type and liquidity of collateral.

Hint Remember that firms typically borrow on a secured basis only after exhausting less costly, unsecured sources of short-term funds.

The interest rate that is charged on secured short-term loans is typically *higher* than the rate on unsecured short-term loans. Lenders do not normally consider secured loans less risky than unsecured loans. In addition, negotiating and administering secured loans is more troublesome for the lender than negotiating and administering unsecured loans. The lender therefore normally requires added compensation in the form of a service charge, a higher interest rate, or both.

Institutions Extending Secured Short-Term Loans

commercial finance companies Lending institutions that make *only* secured loans—both short-term and long-term—to businesses.

The primary sources of secured short-term loans to businesses are commercial banks and finance companies. Both institutions deal in short-term loans secured primarily by accounts receivable and inventory. The operations of commercial banks have already been described. **Commercial finance companies** are lending institutions that make *only* secured loans—both short-term and long-term—to businesses. Unlike banks, finance companies are not permitted to hold deposits.

Only when its unsecured and secured short-term borrowing power from the commercial bank is exhausted will a borrower turn to the commercial finance company for additional secured borrowing. Because the finance company generally ends up with higher-risk borrowers, its interest charges on secured short-term loans are usually higher than those of commercial banks. The leading U.S. commercial finance companies include the CIT Group and GE Capital.

The Use of Accounts Receivable as Collateral

Two commonly used means of obtaining short-term financing with accounts receivable are *pledging accounts receivable* and *factoring accounts receivable*. Actually, only a pledge of accounts receivable creates a secured short-term loan; factoring really entails the *sale* of accounts receivable at a discount. Although factoring is not actually a form of secured short-term borrowing, it does involve the use of accounts receivable to obtain needed short-term funds.

Pledging Accounts Receivable

pledge of accounts receivable The use of a firm's accounts receivable as security, or collateral, to obtain a short-term loan.

A **pledge of accounts receivable** is often used to secure a short-term loan. Because accounts receivable are normally quite liquid, they are an attractive form of short-term-loan collateral.

The Pledging Process When a firm requests a loan against accounts receivable, the lender first evaluates the firm's accounts receivable to determine their desirability as collateral. The lender makes a list of the acceptable accounts, along with the billing dates and amounts. If the borrowing firm requests a loan for a fixed amount, the lender needs to select only enough accounts to secure the funds requested. If the borrower wants the maximum loan available, the lender evaluates all the accounts to select the maximum amount of acceptable collateral.

After selecting the acceptable accounts, the lender normally adjusts the dollar value of these accounts for expected returns on sales and other allowances. If a customer whose account has been pledged returns merchandise or receives some type of allowance, such as a cash discount for early payment, the amount of the collateral is automatically reduced. For protection from such occurrences, the lender normally reduces the value of the acceptable collateral by a fixed percentage.

Next, the percentage to be advanced against the collateral must be determined. The lender evaluates the quality of the acceptable receivables and the expected cost of their liquidation. This percentage represents the principal of the loan and typically ranges between 50 and 90 percent of the face value of acceptable accounts receivable. To protect its interest in the collateral, the lender files a **lien,** which is a publicly disclosed legal claim on the collateral. For an example of the complete pledging process, see the book's Web site at *www.aw.com/gitman*.

lien
A publicly disclosed legal claim on collateral.

Notification Pledges of accounts receivable are normally made on a **nonnotification basis,** meaning that a customer whose account has been pledged as collateral is not notified. Under the nonnotification arrangement, the borrower still collects the pledged account receivable, and the lender trusts the borrower to remit these payments as they are received. If a pledge of accounts receivable is made on a **notification basis,** the customer is notified to remit payment directly to the lender.

nonnotification basis
The basis on which a borrower, having pledged an account receivable, continues to collect the account payments without notifying the account customer.

notification basis
The basis on which an account customer whose account has been pledged (or factored) is notified to remit payment directly to the lender (or factor).

Pledging Cost The stated cost of a pledge of accounts receivable is normally 2 to 5 percent above the prime rate. In addition to the stated interest rate, a service charge of up to 3 percent may be levied by the lender to cover its administrative costs. Clearly, pledges of accounts receivable are a high-cost source of short-term financing.

Factoring Accounts Receivable

Factoring accounts receivable involves selling them outright, at a discount, to a financial institution. A **factor** is a financial institution that specializes in purchasing accounts receivable from businesses. Some commercial banks and commercial finance companies also factor accounts receivable. Although it is not the same as obtaining a short-term loan, factoring accounts receivable is similar to borrowing with accounts receivable as collateral.

factoring accounts receivable
The outright sale of accounts receivable at a discount to a *factor* or other financial institution.

factor
A financial institution that specializes in purchasing accounts receivable from businesses.

Factoring Agreement A factoring agreement normally states the exact conditions and procedures for the purchase of an account. The factor, like a lender against a pledge of accounts receivable, chooses accounts for purchase, selecting only those that appear to be acceptable credit risks. Where factoring is to be on a continuing basis, the factor will actually make the firm's credit decisions, because this will guarantee the acceptability of accounts.[10] Factoring is normally done on a *notification basis,* and the factor receives payment of the account directly from the customer. In addition, most sales of accounts receivable to a factor are made on a **nonrecourse basis.** This means that the factor agrees to accept all credit risks. Thus, if a purchased account turns out to be uncollectible, the factor must absorb the loss.

nonrecourse basis
The basis on which accounts receivable are sold to a factor with the understanding that the factor accepts all credit risks on the purchased accounts.

Typically, the factor is not required to pay the firm until the account is collected or until the last day of the credit period, whichever occurs first. The factor

10. The use of credit cards such as MasterCard, Visa, and Discover by consumers has some similarity to factoring, because the vendor that accepts the card is reimbursed at a discount for purchases made with the card. The difference between factoring and credit cards is that cards are nothing more than a line of credit extended by the issuer, which charges the vendors a fee for accepting the cards. In factoring, the factor does not analyze credit until after the sale has been made; in many cases (except when factoring is done on a continuing basis), the initial credit decision is the responsibility of the vendor, not the factor that purchases the account.

sets up an account similar to a bank deposit account for each customer. As payment is received or as due dates arrive, the factor deposits money into the seller's account, from which the seller is free to make withdrawals as needed.

In many cases, if the firm leaves the money in the account, a *surplus* will exist on which the factor will pay interest. In other instances, the factor may make *advances* to the firm against uncollected accounts that are not yet due. These advances represent a negative balance in the firm's account, on which interest is charged.

Factoring Cost Factoring costs include commissions, interest levied on advances, and interest earned on surpluses. The factor deposits in the firm's account the book value of the collected or due accounts purchased by the factor, less the commissions. The commissions are typically stated as a 1 to 3 percent discount from the book value of factored accounts receivable. The *interest levied on advances* is generally 2 to 4 percent above the prime rate. It is levied on the actual amount advanced. The *interest paid on surpluses* is generally between 0.2 and 0.5 percent per month. An example of the factoring process is included on the book's Web site at www.aw.com/gitman.

Although its costs may seem high, factoring has certain advantages that make it attractive to many firms. One is the ability it gives the firm to *turn accounts receivable immediately into cash* without having to worry about repayment. Another advantage of factoring is that it ensures a *known pattern of cash flows*. In addition, if factoring is undertaken on a continuing basis, the firm *can eliminate its credit and collection departments*.

The Use of Inventory as Collateral

Inventory is generally second to accounts receivable in desirability as short-term loan collateral. Inventory normally has a market value that is greater than its book value, which is used to establish its value as collateral. A lender whose loan is secured with inventory will probably be able to sell that inventory for at least book value if the borrower defaults on its obligations.

The most important characteristic of inventory being evaluated as loan collateral is *marketability,* which must be considered in light of its physical properties. A warehouse of *perishable* items, such as fresh peaches, may be quite marketable, but if the cost of storing and selling the peaches is high, they may not be desirable collateral. *Specialized items,* such as moon-roving vehicles, are not desirable collateral either, because finding a buyer for them could be difficult. When evaluating inventory as possible loan collateral, the lender looks for items with very stable market prices that have ready markets and that lack undesirable physical properties.

Floating Inventory Liens

floating inventory lien
A secured short-term loan against inventory under which the lender's claim is on the borrower's inventory in general.

A lender may be willing to secure a loan under a **floating inventory lien,** which is a claim on inventory in general. This arrangement is most attractive when the firm has a stable level of inventory that consists of a diversified group of relatively inexpensive merchandise. Inventories of items such as auto tires, screws and bolts, and shoes are candidates for floating-lien loans. Because it is difficult for a lender to verify the presence of the inventory, the lender generally advances less

than 50 percent of the book value of the average inventory. The interest charge on a floating lien is 3 to 5 percent above the prime rate. Commercial banks often require floating liens as extra security on what would otherwise be an unsecured loan. Floating-lien inventory loans may also be available from commercial finance companies. An example of a floating lien is included on the book's Web site at *www.aw.com/gitman*.

Trust Receipt Inventory Loans

trust receipt inventory loan
A secured short-term loan against inventory under which the lender advances 80 to 100 percent of the cost of the borrower's relatively expensive inventory items in exchange for the borrower's promise to repay the lender, with accrued interest, immediately after the sale of each item of collateral.

A **trust receipt inventory loan** often can be made against relatively expensive automotive, consumer durable, and industrial goods that can be identified by serial number. Under this agreement, the borrower keeps the inventory, and the lender may advance 80 to 100 percent of its cost. The lender files a *lien* on all the items financed. The borrower is free to sell the merchandise but is trusted to remit the amount lent, along with accrued interest, to the lender immediately after the sale. The lender then releases the lien on the item. The lender makes periodic checks of the borrower's inventory to make sure that the required amount of collateral remains in the hands of the borrower. The interest charge to the borrower is normally 2 percent or more above the prime rate.

Trust receipt loans are often made by manufacturers' wholly owned financing subsidiaries, known as *captive finance companies,* to their customers. Captive finance companies are especially popular in industries that manufacture consumer durable goods, because they provide the manufacturer with a useful sales tool. For example, General Motors Acceptance Corporation (GMAC), the financing subsidiary of General Motors, grants these types of loans to its dealers. Trust receipt loans are also available through commercial banks and commercial finance companies.

Warehouse Receipt Loans

warehouse receipt loan
A secured short-term loan against inventory under which the lender receives control of the pledged inventory collateral, which is stored by a designated warehousing company on the lender's behalf.

A **warehouse receipt loan** is an arrangement whereby the lender, who may be a commercial bank or commercial finance company, receives control of the pledged inventory collateral, which is stored by a designated agent on the lender's behalf. After selecting acceptable collateral, the lender hires a warehousing company to act as its agent and take possession of the inventory.

Two types of warehousing arrangements are possible. A *terminal warehouse* is a central warehouse that is used to store the merchandise of various customers. The lender normally uses such a warehouse when the inventory is easily transported and can be delivered to the warehouse relatively inexpensively. Under a *field warehouse* arrangement, the lender hires a field warehousing company to set up a warehouse on the borrower's premises or to lease part of the borrower's warehouse to store the pledged collateral. Regardless of which type of warehouse is used, the warehousing company places a guard over the inventory. Only on written approval of the lender can any portion of the secured inventory be released by the warehousing company.

The actual lending agreement specifically states the requirements for the release of inventory. As in the case of other secured loans, the lender accepts only collateral that is believed to be readily marketable and advances only a portion—generally 75 to 90 percent—of the collateral's value. The specific costs of ware-

house receipt loans are generally higher than those of any other secured lending arrangements because of the need to hire and pay a warehousing company to guard and supervise the collateral. The basic interest charged on warehouse receipt loans is higher than that charged on unsecured loans, generally ranging from 3 to 5 percent above the prime rate. In addition to the interest charge, the borrower must absorb the costs of warehousing by paying the warehouse fee, which is generally between 1 and 3 percent of the amount of the loan. The borrower is normally also required to pay the insurance costs on the warehoused merchandise. An example of the procedures and costs of a warehouse receipt loan is included on the book's web site at *www.aw.com/gitman*.

Review Questions

15–11 Are secured short-term loans viewed as more risky or less risky than unsecured short-term loans? Why?

15–12 In general, what interest rates and fees are levied on secured short-term loans? Why are these rates generally *higher* than the rates on unsecured short-term loans?

15–13 Describe and compare the basic features of the following methods of using *accounts receivable* to obtain short-term financing: (**a**) pledging accounts receivable, and (**b**) factoring accounts receivable. Be sure to mention the institutions that offer each of them.

15–14 For the following methods of using *inventory* as short-term loan collateral, describe the basic features of each, and compare their use: (**a**) floating lien; (**b**) trust receipt loan; and (**c**) warehouse receipt loan.

SUMMARY

FOCUS ON VALUE

Current liabilities represent an important and generally inexpensive source of financing for a firm. The level of short-term (current liabilities) financing employed by a firm affects its profitability and risk. Accounts payable are an inexpensive spontaneous source of short-term financing. They should be paid as late as possible without damaging the firm's credit rating. This strategy will shorten the firm's cash conversion cycle and reduce its required investment in operating assets. If vendors offer cash discounts, the firm must consider the economics of giving up versus taking the discount. Accruals, another spontaneous liability, should be maximized because they represent free financing. Notes payable, which represent negotiated short-term financing, can be obtained from banks on an unsecured basis. They should be obtained at the lowest cost under the best possible terms. Large, well-known firms can obtain unsecured short-term financing through the sale of commercial paper. On a secured basis, the firm can obtain loans from banks or commercial finance companies, using either accounts receivable or inventory as collateral.

The financial manager must obtain the right quantity and form of current liabilities financing in order to provide the lowest-cost funds with the least risk. Such a strategy should positively contribute to the firm's goal of **maximizing the stock price.**

REVIEW OF LEARNING GOALS

LG1 Review the key components of a firm's credit terms and the procedures for analyzing them. The major spontaneous source of short-term financing is accounts payable, which are the primary source of short-term funds. Accounts payable result from credit purchases of merchandise. The key features of this form of financing are summarized in part I of Table 15.2. Credit terms may differ with respect to the credit period, cash discount, cash discount period, and beginning of the credit period. The cost of giving up cash discounts is a factor in deciding whether to take or give up a cash discount. Cash discounts should be given up only when a firm in need of short-term funds must pay an interest rate on borrowing that is greater than the cost of giving up the cash discount.

LG2 Understand the effects of stretching accounts payable on their cost, and the use of accruals. Stretching accounts payable can lower the cost of giving up a cash discount. This is because the firm can keep its money longer if it gives up the discount. Accruals, which result primarily from wage and tax obligations, are virtually free. The key features of this spontaneous liability are summarized in part I of Table 15.2.

LG3 Describe the interest rates and basic types of unsecured bank sources of short-term loans. Banks are the major source of unsecured short-term loans to businesses. The interest rate on these loans is tied to the prime rate of interest by a risk premium and may be fixed or floating. It should be evaluated by using the effective annual rate. This rate is calculated differently, depending on whether interest is paid when the loan matures or in advance. Bank loans may take the form of a single-payment note, a line of credit, or a revolving credit agreement. The key features of the various types of bank loans are summarized in part II of Table 15.2.

LG4 Discuss the basic features of commercial paper and the key aspects of international short-term loans. Commercial paper is an unsecured IOU issued by firms with a high credit standing. The key features of commercial paper are summarized in part II of Table 15.2. International sales and purchases expose firms to exchange rate risk. They are larger and of longer maturity than typical transactions, and they can be financed by using a letter of credit, by borrowing in the local market, or through dollar-denominated loans from international banks. On transactions between subsidiaries, "netting" can be used to minimize foreign exchange fees and other transaction costs.

LG5 Explain the characteristics of secured short-term loans and the use of accounts receivable as short-term-loan collateral. Secured short-term loans are those for which the lender requires collateral—typically, current assets such as accounts receivable or inventory. Only a percentage of the book value of acceptable collateral is advanced by the lender. These loans are more expensive than unsecured loans; collateral does not lower the risk of default, and increased administrative costs result. Both commercial banks and commercial finance companies make secured short-term loans. Both pledging, which is the use of accounts receivable as loan collateral, and factoring, which is the outright sale of accounts receivable at a discount, involve the use of accounts receivable to obtain needed short-term funds. The key features of loans using accounts receivable as collateral are summarized in part III of Table 15.2.

LG6 Describe the various ways in which inventory can be used as short-term-loan collateral. Inventory can be used as short-term-loan collateral under a floating lien, a trust receipt arrangement, or a warehouse receipt loan. The key features of loans using inventory as collateral are summarized in part III of Table 15.2.

TABLE 15.2 Summary of Key Features of Common Sources of Short-Term Financing

Type of short-term financing	Source	Cost or conditions	Characteristics
I. Spontaneous liabilities			
Accounts payable	Suppliers of merchandise	No stated cost except when a cash discount is offered for early payment.	Credit extended on open account for 0 to 120 days. The largest source of short-term financing.
Accruals	Employees and government	Free.	Result because wages (employees) and taxes (government) are paid at discrete points in time after the service has been rendered. Hard to manipulate this source of financing.
II. Unsecured sources of short-term loans			
Bank sources			
(1) Single-payment notes	Commercial banks	Prime plus 0% to 4% risk premium—fixed or floating rate.	A single-payment loan used to meet a funds shortage expected to last only a short period of time.
(2) Lines of credit	Commercial banks	Prime plus 0% to 4% risk premium—fixed or floating rate. Often must maintain 10% to 20% compensating balance and clean up the line annually.	A prearranged borrowing limit under which funds, if available, will be lent to allow the borrower to meet seasonal needs.
(3) Revolving credit agreements	Commercial banks	Prime plus 0% to 4% risk premium—fixed or floating rate. Often must maintain 10% to 20% compensating balance and pay a commitment fee of approximately 0.5% of the average unused balance.	A line-of-credit agreement under which the availability of funds is guaranteed. Often for a period greater than 1 year.
Commercial paper	Business firms—both nonfinancial and financial	Generally 2% to 4% below the prime rate of interest.	An unsecured short-term promissory note issued by the most financially sound firms.

(*continued*)

TABLE 15.2 Summary of Key Features of Common Sources of Short-Term Financing (continued)

Type of short-term financing	Source	Cost or conditions	Characteristics
III. Secured sources of short-term loans			
Accounts receivable collateral			
(1) Pledging	Commercial banks and commercial finance companies	2% to 5% above prime plus up to 3% in fees. Advance 50% to 90% of collateral value.	Selected accounts receivable are used as collateral. The borrower is trusted to remit to the lender on collection of pledged accounts. Done on a non-notification basis.
(2) Factoring	Factors, commercial banks, and commercial finance companies	1% to 3% discount from face value of factored accounts. Interest of 2% to 4% above prime levied on advances. Interest between 0.2% and 0.5% per month earned on surplus balances left with factor.	Selected accounts are sold—generally without recourse—at a discount. All credit risks go with the accounts. Factor will lend (make advances) against uncollected accounts that are not yet due. Factor will also pay interest on surplus balances. Typically done on a notification basis.
Inventory collateral			
(1) Floating liens	Commercial banks and commercial finance companies	3% to 5% above prime. Advance less than 50% of collateral value.	A loan against inventory in general. Made when firm has stable inventory of a variety of inexpensive items.
(2) Trust receipts	Manufacturers' captive financing subsidiaries, commercial banks, and commercial finance companies	2% or more above prime. Advance 80% to 100% of cost of collateral.	Loan against relatively expensive automotive, consumer durable, and industrial goods that can be identified by serial number. Collateral remains in possession of borrower, who is trusted to remit proceeds to lender upon its sale.
(3) Warehouse receipts	Commercial banks and commercial finance companies	3% to 5% above prime plus a 1% to 3% warehouse fee. Advance 75% to 90% of collateral value.	Inventory used as collateral is placed under control of the lender either through a terminal warehouse or through a field warehouse. A third party—a warehousing company—guards the inventory for the lender. Inventory is released only on written approval of the lender.

SELF-TEST PROBLEM (Solution in Appendix B)

LG1 LG2 **ST 15–1** **Cash discount decisions** The credit terms for each of three suppliers are shown in the following table.

Supplier	Credit terms
X	1/10 net 55 EOM
Y	2/10 net 30 EOM
Z	2/20 net 60 EOM

a. Determine the *approximate* cost of giving up the cash discount from each supplier.
b. Assuming that the firm needs short-term financing, indicate whether it would be better to give up the cash discount or take the discount and borrow from a bank at 15% annual interest. Evaluate each supplier *separately* using your findings in part **a.**
c. What impact, if any, would the fact that the firm could stretch its accounts payable (net period only) by 20 days from supplier Z have on your answer in part **b** relative to this supplier?

PROBLEMS

LG1 **15–1** **Payment dates** Determine when a firm must pay for purchases made and invoices dated on November 25 under each of the following credit terms.
a. net 30 date of invoice
b. net 30 EOM
c. net 45 date of invoice
d. net 60 EOM

LG1 **15–2** **Cost of giving up cash discounts** Determine the cost of giving up cash discounts under each of the following terms of sale.
a. 2/10 net 30
b. 1/10 net 30
c. 2/10 net 45
d. 3/10 net 45
e. 1/10 net 60
f. 3/10 net 30
g. 4/10 net 180

LG1 **15–3** **Credit terms** Purchases made on credit are due in full by the end of the billing period. Many firms extend a discount for payment made in the first part of the billing period. The original invoice contains a type of "short-hand" notation that explains the credit terms that apply.
a. Write the short-hand expression of credit terms for each of the following.

Cash discount	Cash discount period	Credit period	Beginning of credit period
1%	15 days	45 days	date of invoice
2	10	30	end of month
2	7	28	date of invoice
1	10	60	end of month

b. For each of the sets of credit terms in part **a,** calculate the number of days until full payment is due for invoices dated March 12.
c. For each of the sets of credit terms, calculate the cost of giving up the cash discount.
d. If the firm's cost of short-term financing is 8%, what would you recommend in regard to taking the discount or giving it up in each case?

LG1 **15–4 Cash discount versus loan** Erica Stone works in an accounts payable department. She has attempted to convince her boss to take the discount on the 3/10 net 45 credit terms most suppliers offer, but her boss argues that giving up the 3% discount is less costly than a short-term loan at 14%. Prove to whoever is wrong that the other is correct.

LG1 LG2 **15–5 Cash discount decisions** Prairie Manufacturing has four possible suppliers, all of whom offer different credit terms. Except for the differences in credit terms, their products and services are virtually identical. The credit terms offered by these suppliers are shown in the following table.

Supplier	Credit terms
J	1/10 net 30 EOM
K	2/20 net 80 EOM
L	1/20 net 60 EOM
M	3/10 net 55 EOM

a. Calculate the *approximate* cost of giving up the cash discount from each supplier.
b. If the firm needs short-term funds, which are currently available from its commercial bank at 16%, and if each of the suppliers is viewed *separately,* which, if any, of the suppliers' cash discounts should the firm give up? Explain why.
c. What impact, if any, would the fact that the firm could stretch its accounts payable (net period only) by 30 days from supplier M have on your answer in part **b** relative to this supplier?

LG2 **15–6 Changing payment cycle** Upon accepting the position of chief executive officer and chairman of Reeves Machinery, Frank Cheney changed the firm's weekly payday from Monday afternoon to the following Friday afternoon. The firm's weekly payroll was $10 million, and the cost of short-term funds was 13%. If the effect of this change was to delay check clearing by 1 week, what *annual* savings, if any, were realized?

LG2 **15–7 Spontaneous sources of funds, accruals** When Tallman Haberdashery, Inc., merged with Meyers Men's Suits, Inc., Tallman's employees were switched from a weekly to a bi-weekly pay period. Tallman's weekly payroll amounted to

$750,000. The cost of funds for the combined firms is 11%. What annual savings, if any, are realized by this change of pay period?

LG3 **15–8 Cost of bank loan** Data Back-Up Systems has obtained a $10,000, 90-day bank loan at an annual interest rate of 15%, payable at maturity. (*Note:* Assume a 360-day year.)

a. How much interest (in dollars) will the firm pay on the 90-day loan?
b. Find the effective 90-day rate on the loan.
c. Annualize your result in part **b** to find the effective annual rate for this loan, assuming that it is rolled over every 90 days throughout the year under the same terms and circumstances.

LG3 **15–9 Effective annual rate** A financial institution made a $10,000, 1-year discount loan at 10% interest, requiring a compensating balance equal to 20% of the face value of the loan. Determine the effective annual rate associated with this loan.

LG3 **15–10 Compensating balances and effective annual rates** Lincoln Industries has a line of credit at Bank Two that requires it to pay 11% interest on its borrowing and to maintain a compensating balance equal to 15% of the amount borrowed. The firm has borrowed $800,000 during the year under the agreement. Calculate the effective annual rate on the firm's borrowing in each of the following circumstances:

a. The firm normally maintains no deposit balances at Bank Two.
b. The firm normally maintains $70,000 in deposit balances at Bank Two.
c. The firm normally maintains $150,000 in deposit balances at Bank Two.
d. Compare, contrast, and discuss your findings in parts **a, b,** and **c.**

LG3 **15–11 Compensating balance vs. discount loan** Weathers Catering Supply, Inc., needs to borrow $150,000 for 6 months. State Bank has offered to lend the funds at a 9% annual rate subject to a 10% compensating balance. Frost Finance Co. has offered to lend the funds at a 9% annual rate with discount-loan terms. The principal of both loans would be payable at maturity as a single sum.

a. Calculate the effective annual rate of interest on each loan.
b. What could Weathers do that would reduce the effective annual rate on the State Bank loan?

LG3 **15–12 Integrative—Comparison of loan terms** Cumberland Furniture wishes to establish a prearranged borrowing agreement with its local commercial bank. The bank's terms for a line of credit are 3.30% over the prime rate, and each year the borrowing must be reduced to zero for a 30-day period. For an equivalent revolving credit agreement, the rate is 2.80% over prime with a commitment fee of 0.50% on the average unused balance. With both loans, the required compensating balance is equal to 20% of the amount borrowed. The prime rate is currently 8%. Both agreements have $4 million borrowing limits. The firm expects on average to borrow $2 million during the year no matter which loan agreement it decides to use.

a. What is the effective annual rate under the line of credit?
b. What is the effective annual rate under the revolving credit agreement? (*Hint:* Compute the ratio of the dollars that the firm will pay in interest and commitment fees to the dollars that the firm will effectively have use of.)
c. If the firm does expect to borrow an average of half the amount available, which arrangement would you recommend for the borrower? Explain why.

LG4 **15–13 Cost of commercial paper** Commercial paper is usually sold at a discount. Fan Corporation has just sold an issue of 90-day commercial paper with a face value of $1 million. The firm has received initial proceeds of $978,000.
a. What effective annual rate will the firm pay for financing with commercial paper, assuming that it is rolled over every 90 days throughout the year?
b. If a brokerage fee of $9,612 was paid from the initial proceeds to an investment banker for selling the issue, what effective annual rate will the firm pay, assuming that the paper is rolled over every 90 days throughout the year?

LG5 **15–14 Accounts receivable as collateral** Kansas City Castings (KCC) is attempting to obtain the maximum loan possible using accounts receivable as collateral. The firm extends net-30-day credit. The amounts that are owed KCC by its 12 credit customers, the average age of each account, and customer's average payment period are as shown in the following table.

Customer	Account receivable	Average age of account	Average payment period of customer
A	$37,000	40 days	30 days
B	42,000	25	50
C	15,000	40	60
D	8,000	30	35
E	50,000	31	40
F	12,000	28	30
G	24,000	30	70
H	46,000	29	40
I	3,000	30	65
J	22,000	25	35
K	62,000	35	40
L	80,000	60	70

a. If the bank will accept all accounts that can be collected in 45 days or less as long as the customer has a history of paying within 45 days, which accounts will be acceptable? What is the total dollar amount of accounts receivable collateral? (*Note:* Accounts receivable that have an average age greater than the customer's average payment period are also excluded.)
b. In addition to the conditions in part **a,** the bank recognizes that 5% of credit sales will be lost to returns and allowances. Also, the bank will lend only

80% of the acceptable collateral (after adjusting for returns and allowances). What level of funds would be made available through this lending source?

LG5 **15–15 Accounts receivable as collateral** Springer Products wishes to borrow $80,000 from a local bank using its accounts receivable to secure the loan. The bank's policy is to accept as collateral any accounts that are normally paid within 30 days of the end of the credit period, as long as the average age of the account is not greater than the customer's average payment period. Springer's accounts receivable, their average ages, and the average payment period for each customer are shown in the following table. The company extends terms of net 30 days.

Customer	Account receivable	Average age of account	Average payment period of customer
A	$20,000	10 days	40 days
B	6,000	40	35
C	22,000	62	50
D	11,000	68	65
E	2,000	14	30
F	12,000	38	50
G	27,000	55	60
H	19,000	20	35

a. Calculate the dollar amount of acceptable accounts receivable collateral held by Springer Products.
b. The bank reduces collateral by 10% for returns and allowances. What is the level of acceptable collateral under this condition?
c. The bank will advance 75% against the firm's acceptable collateral (after adjusting for returns and allowances). What amount can Springer borrow against these accounts?

LG3 LG5 **15–16 Accounts receivable as collateral, cost of borrowing** Maximum Bank has analyzed the accounts receivable of Scientific Software, Inc. The bank has chosen eight accounts totaling $134,000 that it will accept as collateral. The bank's terms include a lending rate set at prime + 3% and a 2% commission charge. The prime rate currently is 8.5%.
a. The bank will adjust the accounts by 10% for returns and allowances. It then will lend up to 85% of the adjusted acceptable collateral. What is the maximum amount that the bank will lend to Scientific Software?
b. What is Scientific Software's effective annual rate of interest if it borrows $100,000 for 12 months? For 6 months? For 3 months? (Assume that the prime rate remains at 8.5% during the life of the loan.)

LG5 **15–17 Factoring** Blair Finance factors the accounts of the Holder Company. All eight factored accounts are shown in the following table, with the amount factored, the date due, and the status on May 30. Indicate the amounts that Blair should

have remitted to Holder as of May 30 and the dates of those remittances. Assume that the factor's commission of 2% is deducted as part of determining the amount of the remittance.

Account	Amount	Date due	Status on May 30
A	$200,000	May 30	Collected May 15
B	90,000	May 30	Uncollected
C	110,000	May 30	Uncollected
D	85,000	June 15	Collected May 30
E	120,000	May 30	Collected May 27
F	180,000	June 15	Collected May 30
G	90,000	May 15	Uncollected
H	30,000	June 30	Collected May 30

LG1 LG6 **15–18 Inventory financing** Raymond Manufacturing faces a liquidity crisis—it needs a loan of $100,000 for 30 days. Having no source of additional unsecured borrowing, the firm must find a secured short-term lender. The firm's accounts receivable are quite low, but its inventory is considered liquid and reasonably good collateral. The book value of the inventory is $300,000, of which $120,000 is finished goods.

(1) City-Wide Bank will make a $100,000 *trust receipt* loan against the finished goods inventory. The annual interest rate on the loan is 12% on the outstanding loan balance plus a 0.25% administration fee levied against the $100,000 initial loan amount. Because it will be liquidated as inventory is sold, the average amount owed over the month is expected to be $75,000.

(2) Sun State Bank will lend $100,000 against a *floating lien* on the book value of inventory for the 30-day period at an annual interest rate of 13%.

(3) Citizens' Bank and Trust will lend $100,000 against a *warehouse receipt* on the finished goods inventory and charge 15% annual interest on the outstanding loan balance. A 0.5% warehousing fee will be levied against the average amount borrowed. Because the loan will be liquidated as inventory is sold, the average loan balance is expected to be $60,000.

a. Calculate the dollar cost of each of the proposed plans for obtaining an initial loan amount of $100,000.

b. Which plan do you recommend? Why?

c. If the firm had made a purchase of $100,000 for which it had been given terms of 2/10 net 30, would it increase the firm's profitability to give up the discount and not borrow as recommended in part **b**? Why or why not?

CHAPTER 15 CASE

Selecting Kanton Company's Financing Strategy and Unsecured Short-Term Borrowing Arrangement

Morton Mercado, the CFO of Kanton Company, carefully developed the estimates of the firm's total funds requirements for the coming year. These are shown in the following table.

Month	Total funds	Month	Total funds
January	$1,000,000	July	$6,000,000
February	1,000,000	August	5,000,000
March	2,000,000	September	5,000,000
April	3,000,000	October	4,000,000
May	5,000,000	November	2,000,000
June	7,000,000	December	1,000,000

In addition, Morton expects short-term financing costs of about 10% and long-term financing costs of about 14% during that period. He developed the three possible financing strategies that follow:

Strategy 1—Aggressive: Finance seasonal needs with short-term funds and permanent needs with long-term funds.

Strategy 2—Conservative: Finance an amount equal to the peak need with long-term funds and use short-term funds only in an emergency.

Strategy 3—Tradeoff: Finance $3,000,000 with long-term funds and finance the remaining funds requirements with short-term funds.

Using the data on the firm's total funds requirements, Morton estimated the average annual short-term and long-term financing requirements for each strategy in the coming year, as shown in the following table.

	Average annual financing		
Type of financing	Strategy 1 (aggressive)	Strategy 2 (conservative)	Strategy 3 (tradeoff)
Short-term	$2,500,000	$ 0	$1,666,667
Long-term	1,000,000	7,000,000	3,000,000

To ensure that, along with spontaneous financing from accounts payable and accruals, adequate short-term financing will be available, Morton plans to establish an unsecured short-term borrowing arrangement with its local bank,

Third National. The bank has offered either a line-of-credit agreement or a revolving credit agreement. Third National's terms for a line of credit are an interest rate of 2.50% above the prime rate, and the borrowing must be reduced to zero for a 30-day period during the year. On an equivalent revolving credit agreement, the interest rate would be 3.00% above prime with a commitment fee of 0.50% on the average unused balance. Under both loans, a compensating balance equal to 20% of the amount borrowed would be required. The prime rate is currently 7%. Both the line-of-credit agreement and the revolving credit agreement would have borrowing limits of $1,000,000. For purposes of his analysis, Morton estimates that Kanton will borrow $600,000 on the average during the year, regardless which financing strategy and loan arrangement it chooses.

Required

a. Determine the total annual cost of each of the three possible financing strategies.
b. Assuming that the firm expects its current assets to total $4 million throughout the year, determine the average amount of net working capital under each financing strategy. (*Hint:* Current liabilities equal average short-term financing.)
c. Using the net working capital found in part **b** as a measure of risk, discuss the profitability–risk tradeoff associated with each financing strategy. Which strategy would you recommend to Morton Mercado for Kanton Company? Why?
d. Find the effective annual rate under:
(1) The line-of-credit agreement.
(2) The revolving credit agreement. (*Hint:* Find the ratio of the dollars that the firm will pay in interest and commitment fees to the dollars that the firm will effectively have use of.)
e. If the firm does expect to borrow an average of $600,000, which borrowing arrangement would you recommend to Kanton? Explain why.

WEB EXERCISE

Go to the Web site *www.21stfinancialsolutions.com*.

1. Click on **What Is Factoring?** What are factoring's advantages?
2. In the left-hand navigation bar, click on **Is factoring for You?** What are the additional benefits, and what types of companies can use factoring to their advantage?
3. Using the information in **How factoring works,** summarize the factoring process.

Next, go to the Web site *www.wellsfargo.com*.

4. On the top navigation bar, click on **commercial services**. Under **Business Lending and Leasing**, click on **commercial loans**.
   a. What types of loans does the bank offer businesses?
   b. Click on each of the four categories and summarize the type of loan and its uses.
5. At the top of the page, click on the link for **factoring services**.
   a. Describe the two types of factoring services.
   b. Click on **Wells Fargo Business Credit**. What features does Wells Fargo offer its factoring customers?

Remember to check the book's Web site at

www.aw.com/gitman

for additional resources, including additional Web exercises.

INTEGRATIVE CASE
5

Case de Diseño

In January 2004, Teresa Leal was named treasurer of Casa de Diseño. She decided that she could best orient herself by systematically examining each area of the company's financial operations. She began by studying the firm's short-term financial activities.

Casa de Diseño is located in southern California and specializes in a furniture line called "Ligne Moderna." Of high quality and contemporary design, the furniture appeals to the customer who wants something unique for his or her home or apartment. Most Ligne Moderna furniture is built by special order, because a wide variety of upholstery, accent trimming, and colors are available. The product line is distributed through exclusive dealership arrangements with well-established retail stores. Casa de Diseño's manufacturing process virtually eliminates the use of wood. Plastic and metal provide the basic framework, and wood is used only for decorative purposes.

Casa de Diseño entered the plastic-furniture market in late 1998. The company markets its plastic-furniture products as indoor–outdoor items under the brand name "Futuro." Futuro plastic furniture emphasizes comfort, durability, and practicality and is distributed through wholesalers. The Futuro line has been very successful, accounting for nearly 40 percent of the firm's sales and profits in 2003. Casa de Diseño anticipates some additions to the Futuro line and also some limited change of direction in its promotion in an effort to expand the applications of the plastic furniture.

Ms. Leal has decided to study the firm's cash management practices. To determine the effects of these practices, she must first determine the current operating and cash conversion cycles. In her investigations, she found that Casa de Diseño purchases all of its raw materials and production supplies on open account. The company is operating at production levels that preclude volume discounts. Most suppliers do not offer cash discounts, and Casa de Diseño usually receives credit terms of net 30. An analysis of Casa de Diseño's accounts payable showed that its average payment period is 30 days. Leal consulted industry data and found that the industry average payment period was 39 days. Investigation of six California furniture manufacturers revealed that their average payment period was also 39 days.

Next, Leal studied the production cycle and inventory policies. Casa de Diseño tries not to hold any more inventory than necessary in either

raw materials or finished goods. The average inventory age was 110 days. Leal determined that the industry standard, as reported in a survey done by *Furniture Age,* the trade association journal, was 83 days.

Casa de Diseño sells to all of its customers on a net-60 basis, in line with the industry trend to grant such credit terms on specialty furniture. Leal discovered, by aging the accounts receivable, that the average collection period for the firm was 75 days. Investigation of the trade association's and California manufacturers' averages showed that the same collection period existed where net-60 credit terms were given. Where cash discounts were offered, the collection period was significantly shortened. Leal believed that if Casa de Diseño were to offer credit terms of 3/10 net 60, the average collection period could be reduced by 40 percent.

Casa de Diseño was spending an estimated $26,500,000 per year on operating-cycle investments. Leal considered this expenditure level to be the minimum she could expect the firm to disburse during 2004. Her concern was whether the firm's cash management was as efficient as it could be. She knew that the company paid 15 percent annual interest for its resource investment. For this reason, she was concerned about the financing cost resulting from any inefficiencies in the management of Casa de Diseño's cash conversion cycle.

Required

a. Assuming a constant rate for purchases, production, and sales throughout the year, what are Casa de Diseño's existing operating cycle (OC), cash conversion cycle (CCC), and resource investment needs?

b. If Leal can optimize Casa de Diseño's operations according to industry standards, what will Casa de Diseño's operating cycle (OC), cash conversion cycle (CCC), and resource investment need be under these more efficient conditions?

c. In terms of resource investment requirements, what is the cost of Casa de Diseño's operational inefficiency?

d. (1) If in addition to achieving industry standards for payables and inventory, the firm can reduce the average collection period by offering credit terms of 3/10 net 60, what additional savings in resource investment costs will result from the shortened cash conversion cycle, assuming that the level of sales remains constant?

(2) If the firm's sales (all on credit) are $40,000,000 and 45% of the customers are expected to take the cash discount, by how much will the firm's annual revenues be reduced as a result of the discount?

(3) If the firm's variable cost of the $40,000,000 in sales is 80%, determine the reduction in the average investment in accounts receivable and the

annual savings that will result from this reduced investment, assuming that sales remain constant. (Assume a 360-day year.)

(4) If the firm's bad-debt expenses decline from 2% to 1.5% of sales, what annual savings will result, assuming that sales remain constant?

(5) Use your findings in parts (2) through (4) to assess whether offering the cash discount can be justified financially. Explain why or why not.

e. On the basis of your analysis in parts **a** through **d,** what recommendations would you offer Teresa Leal?

f. Review for Teresa Leal the key sources of short-term financing, other than accounts payable, that she may consider in order to finance Casa de Diseño's resource investment need calculated in part **b.** Be sure to mention both unsecured and secured sources.