

- *Require guarantees.* There is a variety of possible payment guarantees that can be extracted from a customer, such as a personal guarantee by an owner, a guarantee by a corporate parent, or a letter of credit from a bank.
- *Perfect a security interest in goods sold.* It may be possible to create a security agreement with a customer in which the goods being sold are listed, which the company then files in the jurisdiction where the goods reside. This gives the company a senior position ahead of general creditors in the event of default by the customer.
- *Obtain credit insurance.* Credit insurance is a guarantee by a third party against nonpayment by a customer. It can be used for both domestic and international receivables. The cost of credit insurance can exceed one-half percent of the invoiced amount, with higher costs for riskier customers and substantially lower rates for customers who are considered to be in excellent financial condition.
- *Require a credit reexamination upon an initiating event.* The treasury staff should review customer credit at regular intervals to see if they still deserve existing credit limits. These reviews can be triggered when the current credit limit is exceeded, if a customer places an order after a long interval of inactivity, if there is an unjustified late payment, or if a customer stops taking early payment discounts.

An active treasury staff that manages the credit function can use the preceding list of credit practices to retain the appropriate level of control over accounts receivable and the corresponding amount of working capital funding.

RECEIVABLES MANAGEMENT

Once credit has been granted to a customer, responsibility for billing and collecting from the customer usually passes to the accounting department. The ability of the accounting staff to reliably invoice and collect in a timely manner has a major impact on the amount of working capital invested in accounts receivable. The treasurer does not have direct control over these functions but should be aware of the following factors, which can seriously extend customer payment intervals unless carefully managed:

- *Invoicing delay.* Invoices should be issued immediately after the related goods or services have been provided. If the accounting staff is billing only at stated intervals, then receivables are being extended just because of an internal accounting work policy.

- *Invoicing errors.* If invoices are being continually reissued due to errors, then additional controls are needed to increase the accuracy of initial invoices. This can be a serious issue, since invoicing errors are usually found by the customer, which may be several weeks after they were originally issued.
- *Invoice transmission.* There is a multiday mailing delay when invoices are delivered through the postal service. Instead, the accounting system should be configured to issue invoices by email or electronic data interchange, or the accounting staff should manually email invoices.
- *Lockbox receipt.* If checks are received at the company location and then sent to the bank, this creates a delay of potentially several days before the checks are processed internally, deposited, and then clear the bank. Instead, customers should send all checks to a lockbox, so that checks are deposited in the minimum amount of time, thereby increasing the availability of funds.
- *Collection management.* There should be a well-trained collection staff that assigns responsibility for specific accounts, focuses on the largest overdue account balances first, begins talking to customers immediately after payment due dates are reached, and is supported by collection software systems. The group should use a broad array of collection techniques, including dunning letters, on-site visits, attorney letters, payment commitment letters, credit holds, and collection agencies.
- *Internal error follow-up.* If payments are being delayed due to service problems by the company or product flaws, the collection staff should have a tracking system in place that stores the details of these problems, and the accounting manager should follow up with managers elsewhere in the company to have them resolved.

The treasurer can periodically inquire of the controller if these collection issues are being managed properly. Another approach is to obtain an accounts receivable aging report and determine the reasons why overdue receivables have not yet been paid. At a minimum, the treasurer should track the days receivables outstanding on a timeline, and follow up with the controller or chief financial officer if the metric increases over time.

INVENTORY MANAGEMENT

Of all the components of working capital, inventory management is the most critical because it is the least liquid and therefore tends to be a cash trap. Once funds have been spent on inventory, the time period required to

convert it back into cash can be quite long, so it is extremely important to invest in the smallest possible amount of inventory.

Responsibility for inventory resides with the materials management department, which controls purchasing, manufacturing planning, and warehousing. None of these areas are ones over which the treasurer traditionally exercises control. Nonetheless, the treasurer should be aware of activities related to inventory management, because they can have a profound impact on the level of funding needed for working capital. The following topics address a number of areas in which inventory decisions impact funding.

Inventory Purchasing

When the purchasing department orders inventory from suppliers, it asks them for the lead time they need to deliver orders and then creates a *safety stock* level to at least match the lead time. For example, if a supplier says that it needs two weeks to deliver goods, and the company uses \$100,000 of its inventory per week, then the purchasing department creates a safety stock level of at least \$200,000 to keep the company running while it waits for the next delivery. This lead time therefore requires \$200,000 of funding. The treasurer should be aware that extremely distant foreign sourcing, such as to Asia, will drastically lengthen lead times and therefore the amount of safety stock. Conversely, if a company can source its inventory needs from suppliers located very close to the company and work with them to reduce their lead times and increase the frequency of their deliveries, this results in lowered safety stock and therefore a reduced need for funding.

Another contributor to long lead times is the manual processing of purchase orders to suppliers. If inventory needs are calculated by hand, then transferred to a purchase order, manually approved, and delivered by mail, then a company must retain more safety stock to cover for this additional delay. Conversely, if a company can install a *material requirements planning system* that automatically calculates inventory needs, creates purchase orders, and transmits them to suppliers electronically, then the ordering cycle is significantly reduced and corresponding lead times can be shortened.

The purchasing department orders inventory based on its estimates of what customers are going to buy. No matter how sophisticated, these estimates are bound to be incorrect to some extent, resulting in the purchase of excess inventory. To reduce this forecasting error, a company should attempt to *gain direct access to the inventory planning systems of key customers*. This gives the purchasing staff perfect information about what it, in turn, needs to order from its suppliers, and thereby reduces excess inventory levels.

It may also be possible to *shift raw material ownership to suppliers* so that they own the inventory located on the company's premises. Suppliers may agree to this scenario if the company sole-sources purchases from them. Under this arrangement, the company pays suppliers when it removes

inventory from its warehouse, to either sell it or incorporate it into the manufacture of other goods. The resulting payment delay reduces the need for funding.

All of the preceding changes in purchasing practices can reduce a company's investment in inventory. Conversely, a purchasing practice that contributes to startling increases in funding requirements is the *bulk purchase of inventory*. If the purchasing staff is offered quantity discounts in exchange for large orders, they will be tempted to proclaim large per-unit cost reductions, not realizing that this calls for much more up-front cash and a considerable storage cost and risk of obsolescence.

Inventory Receiving

The receiving staff's procedures can have an impact on inventory-related funding. For example, a supplier may ship goods without an authorizing purchase order from the company. If the receiving staff accepts the delivery, then the company is obligated to pay for it. A better practice is to *reject all inbound deliveries that do not have a purchase order authorization*.

Another procedural issue is to require the *immediate entry of all receiving information* into the company's warehouse management system. If this is not done, the risk increases that the receipt will never be recorded due to lost or misplaced paperwork. The purchasing staff will see that the inventory never arrived and may order additional goods to compensate—which requires more funding. Similarly, a procedure should call for the immediate put-away of inventory items following their receipt, on the grounds that they can become lost in the staging area.

Inventory Storage

In a traditional system, inventory arrives from suppliers, is stored in the company warehouse, and is shipped when ordered by customers. The company is funding the inventory for as long as it sits in the warehouse waiting for a customer order. A better method is to avoid the warehouse entirely by using *drop shipping*. Under this system, a company receives an order from a customer and contacts its supplier with the shipping information, who in turn ships the product directly to the customer. This is a somewhat cumbersome process and may result in longer delivery times, but it completely eliminates the company's investment in inventory and therefore all associated funding needs. This option is available only to inventory resellers.

Another option that severely reduces the amount of inventory retention time is *cross-docking*. Under cross-docking, when an item arrives at the receiving dock, it is immediately moved to a shipping dock for delivery to the customer in a different truck. There is no put-away or picking transaction, and no long-term storage, which also reduces the risk of damage to the inventory. Cross-docking only works when there is excellent control over

the timing of in-bound deliveries, so the warehouse management system knows when items will arrive. It also requires multiple extra loading docks, since trailers may have to be kept on-site longer than normal while loads are accumulated from several inbound deliveries.

Production Issues Impacting Inventory

The production process is driven by several procedural, policy, and setup issues that strongly impact the amount of inventory and therefore the level of funding.

The traditional manufacturing system is geared toward very long production runs, on the justification that this results in the spreading of fixed costs over a large number of units, which yields the lowest possible cost per unit. The logic is flawed, because such large production runs also yield too much inventory, which then sits in stock and runs the significant risk of obsolescence. To reduce the funding requirement of this excess inventory, a company should produce to demand, which is exemplified by the *just-in-time (JIT) manufacturing system*. A JIT system triggers an authorization to produce only if an order is received from a customer, so there is never any excess inventory on hand. Though a JIT system initially appears to generate higher per-unit costs, the eliminated carrying cost of inventory makes it considerably less expensive. And, from the treasurer's perspective, a JIT system can release a great deal of cash from inventory.

Another production issue is to *avoid volume-based incentive pay systems*. Some companies pay their employees more if they produce more. Not only does this result in extremely high levels of inventory, but these pay systems tend to yield lower-quality goods, since employees favor higher volume over higher quality. A reasonable alternative is an incentive to exactly meet the production plan. If the plan is derived from a JIT system, then employees are producing only to match existing customer orders, which keep funding requirements low.

A related issue is the use of complex, high-capacity machinery. Industrial engineers enjoy these machines because they feature impressively high throughput rates. However, they also require immense production volumes in order to justify their initial and ongoing maintenance costs, which once again results in the accumulation of too much inventory. Instead, the treasurer should favor the *acquisition of smaller, simpler machines having lower maintenance costs*. Such machines can be operated profitably with very small production runs, thereby making it easier to drive down inventory levels.

A simple method for reducing work-in-process inventory is to *use smaller container sizes*. Typically, an employee at a workstation fills a container and then moves it to the next downstream workstation. If the container is a large one, and if there are many workstations using the same size container, then a great deal of work-in-process inventory is being unnecessarily

accumulated. By shifting to a smaller container size, the inventory investment is reduced, as is the amount of scrap—because the downstream workstation operator is more likely to spot faults originating in an upstream location more quickly if containers are delivered more frequently.

When a machine requires a substantial amount of time to be switched over to a new configuration for the production of a different part, there is a natural tendency to have very long production runs of the same part in order to spread the cost of the changeover across as many parts as possible. This practice results in too much inventory, so the solution is to *reduce machine setup times* to such an extent that it becomes practicable to have production runs of as little as one unit. Setup reduction can be accomplished by using changeover consultants, process videotaping, quick-release fasteners, color-coded parts, standardized tools, and so forth.

A common arrangement of machines on the shop floor is by functional group, where machines of one type are clustered in one place. By doing so, jobs requiring a specific type of processing can all be routed to the same cluster of machines and loaded into whichever one becomes available for processing next. However, by doing so, there tend to be large batches of work-in-process inventory piling up behind each machine because this approach calls for the completion of a job at one workstation before the entire job is moved to the next workstation. A better layout is provided by *cellular manufacturing*, where a small cluster of machines are set up in close proximity to one another, each one performing a sequential task in completing a specific type or common set of products. Usually, only a few employees work in each cell and walk a single part all the way through the cell before moving on to the next part. By doing so, there is obviously only the most minimal work-in-process inventory in the cell.

The Bill of Materials

A bill of materials is the record of the materials used to construct a product. It is exceedingly worthwhile to examine the bills of material with the objective of reducing inventory. For example, a bill may contain an excess quantity of a part. If so, and the underlying purchase order system automatically places orders for parts, the bill will be used to order too many parts, thereby increasing inventory levels. A *periodic audit of all bills*, where the reviewer compares each bill to a disassembled product, will reveal such errors. For the same reason, the estimated scrap listed in all bills of material should be compared to actual scrap levels; if the estimated scrap level is too high, then the bill will call for too much inventory to be ordered for the next production run.

A significant bill of materials issue from the perspective of inventory reduction is the *substitution of parts*. This may occur when the engineering staff issues an engineering change order, specifying a reconfiguration of the parts that form a product. Ideally, the materials management staff should

draw down all remaining inventory stocks under the old bill of materials before implementing the new change order. If this is not done, then the company will have a remainder stock of raw materials inventory for which there are no disposition plans.

Product Design

There are a number of design decisions that have a considerable impact on the size of a company's investment in inventory. A key factor is the *number of product options* offered. If there are a multitude of options, then a company may find it necessary to stock every variation on the product, which calls for a substantial inventory investment. If, however, it is possible to limit the number of options, then inventory volumes can be substantially reduced. A similar issue is the *number of products* offered. If there is an enormous range of product offerings, it is quite likely that only a small proportion of the total generate a profit; the remainder requires large inventory holdings in return for minimal sales volume.

Customer Service

A company may feel that its primary method of competition is to provide excellent customer service, which requires it to never have a stockout condition for any inventory item. This may require an inordinate amount of finished goods inventory. This policy should be reviewed regularly, with an analysis of the inventory cost required to maintain such a high level of order fulfillment.

Inventory Disposition

Even if a company has built up a large proportion of obsolete inventory, continuing attention to an *inventory disposition program* can result in the recovery of a substantial amount of cash. The first step in this program is to create a materials review board, which is comprised of members of the materials management, engineering, and accounting departments. This group is responsible for determining which inventory items can be used in-house and the most cost-effective type of disposition for those items that cannot be used. This may involve sending inventory back to suppliers for a restocking charge, sales to salvage contractors, sales as repair parts through the service department, or even donating them to a nonprofit in exchange for a tax credit. Throwing out inventory is frequently better than keeping it, since retention requires the ongoing use of valuable warehouse space.

Payables Management

The processing and payment policies of the accounts payable function can have a resounding impact on the amount of funds invested in working

capital. Payables processing is managed by the accounting department, and payment terms by the purchasing department. The treasurer does not have control over either function but should be aware of the following issues that can impact funding requirements.

Payment Terms

As part of its negotiations with suppliers, the purchasing staff may try to extend payment terms. This is certainly an advantage for the treasurer, since extended terms equate to free funding by suppliers. However, extended terms may be at the cost of higher per-unit prices, which the controller may not favor at all.

The reverse situation also arises, where suppliers negotiate for more rapid payment terms. This is particularly common for large and powerful suppliers that have near-monopoly control over their industries. It is also common when a company's financial condition is poor enough that suppliers insist on short payment terms or even cash in advance. While the treasurer may not be able to mitigate such onerous terms, he or she should certainly be made aware of them, so that the resulting decline in cash flows from working capital can be properly planned for.

Payment Processing

The accounting department may pay suppliers only at stated intervals, such as once a week. If so, an internal policy likely governs whether payments that are not quite due will be covered in the current payment period or the next one. This is of some importance, since paying anything prior to its due date will shrink the funding normally made available through accounts payable.

The accounting staff may also have a policy of taking all early payment discounts. Such discounts normally equate to a significant rate of interest, and so are highly favorable to the company and should be taken. Nonetheless, paying a very large supplier invoice early in order to take advantage of a discount may significantly impact the borrowing activities of the treasurer. Consequently, there should be a system in place to notify the treasury staff in advance of the amount and timing of unusually large discounts.

Intercompany Netting

If a company has multiple subsidiaries, it is possible that they do a significant amount of business with each other. If so, there could be a substantial volume of billings between them. The best way to deal with these intercompany payments is to net them out through the accounting system so that actual cash transfers are minimized. If each subsidiary uses a separate accounting system, then intercompany netting can be quite a chore. However, if they all operate under a single accounting system, then the software can automatically handle this task.

Supply Chain Financing

Under supply chain financing, a company sends its approved payables list to its bank, specifying the dates on which invoice payments are to be made. The bank makes these payments on behalf of the company. However, in addition to this basic payables function, the bank contacts the company's suppliers with an offer of early payment, in exchange for a financing charge for the period until maturity. If a supplier agrees with this arrangement and signs a receivables sale contract, then the bank delivers payment from its own funds to the supplier, less its fee. Once the company's payment dates are reached, the bank removes the funds from the company's account, transferring some of the cash to those customers electing to be paid on the prearrangement settlement date and transferring the remaining funds to its own account to pay for those invoices that it paid early to suppliers at a discount.

This arrangement works very well for suppliers, since they may be in need of early settlement. In addition, they receive a much higher percentage of invoice face value than would be the case if they opted for a factoring arrangement with a third party, where 80 percent of the invoice is typically the maximum amount that will be advanced. The amount of the discount offered by the bank may be quite small if the company is a large and well-funded entity having excellent credit. Finally, the arrangement is usually nonrecourse for the supplier, since the arrangement with the bank is structured as a receivables assignment.

The arrangement also works well for the bank, which has excellent visibility into the company's bank balances and cash flow history, and so knows when it can offer such financing. Also, it obtains fees from the company in exchange for disbursing funds on behalf of the company.

This is also a good deal for the company, whose suppliers now have ready access to funds. Further, since the bank is contacting suppliers with payment dates, they will no longer make inquiries of the company regarding when they will be paid.

Supply chain financing is less useful when payment terms are relatively short, since there is not much benefit for suppliers in being paid just a few days early. However, it is an excellent tool when standard payment terms are quite long.

Since supply chain financing is arranged with the company's primary bank, and the treasurer is in charge of banking relations, this is one payables area in which the treasurer can provide a considerable amount of value to the company and its suppliers.

WORKING CAPITAL METRICS

This section contains four metrics for working capital, which the treasurer can use to form an opinion regarding the amount of receivables, inventory, and payables that a company is maintaining. There is no right or wrong

result of these metrics, since they are tied to a company's policies for granting credit, order fulfillment, and so on. Nonetheless, the treasurer should track these metrics on a trend line to see if working capital levels are changing. The same trend line will reveal the results of the working capital improvement tactics noted earlier in this chapter.

Average Receivable Collection Period

This measurement expresses the average number of days that accounts receivable are outstanding. This format is particularly useful when it is compared to the standard number of days of credit granted to customers. For example, if the average collection period is 60 days and the standard days of credit is 30, then customers are taking much too long to pay their invoices. A sign of good performance is when the average receivable collection period is only a few days longer than the standard days of credit.

To calculate the average receivable collection period, divide annual credit sales by 365 days, and divide the result into average accounts receivable. The formula is as follows:

$$\frac{\text{Average Accounts Receivable}}{\text{Annual Sales}/365}$$

Example

The new controller of the Flexo Paneling Company, makers of modularized office equipment, wants to determine the company's accounts receivable collection period. In the June accounting period, the beginning accounts receivable balance was \$318,000, and the ending balance was \$383,000. Sales for May and June totaled \$625,000. Based on this information, the controller calculates the average receivable collection period as follows:

$$\begin{aligned} & \frac{\text{Average Accounts Receivable}}{\text{Annual Sales}/365} \\ &= \frac{(\$318,000 \text{ Beginning Receivables} + \$383,000 \text{ Ending Receivables})/2}{(\$625,000 \times 6)/365} \\ &= \frac{\$350,500 \text{ Average Accounts Receivable}}{\$10,273 \text{ Sales per Day}} \\ &= \underline{\underline{34.1 \text{ Days}}} \end{aligned}$$

Note that the controller derived the annual sales figure used in the denominator by multiplying the two-month sales period in May and June by six. Since the company has a stated due date of 30 days after the billing date, the 34.1 day collection period appears reasonable.

The main issue with this calculation is what figure to use for annual sales. If the total sales for the year are used, this may result in a skewed measurement, since the sales associated with the current outstanding accounts receivable may be significantly higher or lower than the average level of sales represented by the annual sales figure. This problem is especially common when sales are highly seasonal. A better approach is to annualize the sales figure for the period covered by the bulk of the existing accounts receivable.

Inventory Turnover

Inventory is frequently the largest component of a company's working capital; in such situations, if inventory is not being used up by operations at a reasonable pace, then a company has invested a large part of its cash in an asset that may be difficult to liquidate in short order. Accordingly, keeping close track of the rate of inventory turnover is a significant function of management. There are several variations on the inventory turnover measurement, which may be combined to yield the most complete turnover reporting for management to peruse. In all cases, these measurements should be tracked on a trend line in order to see if there are gradual reductions in the rate of turnover, which can indicate to management that corrective action is required in order to eliminate excess inventory stocks.

The simplest turnover calculation is to divide the period-end inventory into the annualized cost of sales. One can also use an *average* inventory figure in the denominator, which avoids sudden changes in the inventory level that are likely to occur on any specific period-end date. The formula is as follows:

$$\frac{\text{Cost of Goods Sold}}{\text{Inventory}}$$

A variation on the preceding formula is to divide it into 365 days, which yields the number of days of inventory on hand. This may be more understandable to the layman; for example, 43 days of inventory is more clear than 8.5 inventory turns, even though they represent the same situation. The formula is as follows:

$$365 \div \frac{\text{Cost of Goods Sold}}{\text{Inventory}}$$

The preceding two formulas use the entire cost of goods sold in the numerator, which includes direct labor, direct materials, and overhead. However, only direct materials costs directly relate to the level of raw materials inventory. Consequently, a cleaner relationship is to compare the value of direct materials expense to raw materials inventory, yielding a raw materials turnover figure. This measurement can also be divided into 365 days in

order to yield the number of days of raw materials on hand. The formula is as follows:

$$\frac{\text{Direct Materials Expense}}{\text{Raw Materials Inventory}}$$

The preceding formula does not yield as clean a relationship between direct materials expense and work-in-process or finished goods, since these two categories of inventory also include cost allocations for direct labor and overhead. However, if these added costs can be stripped out of the work-in-process and finished goods valuations, then there are reasonable grounds for comparing them to the direct materials expense as a valid ratio.

Example

The Rotary Mower Company, maker of the only lawnmower driven by a Wankel rotary engine, is going through its annual management review of inventory. Its treasurer has the following information:

Balance Sheet Line Item	Amount
Cost of goods sold	\$4,075,000
Direct materials expense	1,550,000
Raw materials inventory	388,000
Total inventory	815,000

To calculate total inventory turnover, the treasurer creates the following calculation:

$$\frac{\text{Cost of Goods Sold}}{\text{Inventory}} = \frac{\$4,075,000 \text{ Cost of Goods Sold}}{\$815,000 \text{ Inventory}} = \underline{\underline{5}} \text{ Turns per Year}$$

To determine the number of days of inventory on hand, the treasurer divides the number of turns per year into 365 days, as follows:

$$365 \div \frac{\text{Cost of Goods Sold}}{\text{Inventory}} = 365 \div \frac{\$4,075,000 \text{ Cost of Goods}}{\$815,000 \text{ Inventory}} = \underline{\underline{73}} \text{ Days of Inventory}$$

The treasurer is also interested in the turnover level of raw materials when compared to just direct materials expenses. He determines this amount with the following calculation:

$$\frac{\text{Direct Materials Expense}}{\text{Raw Materials Inventory}} = \frac{\$1,550,000 \text{ Direct Materials Expense}}{\$388 \text{ Raw Materials Inventory}} = \underline{\underline{4}} \text{ Turns Per Year}$$

The next logical step for the treasurer is to compare these results to those for previous years, as well as to the results achieved by other companies in the industry. One result that is probably not good in any industry is the comparison of direct materials to raw materials inventory, which yielded only four turns per year. This means that the average component sits in the warehouse for 90 days prior to being used, which is far too long if any reliable materials planning system is used.

The turnover ratio can be skewed by changes in the underlying costing methods used to allocate direct labor, and especially overhead cost pools, to the inventory. For example, if additional categories of costs are added to the overhead cost pool, then the allocation to inventory will increase, which will reduce the reported level of inventory turnover—even though the turnover level under the original calculation method has not changed at all. The problem can also arise if the method of allocating costs is changed; for example, it may be shifted from an allocation based on labor hours worked to one based on machine hours worked, which can alter the total amount of overhead costs assigned to inventory. The problem can also arise if the inventory valuation is based on standard costs and the underlying standards are altered. In all three cases, the amount of inventory on hand has not changed, but the costing systems used have altered the reported level of inventory costs, which impacts the reported level of turnover.

A separate issue is that the basic inventory turnover figure may not be sufficient evidence of exactly where an inventory overage problem may lie. Accordingly, one can subdivide the measurement so that there are separate calculations for raw materials, work-in-process, and finished goods (and perhaps be subdivided further by location). This approach allows for more precise management of inventory-related problems.

Accounts Payable Days

A calculation of the days of accounts payable gives a fair indication of a company's ability to pay its bills on time. If the accounts payable days are inordinately long, this is probably a sign that the company does not have sufficient cash flow to pay its bills. Alternatively, a small amount of accounts payable days indicates that a company is either taking advantage of early payment discounts or is simply paying its bills earlier than it has to.

The calculation is to divide total annualized purchases by 360 days, and then divide the result into the ending accounts payable balance. An alternative approach is to use the *average* accounts payable for the reporting period, since the ending figure may be disproportionately high or low. The amount of purchases should be derived from all nonpayroll expenses incurred during the year; payroll is not included because it is not a part of the accounts payable listed in the numerator. Depreciation and amortization should be excluded from the purchases figure, since they do not involve cash payments. The formula follows:

$$\frac{\text{Accounts Payable}}{\text{Purchases}/360}$$

Example

The Drain-Away Toilet Company has beginning accounts payable of \$145,000 and ending accounts payable of \$157,000. On an annualized basis, its total expenses are \$2,400,000, of which \$600,000 is payroll and \$50,000 is depreciation. To determine its accounts payable days, we plug this information into the following formula:

$$\begin{aligned} &\frac{(\text{Beginning Accounts Payable} + \text{Ending Accounts Payable})/2}{(\text{Total Expenses} - \text{Payroll} - \text{Depreciation})/360} \\ &= \frac{(\$145,000 \text{ Beginning Payables} + \$157,000 \text{ Ending Payables})/2}{(\$2,400,000 \text{ Total Expenses} - \$600,000 \text{ Payroll} \\ &\quad - \$50,000 \text{ Depreciation})/360} \\ &= \frac{\$151,000 \text{ Average Accounts Payable}}{\$1,750,000 \text{ Purchases}/360} = \underline{\underline{31}} \text{ Days} \end{aligned}$$

The most difficult part of this formulation is determining the amount of annualized purchases. If a company has an irregular flow of business over the course of a year, then estimating the amount of purchases can be quite difficult. In such cases, annualizing the amount of purchases for just the past month or two will yield the most accurate comparison to the current level of accounts payable, since these purchases are directly reflected within the accounts payable in the numerator.

Days of Working Capital

A company can use a very large amount of working capital to generate a small volume of sales, which represents a poor use of assets. The inefficient

asset use can lie in any part of working capital—excessive quantities of accounts receivable or inventory in relation to sales, or very small amounts of accounts payable. The days of working capital measure, when tracked on a trend line, is a good indicator of changes in the efficient use of working capital. A low number of days of working capital indicates a highly efficient use of working capital.

To calculate days of working capital, add together the current balance of accounts receivable and inventory, and subtract accounts payable. Then divide the result by sales per day (annual sales divided by 365). The formula follows:

$$\frac{(\text{Accounts Receivable} + \text{Inventory} - \text{Accounts Payable})}{\text{Net Sales}/365}$$

Example

The Electro-Therm Company, maker of electronic thermometers, has altered its customer service policy to guarantee a 99 percent fulfillment rate within one day of a customer's order. To do that, it has increased inventory levels for many stock-keeping units. Electro-Therm's treasurer is concerned about the company's use of capital to sustain this new policy; she has collected the information in the following table to prove her point to the company president:

Time Period	Accounts Receivable	Inventory	Accounts Payable	Working Capital	Net Sales	Sales per Day	Days of Working Capital
Year before policy change	602,000	1,825,000	493,000	2,920,000	5,475,000	15,000	195
Year after policy change	723,000	2,760,000	591,000	4,074,000	6,570,000	18,000	226

The table reveals that Electro-Therm's management has acquired an additional \$1,095,000 of revenue (assuming that incremental sales are solely driven by the customer service policy change) at the cost of a nearly equivalent amount of investment in inventory. Depending on the firm's cost of capital, inventory obsolescence rate, and changes in customer retention rates, the new customer service policy may or may not be considered a reasonable decision.

SUMMARY

One of the largest uses of cash within a company is its working capital. Though the treasurer does not have direct control over many aspects of working capital, he should be aware of the multitude of internal policies, controls, and systems that, in large part, are responsible for changes in the size of working capital, and which he may be able to influence. Of particular importance is a company's credit policy; a suddenly loosened credit policy can spark a rapid increase in the amount of working capital. Conversely, if a company is in need of cash in the short term, a well-managed tightening of the credit policy can provide the needed funds. Inventory is the most dangerous component of working capital because it can build rapidly unless properly controlled and can be quite difficult to convert back into cash.

The treasurer should monitor all components of working capital on a trend line, in comparison to revenue levels, and against industry benchmarks. If a company's investment in working capital appears to be disproportionately high, the treasurer should bring this to the attention of senior management and recommend ways to reduce the investment.

PART TWO

FINANCING

6

Debt Management

The treasurer is usually called upon to either manage a company's existing debt or procure new debt. In either case, this calls for a knowledge of the broad variety of debt instruments available, as well as dealing with credit rating agencies. It may also be necessary to have a working knowledge of the accounting, controls, policies, and procedures used to manage debt. This chapter gives a thorough grounding in both key areas.

TYPES OF DEBT

The typical form of corporate debt is either a secured or unsecured loan, and many treasurers do not explore further than these two basic formats. However, there are quite a few alternative forms of debt that bear consideration, based on the duration of a company's cash needs, its financial condition, and the presence of various types of collateral. This section contains descriptions of more than a dozen forms of financing. In addition, please refer to Chapter 5 for a discussion of how to reduce working capital, thereby offsetting the need for debt.

Commercial Paper

Commercial paper is unsecured debt that is issued by a company and has a fixed maturity ranging from 1 to 270 days. A company uses commercial paper to meet its short-term working capital obligations. It is commonly sold at a discount from face value, with the discount (and therefore the interest rate) being higher if the term is longer. A company can sell its commercial paper directly to investors, such as money market funds, or through a dealer in exchange for a small commission.

Because there is no collateral on the debt, commercial paper is an option only for large companies having high-level credit ratings from a recognized credit rating agency (see the Credit-Rating Agencies section of this chapter). For those companies capable of issuing it, the interest rate on commercial paper is extremely low.

Factoring

Under a factoring arrangement, a finance company agrees to take over a company's accounts receivable collections and keep the money from those collections in exchange for an immediate cash payment to the company. This process typically involves having customers mail their payments to a lockbox that appears to be operated by the company but is actually controlled by the finance company. Under a true factoring arrangement, the finance company takes over the risk of loss on any bad debts, though it will have the right to pick which types of receivables it will accept in order to reduce its risk of loss. A finance company is more interested in this type of deal when the size of each receivable is fairly large, since this reduces its per-transaction cost of collection. If each receivable is quite small, the finance company may still be interested in a factoring arrangement, but it will charge the company extra for its increased processing work. The lender will charge an interest rate (at least 2 percent higher than the prime rate), as well as a transaction fee for processing each invoice as it is received. There may also be a minimum total fee charged, in order to cover the origination fee for the factoring arrangement in the event that few receivables are actually handed to the lender. A company working under this arrangement can be paid by the factor at once or can wait until the invoice due date before payment is sent. The latter arrangement reduces the interest expense that a company would have to pay the factor, but tends to go against the reason why the factoring arrangement was established, which is to get money back to the company as rapidly as possible. An added advantage is that no collections staff is required, since the lender handles this chore.

A similar arrangement is accounts receivable financing, under which a lender uses the accounts receivable as collateral for a loan and takes direct receipt of payments from customers, rather than waiting for periodic loan payments from the company. A lender will typically loan a maximum of only 80 percent of the accounts receivable balance to a company, and only against those accounts that are less than 90 days old. Also, if an invoice against which a loan has been made is not paid within the required 90-day time period, then the lender will require the company to pay back the loan associated with that invoice.

Though both variations on the factoring concept will accelerate a company's cash flow dramatically, it is an expensive financing option, and so is not considered a viable long-term approach to funding a company's operations. It is better for short-term growth situations where money is in

short supply to fund a sudden need for working capital. A company's business partners may look askance at such an arrangement, since it is an approach associated with organizations that have severe cash flow problems.

Field Warehouse Financing

Under a field warehousing arrangement, a finance company (usually one that specializes in this type of arrangement) will segregate a portion of a company's warehouse area with a fence. All inventory within it is collateral for a loan from the finance company to the company. The finance company will pay for more raw materials as they are needed, and is paid back directly from accounts receivable as soon as customer payments are received. If a strict inventory control system is in place, the finance company will employ someone who will record all additions to and withdrawals from the secured warehouse. If not, then the company will be required to frequently count all items within the secure area and report this information back to the finance company. If the level of inventory drops below the amount of the loan, then the company must pay back the finance company the difference between the outstanding loan amount and the total inventory valuation. The company is also required under state lien laws to post signs around the secured area, stating that a lien is in place on its contents.

Field warehousing is highly transaction intensive, especially when the finance company employs an on-site warehouse clerk, and therefore is a very expensive way to obtain funds. This approach is recommended only for those companies that have exhausted all other less expensive forms of financing. However, lenders typically do not require any covenants in association with these loans, giving corporate management more control over company operations.

Floor Planning

Some lenders will directly pay for large assets that are being procured by a distributor or retailer (such as kitchen appliances or automobiles) and be paid back when the assets are sold to a consumer. In order to protect itself, the lender may require that the price of all assets sold be no lower than the price the lender originally paid for it on behalf of the distributor or retailer. Since the lender's basis for lending is strictly on the underlying collateral (as opposed to its faith in a business plan or general corporate cash flows), it will undertake frequent recounts of the assets, and compare them to its list of assets originally purchased for the distributor or retailer. If there is a shortfall in the expected number of assets, the lender will require payment for the missing items. The lender may also require liquidation of the loan after a specific time period, especially if the underlying assets run the risk of becoming outdated in the near term.

This financing option is a good one for smaller or underfunded distributors or retailers, since the interest rate is not excessive (due to the presence of collateral).

Lease

A lease covers the purchase of a specific asset, which is paid for by the lease provider on the company's behalf. In exchange, the company pays a fixed rate, which includes interest and principal, to the leasing company. It may also be charged for personal property taxes on the asset purchased. The lease may be defined as an *operating lease*, under the terms of which the lessor carries the asset on its books and records a depreciation expense, while the lessee records the lease payments as an expense on its books. This type of lease typically does not cover the full life of the asset, nor does the buyer have a small-dollar buyout option at the end of the lease. The reverse situation arises for a *capital lease*, where the lessee records it as an asset and is entitled to record all related depreciation as an expense. In the latter case, the lease payments are split into their interest and principal portions and recorded on the lessee's books as such.

The cost of a lease can be reduced by clumping together the purchases of multiple items under one lease, which greatly reduces the paperwork cost of the lender. If there are multiple leases currently in existence, they can be paid off and re-leased through a larger single lease, thereby obtaining a slightly lower financing cost.

The leasing option is most useful for those companies that want to establish collateral agreements only for specific assets, thereby leaving their remaining assets available as a borrowing base for other loans. Leases can be arranged for all but the most financially shaky companies, since lenders can always use the underlying assets as collateral and rarely impose any other financing restrictions. Furthermore, future operating lease payments are not listed on the balance sheet as a liability; instead, future lease obligations are listed in a footnote.

However, unscrupulous lenders can hide or obscure the interest rate charged on leases, so that less financially knowledgeable companies will pay exorbitant rates. A company is obligated to make all payments through the end of a lease term, even if it no longer needs the equipment being leased.

Line of Credit

A line of credit is a commitment from a lender to pay a company whenever it needs cash, up to a preset maximum level. It is generally secured by company assets, and for that reason bears an interest rate not far above the prime rate. The bank will typically charge an annual maintenance fee, irrespective of the amount of funds drawn down on the loan, on the grounds

that it has invested in the completion of paperwork for the loan. The bank will also likely require an annual audit of key accounts and asset balances to verify that the company's financial situation is in line with the bank's assumptions. One problem with a line of credit is that the bank can cancel the line or refuse to allow extra funds to be drawn down from it if the bank feels that the company is no longer a good credit risk. Another issue is that the bank may require a company to maintain a compensating balance in an account at the bank; this increases the effective interest rate on the line of credit, since the company earns little or no interest on the funds stored at the bank.

The line of credit is most useful for situations where there may be only short-term cash shortfalls or seasonal needs that result in the line's being drawn down to zero at some point during the year. If one's cash requirements are expected to be longer term, then a term note or bond is a more appropriate form of financing.

Loans

Asset-Based Loans A loan that uses fixed assets or inventory as its collateral is a common form of financing by banks. Loans may also be issued that are based on other forms of collateral, such as the cash surrender value of life insurance, securities, or real estate. The bank will use the resale value of fixed assets (as determined through an annual appraisal) and/or inventory to determine the maximum amount of available funds for a loan. If inventory is used as the basis for the loan, a prudent lender typically will not lend more than 50 percent of the value of the raw materials and 80 percent of the value of the finished goods, on the grounds that it may have to sell the inventory in the event of a foreclosure and may not obtain full prices at the time of sale. Lenders will be much less likely to accept inventory as collateral if it has a short shelf life, is customized, is so seasonal that its value drops significantly at certain times of the year, or if it is subject to rapid obsolescence.

Given the presence of collateral, this type of loan tends to involve a lower interest rate. Lenders typically require minimal covenants in association with these loans, giving corporate management more control over company operations. However, the cost of an annual appraisal of fixed assets or annual audit by the bank (which will be charged to the company) should be factored into the total cost of this form of financing. Lenders require frequent reports on the status of underlying assets.

Bonds A bond is a fixed obligation to pay, usually at a stated rate of \$1,000 per bond, that is issued by a corporation to investors. It may be a *registered bond*, under which a company maintains a list of owners of each bond. The company then periodically sends interest payments, as well as the final principal payment, to the investor of record. It may also be a *coupon bond*,

for which the company does not maintain a standard list of bondholders. Instead, each bond contains interest coupons that the bondholders send to the company on the dates when interest payments are due. The coupon bond is more easily transferable between investors, but the ease of transferability makes them more susceptible to loss.

Bonds come in many flavors. Following is a list and short description of the most common ones:

- *Collateral trust bond.* A bond that uses as collateral a company's security investments.
- *Convertible bond.* A bond that can be converted to stock using a pre-determined conversion ratio. The presence of conversion rights typically reduces the interest cost of these bonds, since investors assign some value to the conversion privilege. See the "zero coupon convertible bond" for a variation on this approach.
- *Debenture.* A bond issued with no collateral. A subordinated debenture is one that specifies debt that is senior to it.
- *Deferred interest bond.* A bond that provides for either reduced or no interest in the beginning years of the bond term, and compensates for it with increased interest later in the bond term. Since this type of bond is associated with firms having short-term cash flow problems, the full-term interest rate can be high.
- *Floorless bond.* A bond whose terms allow purchasers to convert them to common stock, as well as any accrued interest. The reason for its "death spiral" nickname is that bondholders can convert some shares and sell them on the open market, thereby supposedly driving down the price and allowing them to buy more shares, and so on. If a major bondholder were to convert all holdings to common stock, the result could be a major stock price decline, possibly resulting in a change of control to the former bondholder. However, this conversion problem can be controlled to some extent by including conversion terms that allow bondholders to convert only at certain times or with the permission of company management.
- *Guaranteed bond.* A bond whose payments are guaranteed by another party. Corporate parents will sometimes issue this guarantee for bonds issued by subsidiaries in order to obtain a lower effective interest rate.
- *Income bond.* A bond that pays interest only if income has been earned. The income can be tied to total corporate earnings or to specific projects. If the bond terms indicate that interest is cumulative, then interest will accumulate during nonpayment periods and be paid at a later date when income is available for doing so.

- *Mortgage bond.* A bond offering can be backed by any real estate owned by the company (called a *real property mortgage bond*), or by company-owned equipment (called an *equipment bond*), or by all assets (called a *general mortgage bond*).
- *Serial bond.* A bond issuance where a portion of the total number of bonds are paid off each year, resulting in a gradual decline in the total amount of debt outstanding.
- *Variable rate bond.* A bond whose stated interest rate varies as a percentage of a baseline indicator, such as the prime rate. Treasurers should be wary of this bond type because jumps in the baseline indicator can lead to substantial increases in interest costs.
- *Zero coupon bond.* A bond with no stated interest rate. Investors purchase these bonds at a considerable discount to their face value in order to earn an effective interest rate.
- *Zero coupon convertible bond.* A bond that offers no interest rate on its face but allows investors to convert to stock if the stock price reaches a level higher than its current price on the open market. The attraction to investors is that, even if the conversion price to stock is marked up to a substantial premium over the current market price of the stock, a high level of volatility in the stock price gives investors some hope of a profitable conversion to equity. The attraction to a company is that the expectation of conversion to stock presents enough value to investors that they require no interest rate on the bond at all, or at least will only purchase the bond at a slight discount from its face value, resulting in a small effective interest rate. A twist on the concept is a contingent conversion clause (or “co-co” clause) that requires the stock price to surpass the designated conversion point by some fixed amount before allowing investors to actually switch to stock, thereby making the conversion even more unlikely. This concept is least useful for company whose stock has a history of varying only slightly from its current price, since investors will then see little chance to convert and so will place little value on the conversion feature, requiring instead a higher interest rate on the bonds.

A bond is generally issued with a fixed interest rate. However, if the rate is excessively low in the current market, then investors will pay less for the face value of the bond, thereby driving up the net interest rate paid by the company. Similarly, if the rate is too high, then investors will pay extra for the bond, thereby driving down the net interest rate paid.

There may be a bond indenture document that itemizes all features of the bond issue. It contains restrictions that the company is imposing on itself, such as limitations on capital expenditures or dividends, in order to

make the bond issuance as palatable as possible to investors. If the company does not follow these restrictions, the bonds will be in default.

A number of features may be added to a bond in order to make it more attractive for investors. For example, its terms may include a requirement by the company to set up a sinking fund into which it contributes funds periodically, thereby ensuring that there will be enough cash on hand at the termination date of the bond to pay off all bondholders. There may also be a conversion feature that allows a bondholder to turn in his or her bonds in exchange for stock; this feature usually sets the conversion ratio of bonds to stock at a level that will keep an investor from making the conversion until the stock price has changed from its level at the time of bond issuance, in order to avoid watering down the ownership percentages of existing shareholders. In rare instances, bonds may be backed by personal guarantees or by a corporate parent.

There are also features that bondholders may be less pleased about. For example, it may contain a *call feature* that allows the company to buy back bonds at a set price within certain future time frames. This feature may limit the amount of money that a bondholder would otherwise be able to earn by holding the bond. The company may impose a *staggered buyback feature*, under which it can buy back some fixed proportion of all bonds at regular intervals. When this feature is activated, investors will be paid back much sooner than the stated payback date listed on the bond, thereby requiring them to find a new home for their cash, possibly at a time when interest rates are much lower than what they would otherwise have earned by retaining the bond. The bondholder may also be positioned last among all creditors for repayment in the event of a liquidation (called a *subordinated debenture*), which allows the company to use its assets as collateral for other forms of debt; however, it may have to pay a higher interest rate to investors in order to offset their perceived higher degree of risk. The typical bond offering will contain a mix of these features that impact investors from both a positive and a negative perspective, depending on its perceived level of difficulty in attracting investors, its expected future cash flows, and its need to reserve assets as collateral for other types of debt.

Bonds are highly recommended for those organizations large enough to attract a group of investors willing to purchase them, since the bonds can be structured to precisely fit a company's financing needs. Bonds are also issued directly to investors, so there are no financial intermediaries to whom transactional fees must be paid. A company can issue long-maturity bonds at times of low interest rates, thereby locking in modest financing costs for a longer period than would normally be possible with other forms of financing. Consequently, bonds can be one of the lowest-cost forms of financing.

Bridge Loans A bridge loan is a form of short-term loan that is granted by a lending institution on the condition that the company will obtain longer-

term financing shortly that will pay off the bridge loan. This option is commonly used when a company is seeking to replace a construction loan with a long-term note that it expects to gradually pay down over many years. This type of loan is usually secured by facilities or fixtures in order to obtain a lower interest rate.

Economic Development Authority Loans Various agencies of state governments are empowered to guarantee bank loans to organizations that need funds in geographic areas where it is perceived that social improvement goals can be attained. For example, projects that will result in increased employment or the employment of minorities in specific areas may warrant an application for this type of loan. It is usually extended to finance a company's immediate working capital needs. Given these restrictions, an economic development authority loan is applicable only in special situations.

Long-Term Loans

There are several forms of long-term debt. One is a long-term loan issued by a lending institution. These loans tend to be made to smaller companies that do not have the means to issue bonds. To reduce the risk to the lender, these loans typically require the company to grant the lender senior status over all other creditors in the event of liquidation. This is a standard requirement because the lender is at much greater risk of default over the multiyear term of the loan, when business conditions may change dramatically. If there is no way for a lender to take a senior position on collateral, then the company should expect to pay a higher interest rate in exchange for dropping the lender into a junior position in comparison to other creditors. If the lender also wants to protect itself from changes in long-term interest rates, it may attempt to impose a variable interest rate on the company.

A long-term loan nearly always involves the use of fixed payments on a fixed repayment schedule, which will involve either the gradual repayment of principal or the regularly scheduled payment of interest, with the bulk of the principal being due at the end of the loan as a balloon payment. In the latter case, a company may have no intention of paying back the principal, but instead will roll over the debt into a new loan and carry it forward once again. If this is the case, the treasurer may review the trend of interest rates and choose to roll over the debt to a new loan instrument at an earlier date than the scheduled loan termination date, when interest rates are at their lowest possible levels.

In summary, long-term debt is a highly desirable form of financing, since a company can lock in a favorable interest rate for a long time, and keeps it from having to repeatedly apply for shorter-term loans during the intervening years, when business conditions may result in less favorable debt terms.

Receivables Securitization

A large company can consider securitizing its accounts receivable, thereby achieving one of the lowest interest rates available for debt. To do so, it creates a special purpose entity (SPE) and transfers a selection of its receivables into the SPE. The SPE then sells the receivables to a bank conduit, which in turn pools the receivables that it has bought from multiple companies, and uses the cash flows from the receivables to back the issuance of commercial paper to investors, who in turn are repaid with the cash flows from the receivables.

Receivables securitization is clearly a complex process to initially create; the primary benefit of doing so is that a company's receivables are isolated from its other risks, so that the SPE has a higher credit rating than the company, with an attendant decline in borrowing costs. To achieve the AAA credit rating typically needed for receivables securitization, a credit-rating agency will review the performance record of receivables previously included in the pool, debtor concentrations in the pool, and the company's credit and collection policies.

A lesser reason for using receivables securitization is that a company is not required to record it as debt on its balance sheet. However, this sometimes leads to an outcry from the investing community that a company is hiding liabilities, so companies sometimes voluntarily record the transaction as debt on their balance sheets.

A key factor in preserving the stellar credit rating of the SPE is to maintain an adequate degree of separation between the company and the SPE. To do so, the transfer of receivables is supposed to be a nonrecourse sale, so that the company's creditors cannot claim the assets of the SPE if the company goes bankrupt. This means that there should be no mechanism by which the company can regain control of any receivables shifted to the SPE.

Receivables securitization is available only to large companies having a broad customer base whose receivables experience minimal defaults. Further, there must be adequate tracking systems in place to monitor the creditworthiness of those debtors whose receivables are included in the SPE, delinquency statistics, and customer concentrations, as well as frequent reporting on receivable collections.

Sale and Leaseback

Under this arrangement, a company sells one of its assets to a lender and then immediately leases it back for a guaranteed minimum time period. By doing so, the company obtains cash from the sale of the asset that it may be able to use more profitably elsewhere, while the leasing company handling the deal obtains a guaranteed lessee for a time period that will allow it to turn a profit on the financing arrangement. A sale and leaseback is most commonly used for the sale of a corporate building, but can also be arranged for other large assets, such as production machinery.

A sale and leaseback is useful for companies in any type of financial condition, for a financially healthy organization can use the resulting cash to buy back shares and prop up its stock price, while a faltering organization can use the cash to fund operations. It has the added advantage of not burdening a company's balance sheet with debt; furthermore, it puts cash back *into* the balance sheet, allowing a company to obtain additional debt. It is especially useful when market conditions make other forms of financing too expensive. Obviously, it is an option only for those organizations that have substantial assets available for sale.

Summary of Debt Types

The previous discussion shows that there is a large array of approaches available to solve the problem of obtaining financing. The various types of debt financing are summarized in Exhibit 6.1.

Exhibit 6.1 Summary of Debt Financing Types

Debt Financing		
Type	Features	Cost
Commercial paper	Short-term funding	Inexpensive, but only if the company can achieve a high rating from a credit rating agency
Factoring	Short-term funding based on accounts receivable	Expensive, but greatly accelerates cash flow
Field warehouse financing	Short-term funding based on inventory	Cost is somewhat higher than the prime rate, and may require detailed inventory tracking
Floor planning	Short-term funding based on retailer inventory	Cost is somewhat higher than the prime rate, and may require detailed inventory tracking
Lease	Medium-term funding that backs the purchase of specific assets	Cost can be hidden within lease agreement
Line of credit	Short-term revolving funding collateralized by a variety of assets	Cost is near the prime rate, but bank can refuse additional funding, and it must be paid off in the short term
Loan, asset based	Long-term funding with asset collateral	Cost is near the prime rate, but may require frequent reporting on collateral status
Loan, bond	Long-term funding based on obligations issued by the company	Cost varies based on market conditions and bond terms

Exhibit 6.1 (Continued)

Debt Financing		Type	Features	Cost
Loan, bridge		Short-term funding used to carry a debt position until longer-term financing is found		Cost is near the prime rate, but secured by facilities
Loan, economic development authority		Short-term funding backed by a government in special social improvement situations		Cost is near the prime rate
Loan, long-term		Long-term funding issued by a lender		Cost is near the prime rate, but requires senior debt status, and can involve balloon payments
Loan, short-term		Short-term funding based on seasonal cash flow needs		Cost is near the prime rate, but can require collateral
Receivables securitization		Move receivables into a special-purpose entity, from which the related cash flows support commercial paper		Complex setup and subsequent accounting, offset by lower borrowing costs
Sale and lease back		Long-term funding from selling a building or major asset and leasing it back for a long period		Low cost, but requires a long-term lease commitment

CREDIT-RATING AGENCIES

If a publicly held company issues debt, it can elect to have that debt rated by either Moody's, Standard & Poor's, or Fitch. These are the three top-tier credit-rating agencies that the Securities and Exchange Commission SEC allows to issue debt ratings. A debt rating results in a credit score that indicates the perceived risk of default on the underlying debt, which in turn impacts the price of the debt on the open market. Having a credit score is essentially mandatory, since most funds are prohibited by their internal investment rules from buying debt that does not have a specific level of credit rating assigned to it. The rating scores used by the three credit-rating agencies are noted in Exhibit 6.2, and are in declining order of credit quality.

Exhibit 6.2 Credit Score Comparison

Definition	Fitch Rating	Moody's Rating	S&P Rating
Prime	AAA	Aaa	AAA
High grade	AA+	Aa1	AA+
	AA	Aa2	AA
	AA-	Aa3	AA-
Upper medium grade	A+	A1	A+
	A	A2	A
	A-	A3	A-
Lower medium grade	BBB+	Baa1	BBB+
	BBB	Baa2	BBB
	BBB-	Baa3	BBB-
Non-investment grade	BB+	Ba1	BB+
Speculative	BB	Ba2	BB
	BB-	Ba3	BB-
Highly speculative	B+	B1	B+
		B2	B
		B3	B-
Substantial risk	CCC	Caa1	CCC+

A company should expect to deal with a credit-rating agency through a primary analyst who has considerable credit-rating experience, and is usually ranked at the director level. The primary analyst is supported by a senior analyst having direct experience in the company's industry. The primary analyst is responsible for formulating a rating and for the ongoing monitoring of that rating.

The treasurer represents the company to the credit-rating agency. If there is a chief risk officer or similar position, then this person will also have discussions with the analyst team. It is also entirely likely that the managers of the company's operating divisions will be asked to participate in some meetings with the analyst team or to assist them with tours of key company facilities.

In order to develop a credit rating, the analyst team uses the financial statements that a company has previously filed with the SEC, but also needs detailed information about its budgets, internal operating reports, risk management strategies, and financial and operating policies. To this end, it will ask the management team to complete an initial questionnaire that usually requires five years of historical financial data, five years of forecasted financial results, a summary of the business and its objectives, a comparison of its market share and growth prospects to those of its peer companies, and the biographies of the senior management team. The focus of this analysis is forward-looking, since the analyst team is most concerned with the company's future performance. Consequently, short- and medium-range projections of a company's financial viability are considered more important than its historical performance.

A key part of the analysis will be a question-and-answer session with the management team. The treasurer will be expected to make a presentation about the company, after which the analysts will ask about any areas of weakness that could impact the nature of their eventual credit rating. The general thrust of their questioning is to compare the company's current financial situation to its strategic intentions, to see if its financial structure can support where management wants to take the company.

The analysts will use their agency's standardized rating methodology to assign a credit rating to the specific company debt for which they are being hired. It is difficult to estimate in advance what the rating may be, since the relative weighting of factors in the methodology will vary based on individual circumstances. Generally speaking, the analysts will ascribe about 50 percent of the rating to the company's business profile and future prospects, and 50 percent to its current financial profile.

If an agency issues a low credit rating or downgrades an existing rating, the best reaction by the company is to not publicly challenge it. There is no upside to a company's complaining bitterly about the perceived injustice of a low rating, since it is very unlikely that the issuing agency will change its rating. The only result of such action is that the company has drawn attention to a negative opinion issued by a qualified third party, which may very well reduce investor confidence in the debt price. However, a company may certainly appeal the rating, usually by presenting new information to the agency. Appeals are very rare, comprising only about one-half percent of all ratings changes.

If a company wants to improve its credit rating, then it must take specific steps to make its financial structure more conservative, such as by issuing more stock and using the proceeds to pay down debt. This requires the development of a plan to achieve the higher credit rating and communication of this information to the credit rating agency.

ACCOUNTING FOR DEBT

The key accounting issues related to debt are the treatment of discounts and premiums, debt issuance costs, debt extinguishment, conversion features, and attached warrants. This section addresses how to properly account for each of these items.

Bonds Sold at a Discount or Premium to Their Face Value

When bonds are initially sold, the entry is a debit to cash and a credit to bonds payable. However, this occurs only when the price paid by investors exactly matches the face amount of the bond. A more common occurrence is when the market interest rate varies somewhat from the stated interest rate on the bond, so investors pay a different price in order to achieve an effective interest rate matching the market rate. For example, if the market

rate were 8 percent and the stated rate were 7 percent, investors would pay less than the face amount of the bond so that the 7 percent interest they later receive will equate to an 8 percent interest rate on their reduced investment. Alternatively, if the rates were reversed, with a 7 percent market rate and an 8 percent stated rate, investors would pay more for the bond, thereby driving down the stated interest rate to match the market rate. If the bonds are sold at a discount, the entry will include a debit to a discount on bonds payable account. For example, if \$10,000 of bonds are sold at a discount of \$1,500, the entry would be:

	Debit	Credit
Cash	\$8,500	
Discount on bonds payable	1,500	
Bonds payable		\$10,000

If the same transaction were to occur, except that a premium on sale of the bonds occurs, then the entry would be:

	Debit	Credit
Cash	\$11,500	
Premium on bonds payable		\$1,500
Bonds payable		10,000

Example

Sonoma Silversmiths issues \$1 million of bonds at a stated rate of 8 percent in a market where similar issuances are being bought at 11 percent. The bonds pay interest once a year and are to be paid off in ten years. Investors purchase these bonds at a discount in order to earn an effective yield on their investment of 11 percent. The discount calculation requires one to determine the present value of ten interest payments at 11 percent interest, as well as the present value of \$1 million, discounted at 11 percent for ten years. The result is as follows:

$$\text{Present value of ten payments of } \$80,000 = \$80,000 \times 5.8892 = \$471,136$$

$$\begin{aligned} \text{Present value of } \$1,000,000 &= \$1,000,000 \times 0.3522 = \$352,200 \\ &\underline{\hspace{10em}} \\ &\quad \$823,336 \end{aligned}$$

$$\begin{aligned} \text{Less: stated bond price} &\quad \$1,000,000 \\ \text{Discount on bond} &\quad \underline{\hspace{10em}} \\ &\quad \$176,664 \end{aligned}$$

In this example, the entry would be a debit to cash for \$823,336, a credit to bonds payable for \$1 million, and a debit to discount on bonds payable for \$176,664. If the calculation had resulted in a premium (which would have occurred only if the market rate of interest was less than the stated interest rate on the bonds), then a credit to premium on bonds payable would be in order.

Effective Interest Method

The amount of a discount or premium should be gradually written off to the interest expense account over the life of the bond. The only acceptable method for writing off these amounts is through the *effective interest method*, which allows one to charge off the difference between the market and stated rate of interest to the existing discount or premium account, gradually reducing the balance in the discount or premium account over the life of the bond. If interest payment dates do not coincide with the end of financial reporting periods, a journal entry must be made to show the amount of interest expense and related discount or premium amortization that would have occurred during the days following the last interest payment date and the end of the reporting period.

Example

To continue with our example, the interest method holds that, in the first year of interest payments, Sonoma Silversmiths' accountant would determine that the market interest expense for the first year would be \$90,567 (bond stated price of \$1 million minus discount of \$176,664, multiplied by the market interest rate of 11 percent). The resulting journal entry would be:

	Debit	Credit
Interest expense	\$90,567	
Discount on bonds payable		\$10,567
Cash		\$80,000

The reason why only \$80,000 is listed as a reduction in cash is that the company only has an obligation to pay an 8 percent interest rate on the \$1 million face value of the bonds, which is \$80,000. The difference is netted against the existing discount on bonds payable account. The following table shows the calculation of the discount to be charged to expense each year for the full ten-year period of the bond, where the annual amortization of the discount is added back to the bond present value, eventually resulting in a bond present value of \$1 million by the time principal payment is due, while the discount has dropped to zero.

Year	Beginning Bond Present Value (4)	Unamortized Discount	Interest Expense (1)	Cash Payment (2)	Credit to Discount (3)
1	\$823,336	\$176,664	\$90,567	\$80,000	\$10,567
2	\$833,903	\$166,097	\$91,729	\$80,000	\$11,729

Year	Beginning Bond Present Value (4)	Unamortized Discount	Interest Expense (1)	Cash Payment (2)	Credit to Discount (3)
3	\$845,632	\$154,368	\$93,020	\$80,000	\$13,020
4	\$858,652	\$141,348	\$94,452	\$80,000	\$14,452
5	\$873,104	\$126,896	\$96,041	\$80,000	\$16,041
6	\$889,145	\$110,855	\$97,806	\$80,000	\$17,806
7	\$906,951	\$93,049	\$99,765	\$80,000	\$19,765
8	\$926,716	\$73,284	\$101,939	\$80,000	\$21,939
9	\$948,655	\$51,346	\$104,352	\$80,000	\$24,352
10	\$973,007	\$26,994	\$107,031	\$80,000	\$26,994
	<hr/> \$1,000,000	<hr/> \$0			

(1) = Bond present value multiplied by the market rate of 11 percent.
(2) = Required cash payment of 8% stated rate multiplied by face value of \$1 million.
(3) = Interest expense reduced by cash payment.
(4) = Beginning present value of the bond plus annual reduction in the discount.

Debt Issued with No Stated Interest Rate

If a company issues debt that has no stated rate of interest, then the accountant must create an interest rate for it that approximates the rate that the company would likely obtain, given its credit rating, on the open market on the date when the debt was issued. The accountant then uses this rate to discount the face amount of the debt down to its present value, and then records the difference between this present value and the loan's face value as the loan balance. For example, if a company issued debt with a face amount of \$1 million, payable in five years and at no stated interest rate, and the market rate for interest at the time of issuance was 9 percent, then the discount factor to be applied to the debt would be 0.6499. This would give the debt a present value of \$649,900. The difference between the face amount of \$1 million and the present value of \$649,900 should be recorded as a discount on the note, as shown in the following entry:

	Debit	Credit
Cash	\$649,900	
Discount on note payable	350,100	
Notes payable		\$1,000,000

Debt Issuance Costs The costs associated with issuing bonds can be substantial. These include the legal costs of creating the bond documents,

printing the bond certificates, and (especially) the underwriting costs of the investment banker. Since these costs are directly associated with the procurement of funds that the company can be expected to use for a number of years (until the bonds are paid off), the related bond issuance costs should be recorded as an asset and then written off on a straight-line basis over the period during which the bonds are expected to be used by the company. This entry is a debit to a bond issuance asset account and a credit to cash. However, if the bonds associated with these costs are subsequently paid off earlier than anticipated, one can reasonably argue that the associated remaining bond issuance costs should be charged to expense at the same time.

Notes Issued with Attached Rights An issuing company can grant additional benefits to the other party, such as exclusive distribution rights on its products, discounts on product sales, and so on—the range of possibilities is endless. In these cases, consider the difference between the present value and face value of the debt to be the value of the additional consideration. When this occurs, the difference is debited to the discount on note payable account and is amortized using the *effective interest method* that was described earlier. The offsetting credit can be to a variety of accounts, depending on the nature of the transaction. The credited account is typically written off either ratably (if the attached benefit is equally spread over many accounting periods) or in conjunction with specific events (such as the shipment of discounted products to the holder of the debt). Though less common, it is also possible to issue debt at an above-market rate in order to obtain additional benefits from the debt holder. In this case, the entry is reversed, with a credit to the premium on note payable account and the offsetting debit to a number of possible accounts related to the specific consideration given.

Example

Sonoma Silversmiths has issued a new note for \$2,500,000 at 4 percent interest to a customer, the Alaskan Pipeline Company. Under the terms of the five-year note, Alaskan obtains a 20 percent discount on all silver beading it purchases from Sonoma during the term of the note. The market rate for similar debt was 9 percent on the date the loan documents were signed.

The present value of the note at the 9 percent market rate of interest over a five-year term is \$1,624,750, while the present value of the note at its stated rate of 4 percent is \$2,054,750. The difference between the two present-value figures is \$430,000, which is the value of the attached right to discounted silver beading granted to Alaskan. Sonoma should make the following entry to record the loan:

	Debit	Credit
Cash	\$2,500,000	
Discount on note payable	430,000	
Note payable		\$2,500,000
Unearned revenue		430,000

The unearned revenue of \$430,000 can either be recognized incrementally as part of each invoice billed to Alaskan, or it can be recognized ratably over the term of the debt. Since Sonoma does not know the exact amount of the security services that will be contracted for by Alaskan during the term of the five-year note, the better approach is to recognize the unearned revenue ratably over the note term. The first month's entry would be as follows, where the amount recognized is one-sixtieth of the beginning balance of unearned revenue:

	Debit	Credit
Unearned revenue	\$7,166.67	
Services revenue		\$7,166.67

Extinguishment of Debt

A company may find it advisable to repurchase its bonds prior to their maturity date, perhaps because market interest rates have dropped so far below the stated rate on the bonds that the company can profitably refinance at a lower interest rate. Whatever the reason may be, the resulting transaction should recognize any gain or loss on the transaction, as well as recognize the transactional cost of the retirement, and any proportion of the outstanding discount, premium, or bond issuance costs relating to the original bond issuance.

Example

To return to our earlier example, if Sonoma Silversmiths were to buy back \$200,000 of its \$1 million bond issuance at a premium of 5 percent, and does so with \$125,000 of the original bond discount still on its books, it would record a loss of \$10,000 on the bond retirement ($\$200,000 \times 5\%$), while also recognizing one-fifth of the remaining discount, which is \$25,000 ($\$125,000 \times \frac{1}{5}$). The entry follows:

	Debit	Credit
Bonds payable	\$200,000	
Loss on bond retirement	10,000	
Discount on bonds payable		\$25,000
Cash		185,000

If the issuing company finds itself in the position of being unable to pay either interest or principle to its bondholders, there are two directions the accountant can take in reflecting the problem in the accounting records. In the first case, the company may only temporarily be in default and is attempting to work out a payment solution with the bondholders. Under this scenario, the amortization of discounts or premiums, as well as of bond issuance costs and interest expense, should continue as they have in the past. However, if there is no chance of payment, then the amortization of discounts or premiums, as well as of bond issuance costs, should be accelerated, being recognized in full in the current period. This action is taken on the grounds that the underlying accounting transaction that specified the period over which the amortizations occurred has now disappeared, requiring the accountant to recognize all remaining expenses.

If the issuing company has not defaulted on a debt, but rather has restructured its terms, then the accountant must determine the present value of the new stream of cash flows and compare it to the original carrying value of the debt arrangement. In the likely event that the new present value of the debt is *less than* the original present value, the difference should be recognized in the current period as a gain.

Alternatively, if the present value of the restructured debt agreement is *more than* the carrying value of the original agreement, then a loss is *not* recognized on the difference—instead, the effective interest rate on the new stream of debt payments is reduced to the point where the resulting present value of the restructured debt matches the carrying value of the original agreement. This will result in a reduced amount of interest expense being accrued for all future periods during which the debt is outstanding.

In some cases where the issuing company is unable to pay bondholders, it gives them other company assets in exchange for the interest or principal payments owed to them. When this occurs, the issuing company first records a gain or loss on the initial revaluation of the asset being transferred to its fair market value. Next, it records a gain or loss on the transaction if there is a difference between the carrying value of the debt being paid off and the fair market value of the asset being transferred to the bondholder.

Example

Sonoma Silversmiths is unable to pay off its loan from a local lender. The lender agrees to cancel the debt, with a remaining face value of \$35,000, in exchange for a company truck having a book value of \$26,000 and a fair market value of \$29,000. There is also \$2,500 of accrued but unpaid interest expense associated with the debt. Sonoma's controller first revalues the truck to its fair market value and then records a gain on the debt settlement transaction. The entries are as follows:

	Debit	Credit
Vehicles	\$3,000	
Gain on asset transfer		\$3,000
Note payable	\$35,000	
Interest payable	2,500	
Vehicles		\$29,000
Gain on debt settlement		8,500

If convertible debt is issued with a conversion feature that is already in the money, then the intrinsic value of that equity component should have been recorded as a credit to the additional paid-in capital account. If so, the intrinsic value must be remeasured as of the debt retirement date and then removed from the additional paid-in capital account. This may result in the recognition of a gain or loss, depending on the difference between the original and final intrinsic value calculations.

Scheduled Bond Retirement

A bond agreement may contain specific requirements to either create a sinking fund that is used at the maturity date to buy back all bonds, or else to gradually buy back bonds on a regular schedule, usually through a trustee. In either case, the intention is to ensure that the company is not suddenly faced with a large repayment requirement at the maturity date. In this situation, the company usually forwards funds to a trustee at regular intervals, who in turn uses it to buy back bonds. The resulting accounting is identical to that just noted under Extinguishment of Debt. In addition, if the company forwards interest payments to the trustee for bonds that the trustee now has in its possession, these payments are used to purchase additional bonds (since there is no one to whom the interest can be paid). In this case, the journal entry that would normally record this transaction as interest expense is converted into an entry that reduces the principal balance of the bonds outstanding.

Convertible Debt

The *convertible bond* contains a feature allowing the holder to turn in the bond in exchange for stock when a preset strike price for the stock is reached, sometimes after a specific date. This involves a specific conversion price per share, which is typically set at a point that makes the transaction uneconomical unless the share price rises at some point in the future.

To account for this transaction under the popular *book value method*, the principal amount of the bond is moved to an equity account, with a

portion being allocated to the capital account at par value and the remainder going to the additional paid-in capital account. A portion of the discount or premium associated with the bond issuance is also retired, based on the proportion of bonds converted to equity. If the *market value method* is used instead, the conversion price is based on the number of shares issued to former bondholders, multiplied by the market price of the shares on the conversion date. This will likely create a gain or loss as compared to the book value of the converted bonds.

Examples

BOOK VALUE METHOD

A bondholder owns \$50,000 of bonds and wishes to convert them to 1,000 shares of company stock that has a par value of \$5. The total amount of the premium associated with the original bond issuance was \$42,000, and the amount of bonds to be converted to stock represents 18 percent of the total amount of bonds outstanding. In this case, the amount of premium to be recognized will be \$7,560 ($\$42,000 \times 18$ percent), while the amount of funds shifted to the capital stock at par value account will be \$5,000 (1,000 shares $\times \$5$). The entry is as follows:

	Debit	Credit
Bonds payable	\$50,000	
Premium on bonds payable	7,560	
Capital stock at par value		\$5,000
Additional paid-in capital		52,560

MARKET VALUE METHOD

Use the same assumptions as the last example, except that the fair market value of the shares acquired by the former bondholder is \$5.50 each. This creates a loss on the bond conversion of \$5,000, which is added to the additional paid-in capital account. The entry is as follows:

	Debit	Credit
Bonds payable	\$50,000	
Loss on bond conversion	5,000	
Premium on bonds payable	7,560	
Capital stock at par value		\$5,000
Additional paid-in capital		57,560

Convertible Debt Issued in the Money

The situation becomes more complicated if convertible bonds are issued with a stock conversion strike price that is already lower than the market price of the stock. In this case, the related journal entry must assign a value to the shares that is based on the potential number of convertible shares, multiplied by the difference between the strike price and the market value of the stock. If there is a series of strike prices for different future dates in the bond agreement, then the lowest strike price should be used to determine the intrinsic value of the deal. If bonds are issued with a strike price that is in the money, but contingent on a future event, then any recognition of the intrinsic value of the equity element is delayed until the contingent event has occurred.

Examples

BOND ISSUANCE, STRIKE PRICE IS IN THE MONEY

An investor purchases \$50,000 of bonds that are convertible into 10,000 shares of common stock at a conversion price of \$5. At the time of issuance, the stock had a fair market value of \$6.50. The intrinsic value of the conversion feature at the time of issuance is \$15,000, based on the difference between the fair market value of \$6.50 and the conversion price of \$5, multiplied by the 10,000 shares that would be issued if a full conversion were to take place. The entry would be as follows:

	Debit	Credit
Cash	\$50,000	
Bonds payable		\$35,000
Additional paid-in capital		15,000

BOND ISSUANCE, A SEQUENCE OF STRIKE PRICES ARE IN THE MONEY

Use the same information as the last example, except that the bond agreement contains a lower strike price of \$4.50 after three years have passed. Since this later strike price results in a greater intrinsic value being assigned to equity than the initial strike price, the later price is used for the valuation calculation. The calculation is 11,111 shares (\$50,000 divided by a strike price of \$4.50), multiplied by the \$2 difference between the strike price and the fair market value, resulting in a debit to cash of \$50,000, a credit to bonds payable of \$27,778, and a credit to additional paid-in capital of \$22,222.

BOND ISSUANCE, STRIKE PRICE IS IN THE MONEY BUT DEPENDENT ON A CONTINGENT EVENT

Use the same information as was used for the first example, except that conversion cannot take place until the stock of all Series A preferred shareholders has been bought back by the company. The initial journal entry is a simple debit to cash of \$50,000 and a credit to bonds payable of \$50,000, since there is no intrinsic value to the equity component at this time. Once the Series A shareholders are bought out, the intrinsic value of the equity is recognized by debiting the discount on bonds payable account and crediting the additional paid-in capital accounts for \$15,000.

Convertible Debt—Accrued but Unpaid Interest on Converted Debt

If a convertible debt agreement's terms state that a bondholder shall forfeit any accrued interest at the time the bondholder converts to equity, the company must recognize the accrued interest expense anyway, net of income taxes. The offset to the expense is a credit to the capital account.

Example

Mr. Abraham Smith owns \$25,000 of the North Dakota Railroad's convertible debt. He elects to convert it to the railroad's common stock, and forfeits the accrued \$520 of interest expense that was not yet paid as of the conversion date. The railroad debits the interest expense account and credits the capital account for \$520.

Convertible Debt—Subsequent Change in Offering to Induce Conversion

If a company induces its bondholders to convert their holdings to equity by subsequently improving the conversion feature of the bond agreement, it must record an expense for the difference between the consideration given to induce the conversion and the consideration originally noted in the bond agreement.

Example

Mr. Abraham Smith owns \$25,000 of the North Dakota Railroad's convertible debt. The bonds were originally issued with a conversion price of \$50 per share, which the railroad has subsequently lowered to \$40 to induce conversion. The shares have a market value of \$38 and a par value of \$1. Mr. Smith elects to convert to stock, resulting in the following calculation:

	Before Change in Terms	After Change in Terms
Face amount of bonds	\$25,000	\$25,000
Conversion price	50	40
Total shares converted	500	625
Fair value per share	38	38
Value of converted stock	<u>\$19,000</u>	<u>\$23,750</u>

The difference between the total values of converted stock before and after the change in terms is \$4,750, resulting in the following entry to record the entire conversion transaction:

	Debit	Credit
Bonds payable	\$25,000	
Debt conversion expense	4,750	
Capital account, par value		\$625
Additional paid-in capital		29,125

Debt Issued with Stock Warrants

A company may attach warrants to its bonds in order to sell the bonds to investors more easily. A warrant gives an investor the right to buy a specific number of shares of company stock at a set price for a given time interval.

To account for the presence of a warrant, the accountant must determine its value if it were sold separately from the bond, determine the proportion of the total bond price to allocate to it, and then credit this proportional amount into the additional paid-in capital account.

Example

A bond/warrant combination is purchased by an investor for \$1,100. The investment banker handling the transaction estimates that the value of the warrant is \$150, while the bond (with a face value of \$1,000) begins trading at \$975. Accordingly, the value the accountant assigns to the warrant is \$146.67, which is calculated as follows:

$$\frac{\text{Warrant Value}}{\text{Bond Value} + \text{Warrant Value}} \times \text{Purchase Price} = \text{Price Assigned to Warrant}$$

$$\frac{\$150}{\$975 + \$150} \times \$1,100 = \$146.67$$

The accountant then credits the \$146.67 assigned to the warrant value to the additional paid-in capital account, since this is a form of equity funding, rather than debt funding, for which the investor has paid. The discount on bonds payable represents the difference between the \$1,000 face value of the bond and its assigned value of \$953.33. The journal entry is as follows:

	Debit	Credit
Cash	\$1,100.00	
Discount on bonds payable	46.67	
Bonds payable		\$1,000.00
Additional paid-in capital		146.67

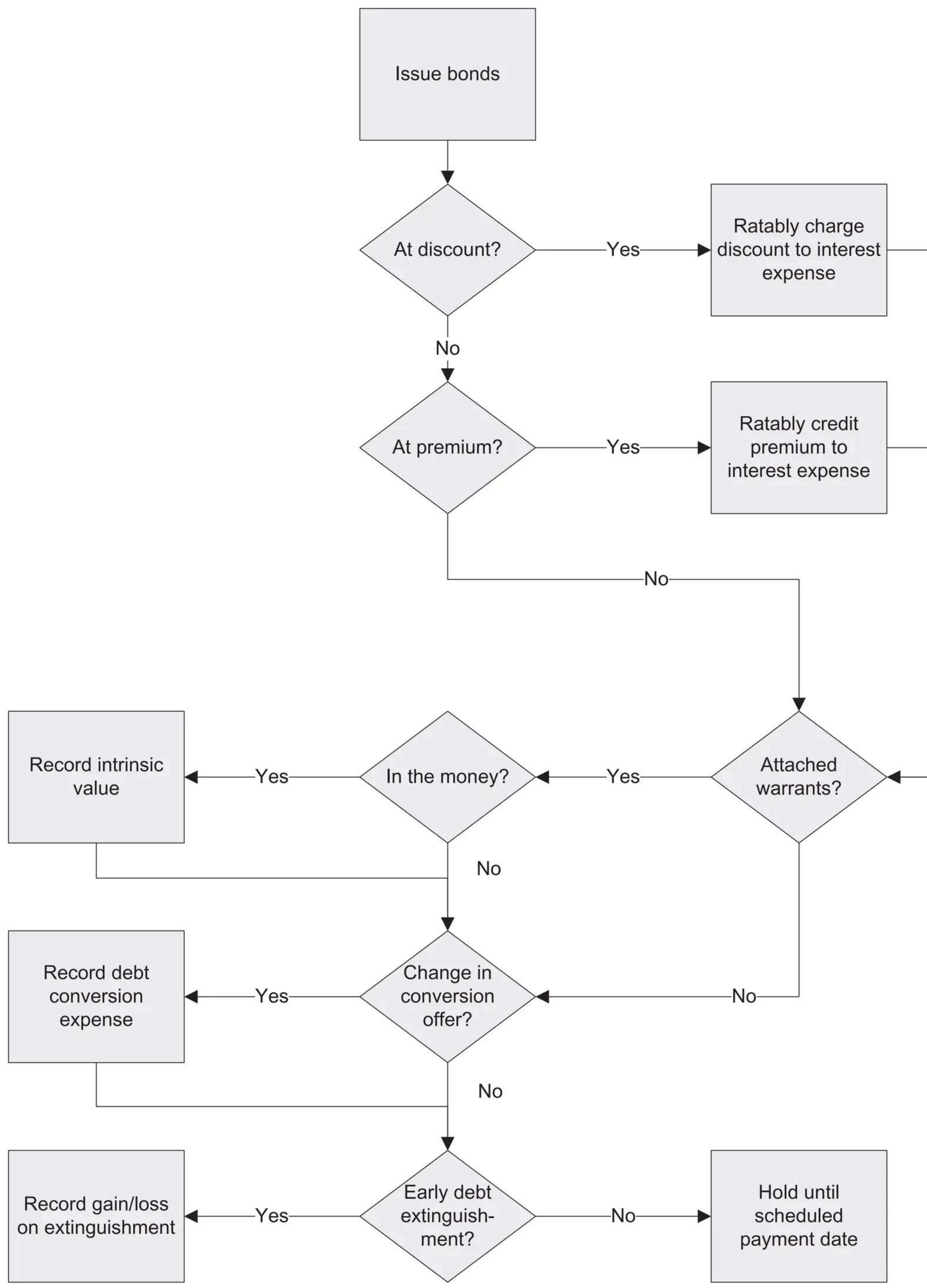
The decision tree shown in Exhibit 6.3 shows the general set of decisions to be made during the life of a bond, beginning with the treatment of discounts or premiums on the initial sale price and proceeding through the presence of attached warrants and early debt extinguishment. The decisions in the top third of the tree impact nearly all bonds, since it is unusual *not* to have a discount or premium. The middle third impacts only attached warrants, with most of the action items involving in-the-money warrants.

DEBT-RELATED CONTROLS

The recordation of debt-related transactions is somewhat technical, and therefore subject to some degree of calculation error. Several of the following controls are designed to verify that the correct interest rates and calculation dates are used. In addition, there is some possibility that the deliberate timing of gain and loss recognition related to debt transactions can be used to manipulate reported earnings. Several of the following controls are used to detect such issues. Finally, controls over the approval of debt terms, borrowings, and repayments are also described.

General Debt Transaction Controls

- *Require approval of the terms of all new borrowing agreements.* A senior corporate manager should be assigned the task of reviewing all prospective debt instruments to verify that their interest rate, collateral, and other requirements are not excessively onerous or conflict with the terms of existing debt agreements. It may also be useful from time to time to see if a lending institution has inappropriate

Exhibit 6.3 Decision Points during the Lifetime of a Bond

ties to the company, such as partial or full ownership in its stock by the person responsible for obtaining debt agreements.

- *Require supervisory approval of all borrowings and repayments.* As was the case with the preceding control point, high-level supervisory approval is required for all debt instruments—except this time it is for final approval of each debt commitment. If the debt to be acquired is extremely large, it may be useful to have a policy requiring approval by the board of directors, just to be sure that there is full agreement at all levels of the organization regarding the nature of the debt commitment. To be a more useful control, this signing requirement should be communicated to the lender, so that it does not inadvertently accept a debt agreement that has not been signed by the proper person.
- *Investigate the reasoning for revenue recognition related to attached rights that is not recognized ratably.* When a value is assigned to an attached right, the debit is to a discount account that will be ratably recognized as interest expense over the term of the debt; however, the credit will be to an unearned revenue account for which the potential exists to recognize revenue much sooner, thereby creating a split in the timing of revenue and expense recognition. Whenever revenue recognition related to this credit is not calculated on a ratable basis (which would create an approximate match between revenue and expense recognition), the calculation should first be approved by a manager.

Interest Rate Calculations

- *Require written and approved justification for the interest rate used to value debt.* When the stated interest rate on debt varies significantly from the market rate of interest, generally accepted accounting principles (GAAP) requires that the debt be valued using the market rate. However, the exact amount of this market rate is subject to interpretation, which has an impact on the amount of interest expense recognized. Requiring justification for and approval of the rate used introduces some rigor to the process.
- *Include in the month-end closing procedure a task to record interest expense on any bonds for which interest payments do not correspond to the closing date.* The payment of interest to bondholders is a natural trigger for the recording of interest expense, but there is no such trigger when there is no payment. To enforce the proper recording not only of unpaid interest expense but also of any amortization on related bond discounts or premiums, a specific task should be included in the closing procedure, as well as a required signoff on the task.

Extinguishment of Debt

- *Include in the debt procedure a line item to charge unamortized discounts or premiums to expense proportionate to the amount of any extinguished debt.* The general ledger accountant may not remember to write off any unamortized discount or premium when debt is extinguished, so the debt extinguishment procedure should include a line item requiring that this task be addressed. Otherwise, expense recognition could potentially be delayed until the original payment date of the debt, which may be many years in the future.
- *Report to the board of directors the repayment status of all debt.* GAAP requires that all unamortized discounts and premiums be recognized in the current period if there is no reasonable chance that the debt will be repaid. Since this acceleration has a significant impact on reported earnings in the current period, there may be some unwillingness to classify debt as unable to be paid. By requiring a standard report to the board of directors regarding the status of debt repayments at each of its meetings, the board can decide on its own when amortization must be accelerated, and can force management to do so.

Convertible Debt

- *Verify the market value of equity on conversion dates when the market value method is used.* If a company uses the market value method to record the conversion of debt to equity, it is possible to influence the gain or loss recorded, depending on fluctuations in the stock price from day to day. Accordingly, the market price of the stock should be independently matched to the date on which the conversion took place. Also, it is possible to include in the conversion procedure a fill-in blank where the stock price can be noted, dated, and initialed. This approach makes it much easier to trace transactions, and also holds accountants responsible for their entries.
- *Verify the market value of equity on debt retirement dates when offsetting equity entries are being reversed.* When a convertible bond is issued with its equity conversion feature already in the money, the intrinsic value of the equity portion of the bond must be credited to the additional paid-in capital account. If the bond is later retired, the equity portion of the bond must then be removed from the additional paid-in capital account. Any difference between the original and final intrinsic values is charged to either a gain or loss on the extinguishment of debt. The presence of a potential gain or loss on extinguishment makes it more likely for manipulation to occur in both the timing and calculation of the extinguishment transaction. One can match the date of the debt retirement to the equity valuation on that date to

ensure that the proper equity value is used. Also, the correct retirement calculation can be included in the corporate accounting procedures manual to ensure that it is handled properly.

- *Include a review of accrued interest expense on all recently converted debt.* If the terms of a company's bond agreements state that bondholders must forfeit accrued interest on converted debt, then there will be a temptation to also avoid recording this accrual on the books as an expense, as is required by GAAP. Consequently, the formal procedure used to convert debt to equity should include a line item for the general ledger accountant to record this accrued interest expense, and also require a signature on the procedure to ensure its completion.
- *Verify expense calculations associated with any sweetened conversion offers.* GAAP requires the recognition of a debt conversion expense associated with any completed conversion from bonds to equity, in the incremental amount of the net increase in fair value of stock obtained through a sweetened conversion offer. Since this results in an added expense, there will be a tendency to simply process the total conversion and not recognize the incremental expense, which could be substantial. Accordingly, a copy of the relevant portions of the original bond agreement should be attached to any journal entry that records a conversion to equity, which provides documentation of the initial conversion price. When the calculation is verified by an internal auditor or senior accounting person, this provides documentation of the initial baseline conversion price.

DEBT-RELATED POLICIES

The policies set forth in this section define the issuance and buyback of debt, control the timing of expense recognition, the setting of interest rates used for expense calculations, and similar issues. The intent of the bulk of these policies is to issue and buy back debt only when it is in the best business interest of the company to do so, as well as to ensure that debt-related transactions are recorded fairly.

General Debt Transaction Policies

- *All notes and bonds shall only be issued subsequent to approval by the board of directors.* This policy gives the board control over any new debt liabilities. In reality, anyone lending money to the company will require a board motion, so this policy is likely to be imposed by the lender even if it does not exist internally.
- *Debt sinking funds shall be fully funded on scheduled dates.* This policy is designed to force the treasury staff to plan for the timely accumu-

lution of funds needed to pay off scheduled principal payments on debt, thereby avoiding any last-minute funding crises.

- *Recognition of unearned revenue for attached rights shall match offsetting discount amortization as closely as possible.* This policy is designed to avoid the manipulation of revenue recognition for attached rights. For example, if a value is assigned to an attached right, the debit will be to a discount account that will be ratably recognized as interest expense over the term of the debt; however, the credit will be to an unearned revenue account for which the potential exists to recognize revenue much sooner, thereby creating a split in the timing of revenue and expense recognition. Though this split may be valid in some cases, an effort should be made to avoid any significant disparities, thereby avoiding any surges in profits.

Extinguishment of Debt

- *Debt shall not be extinguished early if the primary aim is to report a gain or loss on the extinguishment.* If a company buys back its bonds when the stated interest rate on the debt is lower than the current market interest rate, it will recognize a gain on the transaction, but must refinance the purchase with more expensive debt at current market rates. Thus, this policy is designed to keep company management from creating transactions that appear to increase profits when the underlying results worsen the company's financial situation.
- *When interest rates allow, the company shall repurchase its debt with less expensive debt.* Though it sounds obvious, this policy is designed to force management to make the correct decision to always use less expensive debt, even though this will result in the recognition of a loss when the older, more expensive debt is eliminated from company records.

Convertible Debt

- *Debt conversions to equity shall always be recorded using the book value method.* This policy keeps the accounting staff from switching between the book value and market value methods, whereby they could use the market value method to recognize gains and the book value method to avoid losses.

DEBT-RELATED PROCEDURES

The detailed procedures used for borrowing from a line of credit, calculating the effective interest rate, extinguishing debt, converting debt to stock,

and dealing with debt that has attached warrants are shown in this section. The line of credit procedure is shown in Exhibit 6.4.

The procedure used to calculate the discount or premium to be amortized under a debt issuance is shown in Exhibit 6.5.

The procedure used to calculate debt extinguishment is shown in Exhibit 6.6.

The procedure used to convert debt to equity is shown in Exhibit 6.7.

The procedure used to issue debt with attached stock warrants is shown in Exhibit 6.8.

SUMMARY

The treasurer is regularly called upon to obtain debt financing for a company. On a simplified level, this may involve obtaining a line of credit from the

Exhibit 6.4 Borrow From a Line of Credit

Procedure Statement Retrieval No.: TREASURY-12

Subject: Steps required to borrow from the corporate line of credit

1. PURPOSE AND SCOPE

This procedure is used by the treasury staff to borrow funds from a line of credit.

2. PROCEDURES

2.1 Determine Amount to Borrow (Assistant Treasurer)

1. Review the short-term cash forecast with the financial analyst and determine the immediate cash need from that report.
2. Alter the expected cash need based on any unusual cash flows not noted on the cash forecast.

2.2 Borrow Funds (Assistant Treasurer)

1. Verify that there is a sufficient amount left on the line of credit to borrow. If not, contact the treasurer at once.
2. Enter in the Loan Borrowing form the amount determined in the preceding step.
3. Have an authorized approver sign the form.
4. Fax the completed form to the bank and confirm receipt.
5. Send a copy of the completed form to the general ledger accountant for proper recording in the general ledger.
6. Follow up with the bank if it does not send a transaction confirmation within a reasonable period of time.
7. Staple the Loan Borrowing form to the bank's confirmation, and file by date.

Exhibit 6.5 Calculation of a Discount or Premium

Procedure Statement Retrieval No.: TREASURY-13

Subject: Steps required to calculate the discount or premium associated with a bond issuance

1. PURPOSE AND SCOPE

This procedure is used by the accounting staff to determine the amount of discount or premium to amortize in a given accounting period.

2. PROCEDURES**2.1 Calculate Discount or Premium (Financial Analyst)**

1. Determine the present value of the outstanding bond at the beginning of the calculation period. To do this, determine the present value of all interest payments for the bond instrument, as well as the present value of the principal payment at the end of the borrowing period, using the market rate of interest as the basis for the discount factor.
2. Calculate the interest expense in the reporting period by multiplying the market interest rate by the bond's present value for the number of days in the accounting period.
3. Subtract from the calculated interest expense the actual cash payment made for interest expense to the bond holders, which is based on the stated interest rate rather than the market interest rate. Using the difference between the two numbers, create a journal entry offsetting the outstanding discount or premium.
4. Add this interest rate difference to the outstanding present value of the bond if there is a discount, or subtract it from the bond if there is an outstanding premium.
5. Store the new balance of the bond present value, as well as the newly reduced discount or premium, which will be used as the basis for the effective interest calculation in the next reporting period.

company's bank, or a factoring or leasing arrangement. However, larger companies with excellent credit ratings have a number of additional tools available, such as bonds, commercial paper, and receivables securitization.

Of these types of debt, bond offerings in particular present a number of challenges from the perspective of accounting and control systems because there are ways to manipulate expense recognition in a company's favor. However, for the majority of companies that are restricted to basic lines of credit and loans, the accounting and control systems are relatively straightforward, primarily involving the approval of new debt and the proper recognition of interest expense in the correct reporting periods.

Exhibit 6.6 Account for Debt Extinguishment

Procedure Statement Retrieval No.: TREASURY-14

Subject: Steps required to determine the cost of a debt extinguishment, complete the extinguishment, and account for it

1. PURPOSE AND SCOPE

This procedure is used by the accounting staff to summarize and account for the costs of a debt extinguishment, and is used by the treasury staff to physically withdraw the debt.

2. PROCEDURES

2.1 Calculate the Cost of a Proposed Debt Extinguishment (Financial Analyst)

1. Examine the bond documentation to determine the amount of any extra fees required to extinguish debt early, such as termination fees or premium payments. Calculate the full extinguishment cost including these factors, and compare it to the cost of replacement financing to see if the proposed extinguishment will result in increased cash flow for the company.

2.2 Approve and Process the Debt Extinguishment (Treasury Staff)

1. Obtain written approval from the Board of Directors to retire the debt, and include this document in the corporate minute book.
2. If there is a trustee managing bondholder transactions, notify the trustee of the proposed extinguishment.
3. Contact bond holders to notify them of the date on which conversion shall occur, and the price they will receive for each bond held. If required by the bond document, this information may require publication to the general public well in advance of the extinguishment date.

2.3 Account for the Transaction (Accounting Staff)

1. If the original record of the bond issuance included a recognition of the intrinsic value of its equity portion, this recognition must be reversed. To do so, determine the number of shares that could have been converted on the retirement date. Then calculate the difference between the strike price and the fair market value of the stock on that date, and multiply it by the number of shares that could have been converted. Debit the result to the Additional Paid-In Capital account.
2. If bond issuance costs were incurred and capitalized, then any remaining unamortized amounts left in the asset account as of the date of the debt extinguishment must be recognized as expense.
3. If there is any unamortized discount or premium related to the original bond issuance, recognize that portion of the remaining amount that equates to the proportion of debt being retired.
4. If any premium is being paid to retire the debt, charge this premium to expense at the time of the retirement.
5. Summarize the transaction and send this information to the general ledger accountant for entry in the general ledger.

2.4 Retire the Debt (Treasury Staff)

1. On the retirement date, issue settlement funding to the bondholder trustee to retire the bonds.

Exhibit 6.7 Convert Debt to Equity

Procedure Statement Retrieval No.: TREASURY-15

Subject: Steps required to process a request by a bond holder to convert that entity's bond holdings to company stock.

1. PURPOSE AND SCOPE

This procedure is used by the accounting staff to account for the conversion of debt to equity, as well as by the treasury staff to retire bonds and issue stock.

2. PROCEDURES**2.1 Retire Debt and Issue Stock (Treasury Staff)**

1. Verify that a sufficient number of shares are authorized and available to fulfill the request by the bond holder.
2. Update the bond ledger by recording the retirement of the bond serial number.
3. Create a stock certificate for the bond holder and obtain valid signatures authorizing the certificate. Issue the certificate to the former bond holder by registered mail.
4. Update the stock ledger by recording the stock certificate number and the number of shares issued.

2.2 Account for the Conversion (Accounting Staff)

1. Send documentation of the transaction to the general ledger accountant, who records any accrued but unpaid interest expense on the bond, debiting it to expense and crediting the capital account (if the bond holder forfeits the interest). The general ledger accountant should initial the step to signify its completion.
2. If the market value method is used to record the conversion transaction, the general ledger accountant should also note in the procedure the date of the conversion, the market price of the stock on that date, and initial next to this information.

Exhibit 6.8 Issue Debt with Stock Warrants

Procedure Statement Retrieval No.: TREASURY-16

Subject: Steps required to determine the proper valuation of each component of a debt offering that has attached warrants

1. PURPOSE AND SCOPE

This procedure is used primarily by the accounting staff to determine the value of the bond and stock warrants components of a debt offering, and to account for this information.

2. PROCEDURES**2.1 Obtain Approval for and Conduct Bond Offering (Treasury Staff)**

1. Obtain written approval from the Board of Directors to issue debt with attached stock warrants, and include this document in the corporate minute book.
2. Conduct the bond offering.

2.2 Account for the Debt Warrant Components of the Offering (Accounting Staff)

1. Determine the value of the bond and stock warrant components of the offering. This can be obtained from the investment banker handling the transaction, who can estimate it based on the value of similar offerings for other clients. Another alternative is to wait until the bonds and warrants are publicly traded and assign values based on their initial trading prices.
2. To assign a price to the warrants, divide the warrant value by the total of both the bond value and the warrant value, and multiply the result by the total purchase price.
3. Have an independent party, such as the internal audit staff, review the calculations splitting the value of the offering between bonds and stock warrants.
4. Credit the resulting warrant value to the additional paid-in capital account and credit the full face value of the bond to the bonds payable account. Debit the total cash received from the transaction to the cash account, and enter any remaining difference to either the Discount on Bonds Payable (if a debit) or to the Premium on Bonds Payable (if a credit).
5. If bond issuance costs were incurred, capitalize them and establish an amortization schedule.

7

Equity Management

A key goal of the treasurer of a public company is to have its securities registered, so that it can more easily sell the securities, and so that its investors can freely trade them. The registration process is very time consuming and expensive, so companies attempt to circumvent it through a variety of exemptions. Regulation A provides a reduced filing requirement for small-dollar issuances, while Regulation D allows for the complete absence of registration for security sales to accredited investors, though those investors cannot resell their securities without taking additional steps. If none of these simpler methods are available, then a company must use either the Form S-1 or S-3. Form S-3 is an abbreviated registration that is available only to seasoned public companies, while Form S-1 is the “full” version that the remaining public companies must use. This chapter describes the applicability of the various forms of registration and the exemptions from registration, as well as the accounting and systems related to equity transactions.

STOCK REGISTRATION

If a treasurer wants to sell stock to investors that in turn can be immediately traded by the investors, then it is necessary to file a registration statement with the Securities and Exchange Commission (SEC). Compiling a registration statement and walking it through the SEC review process is one of the most expensive and time-consuming tasks that a treasurer can engage in. It should be avoided if one of the exemptions described in the following section is available. If not, then a Form S-1 or S-3 must be filed. The two forms are described through the remainder of this section, along with the concept of a shelf registration and the process of declaring a registration statement effective.

Form S-1

This form is the default registration form to be used if no other registration forms or exemptions from registration (such as would be applicable under Regulations A or D) are applicable.

A key factor in the preparation of a Form S-1 is whether the company can incorporate a number of required items by referencing them in the form, which can save a great deal of work. Incorporation by reference is available *only* if the company has not been for the past three years a blank check company, a shell company, or a registrant for an offering of penny stock. The company must also be current with its various filings of financial information. These requirements are a particular burden for any private company that has gone public by acquiring a shell company, since it cannot incorporate its other SEC filings by reference until three years have passed from the date of acquisition.

The main informational contents of the Form S-1 are as follows:

- 1. Forepart of the registration statement.** Include the company name, the title and amount of securities to be registered, and their offering price. Also describe the market for the securities, and a cross-reference to the risk factors section. Include a legend stating that the SEC has not approved or disapproved of the securities, and then identify the underwriters and state the nature of the underwriting arrangement.
- 2. Summary information.** Provide a summary of the prospectus contents that contains a brief overview of the key aspects of the offering, as well as contact information for the company's principal executive offices.
- 3. Risk factors.** Discuss the most significant factors that make the offering speculative or risky, and explain how the risk affects the company or the securities being offered.
- 4. Ratio of earnings to fixed charges.** If the registration is for debt securities, then show a ratio of earnings to fixed charges. If the registration is for preferred equity securities, then show the ratio of combined fixed charges and preference dividends to earnings. These ratios must be shown for the past five years and the latest interim period.
- 5. Use of proceeds.** State the principal purpose for which proceeds from the offering are intended.
- 6. Determination of offering price.** Describe the factors considered in determining the offering price, both for common equity and for warrants, rights, and convertible securities.

7. *Dilution.* Disclose the net tangible book value per share before and after the distribution, the amount of the change in net tangible book value per share attributable to the cash payments made by purchasers of the shares being offered, and the amount of the immediate dilution from the public offering price, which will be absorbed by these purchasers.
8. *Selling security holders.* For those securities being sold for the account of another security holder, name each security holder, as well as each person's relationship with the company within the past three years, and the before-and-after ownership percentages of each security holder.
9. *Plan of distribution.* For securities offered through an underwriter, name all underwriters involved and their relationship with the offering. Also outline the plan of distribution for any securities to be registered that are offered otherwise than through underwriters. If the securities are to be offered on an exchange, then name the exchange. Also reveal the compensation paid to the underwriters, dealers, and finders. Further, describe any stabilization transactions that the underwriter intends to conduct during the offering period, and how these transactions will affect the security's price.
10. *Description of securities to be registered.* For equity securities, state the title of the security and related rights, such as voting rights, liquidation rights, dividend rights, and terms of conversion. For debt securities, state their title, the principal amount being offered and terms, such as maturity, interest, conversion, amortization, and so on; the description should also address liens, rights subordination, operational and financing restrictions, default events, warrants, and so forth.
11. *Interests of named experts and counsel.* Identify any experts and counsel that are certifying or preparing the registration document, or providing a supporting valuation, and the nature of their compensation relating to the registration. This can be excluded if their compensation does not exceed \$50,000.
12. *Information with respect to the registrant.* This section comprises the bulk of the document, and includes a description of the business and its property, any legal proceedings, the market price of the company's stock, financial statements, selected financial data, and management's discussion and analysis of the company's financial condition and its results of operations. It also requires disclosure of any disagreements with the company's auditors, market risk analysis, and several ownership and governance issues.

13. *Material changes.* Describe material changes that have occurred since the company's last-filed annual or quarterly report.
14. *Other expenses of issuance and distribution.* Itemize the expenses incurred in connection with the issuance and distribution of the securities to be registered, other than underwriting discounts and commissions.
15. *Indemnification of directors and officers.* Note the effect of any arrangements under which the company's directors and officers are insured or indemnified against liability.
16. *Recent sales of unregistered securities.* Identify all unregistered securities sold by the company within the past three years, including the names of the principal underwriters, consideration received, and the type of exemption from registration claimed. Also state the use of proceeds from registered securities until all proceeds have been applied, or the offering is terminated.
17. *Exhibits and financial statement schedules.* Provide exhibits, with a related index, for such items as the underwriting agreement, consents, and powers of attorney. A table showing the complete list of possible exhibits is noted in Item 601 of Regulation S-K.

The preceding summary addresses the essential disclosure requirements for a Form S-1, but not all; the detail for these reporting requirements is located in Regulation S-K. Clearly, the Form S-1 is a serious undertaking that will likely result in a document having the size of a small book. It requires massive internal effort, as well as substantial input by and review of the company's auditors and counsel. The result is a major expense and a diversion of management time away from operational matters. Thus, there is an excellent reason why companies use every other means at their disposal to avoid raising funds through a Form S-1. One reduced type of informational reporting is available through Form S-3.

Form S-3

Form S-3 allows a company to incorporate a large amount of information into the form by reference, which is generally not allowed in a Form S-1. Specifically, the company can incorporate the information already filed in its latest Form 10-K, subsequent quarterly 10-Q reports, and 8-K reports, thereby essentially eliminating the "information with respect to the registration" that was described in the immediately preceding section for the Form S-1. This represents a considerable time savings, so companies file a Form S-3 whenever possible. However, the Form S-3 is restricted to those companies that meet the following eligibility requirements:

1. It is organized within and has principal business operations within the United States; and
2. It already has a class of registered securities, or has been meeting its periodic reporting requirements to the SEC for at least the past 12 months; and
3. It cannot have failed to pay dividends, sinking fund installments, or defaulted on scheduled debt or lease payments since the end of the last fiscal year; and
4. The aggregate market value of the common equity held by nonaffiliates of the company is at least \$75 million.

If a company has an aggregate market value of common equity held by nonaffiliates of less than \$75 million, it can still use Form S-3, provided that:

1. The aggregate market value of securities sold by the company during the 12 months prior to the Form S-3 filing is no more than one-third of the aggregate market value of the voting and nonvoting common equity held by its nonaffiliated investors; and
2. It is not a shell company, and has not been one for the past 12 months; and
3. It has at least one class of common equity securities listed on a national securities exchange.

Clearly, the eligibility requirements of the Form S-3 restrict its use to larger public companies. Smaller “nano-cap” firms must search for a registration exemption, such as is provided by Regulations A and D.

Shelf Registration

Shelf registration is the registration of a new issue of securities that can be filed with the SEC up to three years in advance of the actual distribution of such securities. This allows a company to obtain funds quickly when needed, rather than compiling a registration document and then waiting for the SEC to declare the registration effective. It is especially useful for debt offerings, since a public company can wait for interest rates to decline before issuing any securities.

A shelf registration is governed by the SEC’s Rule 415. It can be accomplished through a Form S-3 filing, which in turn is restricted to certain companies that meet the SEC’s eligibility rules (see the preceding Form S-3 section for details). It is also possible to use a Form S-1 to initiate a shelf registration, but only if the intent is to sell the securities “on an immediate, continuous, or delayed basis,” with all sales being completed within the next two years.

A shelf registration must be declared effective by the SEC before any securities sales related to it can be initiated. However, the SEC's Rule 462(e) allows for some registration statements to be declared effective immediately upon their dates of filing. This automatic shelf registration is available only to *well-known seasoned issuers* (WKSIs). A Wksi is a company whose common stock belonging to nonaffiliates has a market value of at least \$700 million, or which has issued at least \$1 billion of nonconvertible securities within the past three years and will register only nonconvertible securities other than common equity. In addition, such filings have reduced information filing requirements.

Declaring a Registration Statement Effective

A registration statement is reviewed by the SEC staff, and if they find that it conforms to SEC regulations and clearly states key information about the company, then they declare it *effective*. Once declared effective, either the company or those investors on whose behalf it is registering the securities can initiate selling activities.

The problem is obtaining that "effective" status. The SEC's examiners delve into registration statements with great vigor, and it is a rare document indeed that is immediately granted "effective" status. Instead, the usual situation is for the SEC to spend one month reviewing the registration document and then sending back a comment letter. The letter begins with the following boilerplate comments:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with supplemental information so we may better understand your disclosure. After reviewing this information, we may or may not raise additional questions.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements, and to enhance the overall disclosure of your filing.

The letter then continues with potentially dozens of questions about various items of information contained within the filing. The company then sends back a response, after which the SEC spends about one month reviewing the information again, and then responds with either another (hopefully reduced) list of questions or declares the document to be effective. A new public company can reasonably expect anywhere from two to four iterations of this process, with each iteration taking an additional month. A more

experienced public company whose filings have been reviewed by the SEC in the recent past will occasionally not be reviewed at all, or will only be subjected to one or two rounds of questions.

The key issues involving the effectiveness declaration are the time and expense involved. The company's attorneys and auditors are deeply involved in every question and answer iteration with the SEC, so the cost of their services builds over time. Further, being declared effective in anything under two months is an excellent achievement, with previously unreviewed companies sometimes being subjected to a half-year of effort.

EXEMPTIONS FROM STOCK REGISTRATION

Given the exceptional delay just described in having a registration statement declared effective, any treasurer will always search for a registration exemption. The most common two exemptions are Regulation A, which applies to smaller issuances, and Regulation D, which applies to accredited investors.

Regulation A Exemption

Regulation A is described in the SEC's Rules 251 through 263, and provides an exemption from the securities registration requirements of the Securities Act of 1933, on the grounds that a smaller securities issuance does not warrant registration. Regulation A allows exemption from registration if the offering is no larger than \$5 million in aggregate per year. Of this amount, no more than \$1.5 million can be attributed to the secondary offering of securities currently held by existing shareholders; the secondary offering cannot include resales by company affiliates if the company has not generated net income from continuing operations in at least one of the past two fiscal years. The exemption is restricted to American and Canadian companies, and it is not available to investment and development-stage (such as "blank check" companies) companies. Anyone using this exemption must also create an offering circular, similar to the one that would be required for a registered offering.

There are a number of critical advantages to the exemption provided under Regulation A. First, there is no limit on the number of investors, nor must they pass any kind of qualification test (as would be the case under Regulation D, as described below). Further, there are no restrictions on the resale of any securities sold under the Regulation. Finally, the key difference between a Regulation A offering and a registered offering is the absence of any periodic reporting requirements. This is a major reduction in costs to the company, and is the most attractive aspect of the exemption.

In addition, and unlike a registered offering, the regulation allows a company to "test the waters" with investors in advance of the offering, in

order to determine the level of investor interest. To take advantage of this feature, the company must submit the materials used for this initial testing of the waters to the SEC on or before their first date of use. The materials must state that no money is being solicited or will be accepted, that no sales will be made until the company issues an offering circular, that any indication of interest by an investor does not constitute a purchase commitment, and also identify the company's chief executive officer (CEO), as well as briefly describe the business. The company can only "test the waters" until it has filed an offering circular with the SEC, and can only commence securities sales once at least 20 days have passed since the last document delivery or broadcast.

When a company is ready to notify the SEC of securities sales under this regulation, it does so using Form 1-A. Once the Form is filed, the company can conduct a general solicitation, which can include advertising the offering, as long as the solicitation states that sales cannot be completed until the SEC qualifies the company's preliminary offering circular. This preliminary document does not have to include the final security price, though it should contain an estimate of the range of the maximum offering price and the maximum number of shares or debt securities to be offered. Advertising can only state where the offering circular can be obtained, the name of the company, the price and type of security being offered, and the company's general type of business.

While a company is permitted to advertise its offering as soon as the Form 1-A is filed, it must follow a specific procedure to conduct actual security sales. Once the Form 1-A has been qualified by the SEC, the company must furnish an offering circular to each prospective purchaser at least 48 hours prior to mailing a confirmation of sale. If a broker-dealer is involved with the sale, this entity must provide a copy of the offering circular either with or prior to the confirmation of sale.

If the information in an offering circular becomes false or misleading due to changed circumstances or there have been material developments during the course of an offering, the company must revise the offering circular.

Once securities sales are under way, the company must file Form 2-A with the SEC every six months following the qualification of the offering statement, describing ongoing sales from the offering and use of proceeds. In addition, it must file a final Form 2-A within 30 calendar days following the later of the termination of the offering or the application of proceeds from the offering.

The regulation has provisions that can disqualify a company from using it. It is not available if a company has had a variety of disclosure problems with the SEC in the past five years, or if the company currently has a registration statement being reviewed by the SEC, or if any affiliates or the company's underwriter have been convicted within the past ten years of a crime related to a security transaction.

Regulation D Exemption

Securities can only be sold under Regulation D to an *accredited investor*. An accredited investor is one whom the issuing company reasonably believes falls within any of these categories at the time of the securities sale:

1. A bank, broker-dealer, insurance company, investment company, or employee benefit plan;
2. A director, executive officer, or general partner of the issuing company;
3. A person whose individual net worth (or joint net worth with a spouse) exceeds \$1 million;
4. A person having individual income exceeding \$200,000 or joint income with a spouse exceeding \$300,000 in each of the last two years, with a reasonable expectation for reaching the same income level in the current year; and
5. Any trust with total assets exceeding \$5 million.

There are several additional types of accredited investors, and some restrictions on the accredited investor types just noted; please review Rule 501 of Regulation D for more details. Nonetheless, the preceding definitions describe the primary types of accredited investors.

The information that must be sent to accredited investors as part of the financing is minimized if the issuing company is already meeting its financial reporting requirements under the Exchange Act. Additional reporting requirements are applicable if this is not the case. Please consult Rule 502 of the Regulation for further details.

The issuing company is not allowed any form of general solicitation for the sale of securities under the Regulation. This prohibits the use of advertisements and articles via any medium of publication. It also prohibits the sale of securities through seminars to which attendees were invited through any form of general solicitation. In order to avoid having a general solicitation, a company must prescreen any investor to whom an inquiry is sent, usually by using an underwriter or promoter who already has a list of qualified potential investors.

A Regulation D offering may span a number of months; if so, there may be some question about which securities sales fall within its boundaries. The consideration of a sale transaction as being integrated into a specific Regulation D offering is a judgmental one. The following factors would lead to the presumption of integration: whether the sale is part of a single financing plan; involves the issuance of the same class of securities; is being made at approximately the same time; involves the same type of consideration; and the sale is made for the same general purpose.

Securities sold under a Regulation D offering cannot be resold without registration. For this reason, the issuing company is required under Rule 502 of the Regulation to “exercise reasonable care to assure that the purchasers of the securities are not underwriters. ...” To do so, the company must take the following three steps: (1) inquire of purchasers if they are acquiring the securities for themselves or for other parties; (2) disclose to each purchaser that the securities have not been registered and therefore cannot be resold until they are registered; and (3) add a legend to each securities certificate, stating that the securities have not been registered, and stating the restrictions on their sale or transfer.

Summary of Registration Options

The preceding discussion should make it clear that a vast amount of paperwork is involved in any stock registration, even including the Regulation A exemption. Only the Regulation D exemption involves a relatively minor amount of SEC notification. Given the minimal resources available to a smaller public company, this tends to shift companies in the direction of registration exemptions. The reverse situation is true for large and well-funded public companies, whose large accounting and treasury staffs routinely file S-3 registration documents.

ACCOUNTING FOR STOCK SALES

Most types of stock contain a par value, which is a minimum price below which the stock cannot be sold. The original intent for using par value was to ensure that a residual amount of funding was contributed to the company, and which could not be removed from it until dissolution of the corporate entity. In reality, most common stock now has a par value that is so low (typically anywhere from a penny to a dollar) that its original intent no longer works. Thus, though the accountant still tracks par value separately in the accounting records, it has little meaning.

If an investor purchases a share of stock at a price greater than its par value, the difference is credited to an additional paid-in capital account. For example, if an investor buys one share of common stock at a price of \$82, and the stock’s par value is \$1, then the entry would be:

	Debit	Credit
Cash	\$82	
Common stock—par value		\$1
Common stock—additional paid-in capital		81

When a company initially issues stock, there will be a number of costs associated with it, such as the printing of stock certificates, legal fees, invest-

ment banker fees, and security registration fees. These costs can be charged against the proceeds of the stock sale, rather than be recognized as expenses within the current period.

If the warrant attached to a debt instrument cannot be detached and sold separately from the debt, then it should not be separately accounted for. However, if it can be sold separately by the debt holder, then the fair market value of each item (the warrant and the debt instrument) should be determined, and then the accountant should apportion the price at which the combined items were sold amongst the two, based on their fair market values.

Example

If the fair market value of a warrant is \$63.50 and the fair market value of a bond to which it was attached is \$950, and the price at which the two items were sold was \$1,005, then an entry should be made to an additional paid-in capital account for \$62.97 to account for the warrants, while the remaining \$942.03 is accounted for as debt. The apportionment of the actual sale price of \$1,005 to warrants is calculated as follows:

$$\frac{\text{Fair Market Value of Warrant}}{\text{Fair Market Value of Warrant} + \text{Fair Market Value of Bond}} \times \text{Price of Combined Instruments}$$

or,

$$\frac{\$63.50}{(\$63.50 + \$950)} \times \$1,005 = \$62.97$$

If a warrant expires, then the funds are shifted from the outstanding warrants account to an additional paid-in capital account. To continue with the last example, this would require the following entry:

	Debit	Credit
Additional Paid-In Capital—Warrants	\$62.97	
Additional Paid-in Capital—Expired Warrants		\$62.97

If a warrant is subsequently used to purchase a share of stock, then the value allocated to the warrant in the accounting records should be shifted to the common stock accounts. To use the preceding example, if the warrant valued at \$62.97 is used to purchase a share of common stock at a price of \$10, and the common stock has a par value of \$25, then the par value account

is credited with \$25 (since it is mandatory that the par value be recorded), and the remainder of the funds are recorded in the additional paid-in capital account. The entry is as follows:

	Debit	Credit
Cash	\$10.00	
Additional paid-in capital—warrants	62.97	
Common stock—par value		\$25.00
Common stock—additional paid-in capital		47.97

EQUITY-RELATED CONTROLS

There are a number of controls that should be used during the process of selling equity to the investment community. The following controls are listed in sequential order, from the start of an equity offering. Those applying primarily to a specific registration document or exemption are so noted.

General Stock Sale Controls

1. *Verify available authorized shares.* There must be a sufficient number of authorized and unused shares available for distribution, which can be determined by comparing the authorized number of shares listed in the articles of incorporation to the share total reported by the company's stock transfer agent.
2. *Verify board authorization.* The board minutes should reflect the approval of a stock offering that includes the minimum and maximum allowed amounts of funding, and the approximate terms of the offering.
3. *Have due diligence officer review all SEC filings.* The SEC can and will reject any registration documents if information is not presented exactly in accordance with its instructions. To avoid the delay of an SEC rejection, have a due diligence officer who specializes in SEC procedures review the filings prior to submission.
4. *Verify contents of security authorization letter.* The next step in the process is to authorize the issuance of shares to the new investors. The treasurer authorizes the issuance of shares to new investors by completing a form letter to the company's stock transfer agent, itemizing the number of shares to be issued to each investor, and noting addresses and tax identification numbers. Corporate counsel should match all information on the authorization letter to the supporting documentation prior to approving the letter.

Controls Specific to Regulation A Stock Sales

1. *Review disqualification provisions.* The SEC can use several rules to disqualify a company's Regulation A offering. Corporate counsel should review these rules in advance to determine if the regulation can be used, and advise the CEO if the offering can proceed.
2. *Submit "test the waters" documents to counsel.* The company can issue "test the waters" documents to prospective investors, but only ones that follow specific SEC guidelines, and which have been submitted to the SEC in advance. To ensure that such documents meet SEC requirements, have corporate counsel not only review them, but formally approve them and retain a copy of the approved version.
3. *Verify termination of "test the waters" documents.* A formal offering cannot begin until at least 20 days after "test the waters" materials have been distributed, so ensure that distribution is terminated as of a specific date.
4. *Control release of offering circular.* The preliminary offering circular cannot be released until the SEC qualifies it. Corporate counsel should have control over the release, so that no premature distribution occurs.
5. *Submit advertising to counsel.* The company can advertise the offering, but only include specific terminology in the advertisements. To ensure that the advertising meets SEC requirements, have corporate counsel not only review it, but formally approve it and retain a copy of the approved version.
6. *Specify an escrow cap.* Regulation A does not allow for the issuance of more than \$5 million in aggregate per year, of which no more than \$1.5 million can be a secondary offering. To ensure that these limitations are not exceeded, impose a cap on the amount of funds to be accepted by the escrow, beyond which funds will be returned to investors.
7. *Update offering circular.* The offering circular must be re-issued if material events occur during the offering period that would make information in the circular false or misleading. A disclosure committee, composed of at least the controller and corporate counsel, should meet regularly during the offering period to determine if such changes should be made.
8. *Ensure that Form 2-A is filed.* At least one Form 2-A must be filed within six months of the SEC's qualification of the offering statement. Responsibility for the filing lies with corporate counsel, who should note the due date on a checklist of activities associated with the funding

Controls Specific to Regulation D Stock Sales

1. *Review outgoing subscription agreement.* There is a possibility that variations on the subscription agreement will be sent to different prospective investors. To avoid this, create a master term sheet and have the CEO initial it. All subscription agreements must be compared to this master term sheet prior to being issued. Better yet, have corporate counsel initial every subscription agreement before it is issued, and retain a copy as proof of the issued terms.
2. *Review received subscription agreement.* It is possible that an investor might fraudulently modify the terms of the subscription agreement. To guard against this, compare the retained copy of the issued subscription agreement to the one returned by each investor.
3. *Review investor qualification certificate.* The company must be able to prove that it has received sufficient assurances from its investors that they are accredited investors. Accordingly, corporate counsel should verify that a signed investor qualification certificate has been received from each investor, and that it has been properly completed.
4. *Verify cash receipt.* An investor may submit signed documents indicating that he is investing, but not transfer funds to the escrow agent. To detect this, request verification of cash receipt from the escrow agent, and match the amounts received to the amounts indicated on the signed subscription agreements.
5. *Ensure that Form D is filed.* The Form D must be filed within 15 days of the receipt of funds from the escrow account. Responsibility for the filing lies with the corporate counsel, who should note the due date on a checklist of activities associated with the funding. Counsel must also obtain the signature of the chief executive officer on the Form D, and retain a copy of the completed form in storage. A subsequent audit can also verify that these tasks have been completed in a timely manner.

EQUITY-RELATED POLICIES

The policies described in this section apply to a company's use of the Regulation A or D exemptions, and so are only needed if the treasurer expects to issue stock under either exemption.

Policies Specific to Regulation A Stock Sales

A company will find itself at significant risk of having a Regulation A offering not qualified by the SEC if it either employs or is owned by an individual

with an objectionable background. Accordingly, all directors, officers, shareholders owning at least 10 percent of any class of company securities, and underwriter officers should be required to complete a violations questionnaire similar to the one shown later in the Procedures section, and subject the questionnaire to a review and approval process. A sample policy follows:

Policy: The Company shall require all directors, officers, and shareholders owning at least 10 percent of any class of company securities to complete and sign a violations questionnaire that fully describes any convictions, court orders, and organizational suspensions to which they are subjected.

A sample violations questionnaire is shown in Exhibit 7.2. Once an individual submits this questionnaire, there should be an obligation to notify the company of any changes in the status of any responses to it. A sample policy follows:

Policy: If there is a material change to the information initially submitted on the violations questionnaire, then the submitting party shall promptly notify corporate counsel of the change.

Regulation A allows for the use of “test the waters” documents, as well as advertising. Given that the Regulation restricts the content of these issuances, the company should channel them all past corporate counsel, who is required to review and approve them prior to issuance. A sample policy follows:

Policy: All securities solicitations must be approved in advance and in writing by corporate counsel. This approval shall include a description of the solicitation and sample marketing materials.

Thus, the strong need for compliance with Regulation A at multiple points during an offering requires corporate counsel to be featured repeatedly in all of the preceding policies.

Policies Specific to Regulation D Stock Sales

A key part of Regulation D is that the sale of unregistered securities can only be to accredited investors. The company must take reasonable steps to be assured that a prospective investor is indeed an accredited investor. This process begins with the following policy:

Policy: The Company shall not issue unregistered securities without first obtaining a signed statement from each prospective investor, clearing stating that individual or entity's status as an accredited investor.

A procedure in the next section follows up on this policy, detailing the use of an investor qualification certificate.

All unregistered securities issued by the company must carry a restrictive legend, specifying that they cannot be traded. The following policy enumerates the precise restrictive language:

Policy: All unregistered securities issued by the Company shall contain the following restrictive legend: “These securities have not been registered under the Securities Act of 1933, as amended. They may not be sold, offered for sale, pledged or hypothecated in the absence of a registration statement in effect with respect to the securities under such Act or an exemption from such registration requirements.” This legend may only be modified following the recommendation of corporate counsel.

General solicitation of investors is not allowed under Regulation D, so a policy should note that prohibition. An example follows:

Policy: The Company shall not use any form of general solicitation to potential investors for the sale of unregistered securities.

Better yet, require the advance approval of corporate counsel for all contemplated securities solicitations. Given the presumed expertise of counsel, it is most unlikely that a general solicitation would be approved. An example follows:

Policy: All securities solicitations must be approved in advance and in writing by corporate counsel. This approval shall include a description of the solicitation and sample marketing materials.

EQUITY-RELATED PROCEDURES

There are two procedures in this section, one describing the process flow for a stock sale under the Regulation A exemption, and the other describing a sale under the Regulation D exemption.

The procedure used to sell stock under the Regulation A exemption is shown in Exhibit 7.1. It assumes that a company uses the “test the waters” option and also elects to use subsequent marketing events.

The core of the procedure surrounding stock sales under the Regulation D exemption is the issuance of a package of information to each prospective investor, and verification that it has been completed prior to accepting funds from and issuing any security certificates to the investor. The procedure shown in Exhibit 7.3 itemizes the process flow.

Please note that the investor qualification certificate shown in Exhibit 7.4 is only a *portion* of a full certificate, since it does not make reference to several additional types of accredited investors that are not commonly found. Rule 501 of Regulation D itemizes the full range of accredited investors.

Exhibit 7.1 Stock Sale Procedure Under the Regulation A Exemption

Procedure Statement Retrieval No.: TREASURY-13

Subject: Steps required to sell stock under the filing exemption of SEC Regulation A.

1. PURPOSE AND SCOPE

This procedure is used primarily by corporate counsel to verify that the company will not be disqualified under the provisions of the exemption, as well as to file notices with the SEC, collect funds through an escrow account, and authorize the issuance of shares to investors.

2. PROCEDURES**2.1 Disqualification Investigation (Corporate Counsel)**

1. Corporate counsel reviews the disqualification provisions of Regulation A to ascertain if there are any Regulation compliance issues that may prevent the company from using a Regulation A offering.
2. If there are no obvious disqualifying issues at the company level, corporate counsel distributes a questionnaire such as the sample shown in Exhibit 7.2 to the board of directors, officers, shareholders owning at least 10 percent of any class of company securities, and underwriter officers. Counsel subsequently reviews the completed questionnaires to ascertain if the activities of these individuals would disqualify the company.

2.2 Legal Requirements Review (Corporate Counsel)

1. Counsel verifies that there are a sufficient number of authorized shares available to at least match the maximum number of shares to be issued under the offering.
2. Counsel verifies that the board of directors has authorized the issuance of securities under Regulation A.

2.3 SEC Review (SEC and Corporate Counsel)

1. Submit “test the waters” documents, as well as scripts for broadcast releases, to counsel for prior approval. Counsel approves and retains copies of all such documents.
2. Counsel submits the “test the waters” documents to the SEC, and then authorizes their release to the investment community.
3. Counsel determines the final date upon which “test the waters” documents are issued to the investment community, and then authorizes the termination of such distributions.
4. Counsel reviews and approves the preliminary offering circular and submits it to the SEC for qualification, using Form 1-A.
5. Counsel responds to all SEC comment letters relating to the preliminary offering circular.

6. Upon qualification by the SEC, counsel determines the number of days that have passed since the last “test the waters” document delivery or broadcast. Once 20 days have passed, counsel authorizes commencement of a general solicitation.
7. Counsel preapproves and retains a copy of all advertising used as part of the general solicitation.

2.4 Collect Funds (Corporate Counsel and Treasurer)

1. Counsel specifies an escrow cap, so that the Regulation A maximum funding amount is not exceeded.
2. Once all funding is received, the escrow agent wires all funds to the designated corporate account. The treasurer tallies the received funds and sends a summary document to the general ledger accountant for entry in the accounting system.
2. Once funding is completed, counsel creates a security authorization letter for the stock transfer agent, specifying the number of shares to be issued.

2.5 Subsequent SEC Filings (Corporate Counsel)

1. Counsel files Form 2-A every six months following qualification, as well as a final Form 2-A within 30 calendar days following offering termination or the final application of offering proceeds.

Exhibit 7.2 Violations Questionnaire

1. Have you been convicted within ten years prior to the filing of the offering circular of any felony or misdemeanor in connection with the purchase or sale of any security, involving the making of a false filing with the SEC, or arising out of the conduct of the business of an underwriter, broker, dealer, municipal securities dealer, or investment advisor?
2. Are you subject to any order, judgment, or decree of any court, temporarily or permanently restraining you from engaging in any conduct or practice in connection with the purchase or sale of any security involving the making of a false filing with the SEC, or arising out of the conduct of the business of an underwriter, broker, dealer, municipal securities dealer, or investment advisor?
3. Have you been suspended or expelled from membership in, or barred from association with a member of, a national securities exchange for any act or omission to act constituting conduct inconsistent with just and equitable principles of trade?
4. Are you subject to a United States Postal Service false representation order within five years prior to the filing of the offering circular?

Exhibit 7.3 Stock Sale Procedure Under the Regulation D Exemption

Procedure Statement Retrieval No.: TREASURY-14

Subject: Steps required to sell stock under the filing exemption of SEC Regulation D.

1. PURPOSE AND SCOPE

This procedure is used primarily by corporate counsel to file notices with the SEC, prepare subscription agreements and investor qualification certificates, collect funds through an escrow account, and authorize the issuance of shares to investors

2. PROCEDURES

2.1 Legal Requirements Review (Corporate Counsel)

1. Verify that there are a sufficient number of authorized shares available to at least match the maximum number of shares to be issued under the offering.
2. Verify that the board of directors has authorized the issuance of Regulation D securities.

2.2 Document Preparation (Corporate Counsel)

1. Update the subscription agreement with the minimum and maximum amount of funds to be collected, specific terms of the agreement, and wiring instructions for the escrow account.
2. Update the Investor Qualification Certificate (see Exhibit 7.4) with the dates of the last two calendar years, in the block asking whether an individual investor has earned income of at least \$200,000 in each of the last two specified years.
3. Issue the documents to each prospective investor.

2.3 Collect Funds (Corporate Counsel and Treasurer)

1. Upon receipt of the documents, verify with the escrow agent that all funds have been received.
2. Once the minimum amount of funding has been received in the escrow account, authorize the transfer of funds from the escrow agent to the corporate bank account.
3. Once all funding is received, the escrow agent wires all funds to the designated corporate account. The treasurer tallies the received funds and sends a summary document to the general ledger accountant for entry in the accounting system.
4. Create a security authorization letter for the stock transfer agent, specifying the number of shares to be issued, and the restrictive legend to be placed on the back of each certificate.

2.4 Subsequent SEC Filings (Corporate Counsel)

1. Within 15 days of the initial receipt of funds, file a Form D with the SEC. The chief executive officer must manually sign this form prior to filing. Retain the original copy in storage.

Exhibit 7.4 Investor Qualification Certificate**Name of Investor:** _____

This information is being furnished to _____, Inc., to determine whether securities may be issued to the undersigned pursuant to Regulation D of the Securities and Exchange Commission.

The undersigned acknowledges that the Company's evaluation of the information contained herein may preclude the Company's issuance of securities to the undersigned.

The undersigned furnishes to the Company the following representations and information:

1. Please initial in the space provided:

The undersigned has such knowledge and experience in financial and business matters as to be capable of evaluating the merits and risks of the securities. The undersigned has not relied on the advice of any representative or other persons in evaluating the merits and risks of the undersigned's acquisition of the securities.

RNC

The undersigned understands that the securities cannot be transferred or sold unless they are registered under the Securities Act. The undersigned is able to bear the economic risk of the undersigned's prospective investment. In making this statement, consideration has been given to whether the undersigned could afford to hold the securities for an indefinite period and whether, at this time, the undersigned could afford a complete loss of such securities.

RNC

The undersigned's overall commitment to investments which are not readily marketable is not disproportionate to the undersigned's net worth, and the undersigned's prospective investment will not cause such overall commitment to become excessive.

RNC

The undersigned has adequate means of providing for the undersigned's current needs and, if applicable, possible personal contingencies. The undersigned has no need for liquidity of the prospective investment, and has no reason to anticipate any change in the undersigned's circumstances, financial or otherwise, which may cause or require any sale or distribution of the securities.

RNC

The undersigned will hold the securities for the undersigned's own account for investment, and will not hold the securities for the interest of any other person and/or with a view to or for sale in connection with any distribution thereof.

RNC

The undersigned acknowledges that the undersigned has the right to ask questions of and receive answers from the company and to obtain such information concerning the terms and conditions of the securities or about the company as the company possesses or can acquire without unreasonable effort or expense. The undersigned acknowledges that prior to any purchase by the undersigned of any securities, the undersigned will have asked such questions, received such answers and obtained such information as the undersigned deems necessary to evaluate the merits and risks of the securities.

RNC

The undersigned represents to the company that: 1) the information contained in this questionnaire is complete and accurate; 2) the undersigned will notify the company immediately of any material change in any of such information occurring prior to purchase by the undersigned of any securities; and 3) if the undersigned is a corporation, partnership, trust or other entity, the person signing this Certificate on behalf of such entity has been authorized by such entity to do so.

RNC

2. Please check all appropriate spaces:

	Yes	No
The undersigned is an individual whose net worth, or joint net worth with spouse, is in excess of \$1,000,000.	✓	—
The undersigned is an individual whose income is each of 2008 and 2009 was in excess of \$200,000, and the undersigned reasonably anticipates reaching \$200,000 in income in 2010.	✓	—
The undersigned is an individual whose joint income with spouse was in excess of \$300,000 in each of 2008 and 2009, and the undersigned reasonably anticipates reaching \$300,000 in joint income with spouse in 2010.	✓	—

	Yes	No
The undersigned is a director or executive director of the Company or is a person who performs a policy-making function for the Company, or who is in charge of a principal business unit, division, or function of the Company.	_____	√ _____
The undersigned is a trust, with total assets in excess of \$5,000,000, not formed for the specific purpose of acquiring the securities, the purchase of which is directed by a person having such knowledge of financial matters that he is capable of evaluating the merits and risks of the investment.	_____	√ _____
The undersigned is an employee benefit plan, and the investment plan is made by a plan fiduciary, or the plan has total assets in excess of \$5,000,000, or it is a self-directed plan whose investment decisions are made by accredited investors.	_____	√ _____
The undersigned is a bank, savings and loan association, broker-dealer, insurance company, or investment company.	_____	√ _____
3. Please complete the following:		
If the undersigned is a partnership, a corporation or other entity, the undersigned is organized on [date] under the laws of the State of _____, and its principal place of business is located in the State of _____.		
If the undersigned is an individual, the undersigned's residence is located in the State of _____.		
In witness whereof, the undersigned has caused this Investor Qualification Certificate to be executed on _____ [date].		
	By: <i>Richard N. Cladwell</i>	
	Name: Richard N. Cladwell	

SUMMARY

The ability to issue high-quality registration documents to the SEC is the mark of a well-run company. It requires excellent knowledge of SEC regulations, as well as the support and direction of experienced company counsel. However, even those companies with such expertise prefer to escalate their filings from a Form S-1 to a Form S-3, simply to avoid the drudgery of preparing and defending the S-1. A filing under Regulation A involves less paperwork, but the amount of funds raised under it is quite limited, and there are a number of compliance issues to monitor. Where possible, the simplest alternative of all is a Regulation D offering, in which securities are only offered to accredited investors. The treasurer is heavily involved in stock sales, and so should be familiar with all forms of registration and related exemptions, as well as the controls and procedures needed to complete stock sales under each one.

8

Investment Management

Surplus funds not needed for either operating purposes or compensating bank balances are available for investment. Prudent use of these funds can add to income, though the treasurer must consider a range of investment criteria, types of investments, and investment strategies before selecting the appropriate investment vehicle. This chapter describes these issues, as well as the accounting, controls, policies, and procedures required for an ongoing investment program.

INVESTMENT CRITERIA

When considering various forms of cash investment, the treasurer should first consider the *safety of the principal* being invested. It would not do to invest company funds in a risky investment in order to earn extraordinarily high returns if there is a chance that any portion of the principal will be lost. Accordingly, a company policy should limit investments to a specific set of low-risk investment types. Also, some consideration should be given to the *maturity* and *marketability* of an investment. For example, if an investment in a block of apartment houses appears to generate a reasonably risk-free return and a good rate of return, it is still a poor investment from a cash management perspective, because the investment probably cannot be converted to cash on short notice. Accordingly, it is best to only make investments where there is a robust market available for their immediate resale. The final consideration when making an investment is its *yield*—and this is truly the last consideration after the previous items have already been reviewed. Within the boundaries of appropriate levels of risk, maturity, and marketability, the treasurer can then pick the investment with the highest yield. Since these criteria tend to limit one to very low-risk investments, the yield will also likely be quite low.

The investment criteria for a company that finds itself in a rapid growth situation are more circumscribed. It typically burns through its cash reserves quite rapidly, so the liquidity of its investments must be extremely high in order to allow rapid access to it. Unfortunately, high liquidity is commonly associated with low investment returns, so the treasurer is forced to invest in low-yield investments. In addition, the company cannot run the risk of loss on its investments, because it is critically important to keep cash available to feed the company's growth engine. Since risk is also associated with return, the treasurer must, once again, favor low-yield investments for minimal risk.

INVESTMENT OPTIONS

Within the investment boundaries just noted, there are a number of investment options available. Here are the most common ones that have low risk levels, short maturity dates, and high levels of marketability:

- *Bankers' acceptances.* Banks sometimes guarantee (or *accept*) corporate debt, usually when they issue a loan to a corporate customer, and then sell the debt to investors. Because of the bank guarantee, they are viewed as obligations of the bank.
- *Bonds near maturity dates.* A corporate bond may not mature for many years, but one can always purchase a bond that is close to its maturity date. There tends to be a minimal risk of loss (or gain) on the principal amount of this investment, since there is a low risk that interest rates will change so much in the short time period left before the maturity date of the bond that it will impact its value. A variation on this type of investment is the municipal bond, for which there is no tax on the interest income; however, in consideration of this reduced liability, its yield also tends to be somewhat lower than on other types of bonds.
- *Certificate of deposit (CD).* These certificates are essentially term bank deposits, typically having durations of up to two years. They usually pay a fixed interest rate upon maturity, though some variable-rate CDs are available. There is a perception that they are more secure than commercial paper, since CDs are issued by banks, which are more closely regulated than companies. There is up to \$100,000 of Federal Deposit Insurance Corporation (FDIC) insurance coverage of this investment. The secondary market for CDs can vary and calls for some review prior to making an investment. A more restrictive CD may require an early-withdrawal penalty.
- *Commercial paper.* Larger corporations issue short-term notes that carry higher yields than on government debt issuances. There is also

an active secondary market for them, so there is usually no problem with liquidity. Commercial paper is generally not secured; however, staying with the commercial paper issued by “blue chip” organizations minimizes the risk of default. Most commercial paper matures in 30 days or less, and rarely matures in greater than 270 days, in order to avoid the registration requirements of the Securities and Exchange Commission (SEC). Commercial paper is issued at a discount, with the face value being paid at maturity.

- *Money market fund.* This is a package of government instruments, usually composed of Treasury bills, notes, and bonds, that is assembled by a fund management company. The investment is highly liquid, with many investors putting in funds for as little as a day. There are varying levels of risk between different money market funds, since some funds are more active in trying to outperform the market (with an attendant increase in risk).
- *Repurchase agreement.* This is a package of securities (frequently government debt) that an investor buys from a financial institution, under the agreement that the institution will buy it back at a specific price on a specific date. It is most commonly used for the overnight investment of excess cash from a company’s cash concentration account, which can be automatically handled by the company’s primary bank. The typical interest rate earned on this investment is equal to or less than the money market rate, since the financial institution takes a transaction fee that cuts into the rate earned.
- *U.S. Treasury issuances.* The United States government issues a variety of notes with maturity dates that range from less than a year (U.S. Treasury certificates) through several years (notes) to more than five years (bonds). The wide range of maturity dates gives one a broad range of investment options. Also, there is a strong secondary market for these issuances, so they can be liquidated in short order. U.S. government debts of all types are considered to be risk free, and so have lower yields than other forms of investment. At times, the demand for these issuances has been so strong that yields have been essentially zero.

The summary table in Exhibit 8.1 shows the key features of each of the above types of investments.

When any of the preceding investments are initially issued to an investor or dealer, this is considered a *primary market transaction*. It is quite likely that many of these investments will be subsequently resold to a series of investors, depending on the duration of the investment. These subsequent transactions are considered to be trading in the *secondary market*.

Exhibit 8.1 Investment Comparison

Investment Type	Maturity	Issued By	Interest Rate	Interest Paid	Secured	Capital Access Prior to Maturity
Bankers' acceptances	Less than 1 year	Banks	Fixed	Discount to face value	Yes	Secondary market available
Bonds near maturity date	Multiyear	Corporations and governments	Fixed	Coupon	No	Secondary market available
Certificates of deposit	1 day to 2 years	Banks	Mostly fixed, variable available	On maturity	FDIC only	Secondary market available
Commercial paper	Overnight to 270 days	Corporations	Mostly fixed	Discount to face value	No	Secondary market available
Money market fund	Weighted average of 90 days or less	Assemblage of federal government issuances	Variable	Periodic	No	Secondary market available
Repurchase agreement	Negotiable	Corporations and banks	Negotiable	On maturity	Yes	Negotiable
U.S. Treasury issuances	Varies	Federal government	Fixed	On maturity	No	Secondary market available

Many of the secondary market transactions pass through the hands of dealers, who add a small markup to the price of each investment that they then sell to an investor. However, it is possible to deal directly with the United States Treasury to buy government debt. The government has set up the www.publicdebt.treas.gov web site. A company can use the site to create a TreasuryDirect account for making electronic purchases of debt. Though the intent of the site is to sell debt that is held to maturity, one can request a debt sale through the Federal Reserve Bank of Chicago via the Treasury's Sell Direct system; the government will then sell one's debt investments on the open market in exchange for a small fee per security sold. The usual investment will be in Treasury bills, since they have the shortest term to maturity and can therefore liquidate prior to any need for a commissionable sale to a broker or reseller. More information about this service is available by downloading the Treasury Direct Investor Kit from the aforementioned web site.

INVESTMENT STRATEGIES

The treasurer should develop a standard methodology for investing funds. This goes beyond the selection of a type of investment, and enters the realm of strategies that can range from being passive (and requiring no attention) to those that are quite active and call for continuing decision making. This section describes a range of possible investment strategies.

At the most minimal level of investment strategy, the treasurer can do nothing and leave idle balances in the corporate bank accounts. This is essentially an *earnings credit strategy*, since the bank uses the earnings from these idle balances to offset its service fees. If a company has minimal cash balances, then this is not an entirely bad strategy—the earnings credit can be the equivalent of a modest rate of return, and if there is not enough cash to plan for more substantive investments, leaving the cash alone is a reasonable alternative.

A *matching strategy* simply matches the maturity date of an investment to the cash flow availability dates listed on the cash forecast. For example, ABC Company's cash forecast indicates that \$80,000 will be available for investment immediately, but must be used in two months for a capital project. The treasurer can invest the funds in a two-month instrument, such that its maturity date is just prior to when the funds will be needed. This is a very simple investment strategy that is more concerned with short-term liquidity than return on investment, and is most commonly used by firms having minimal excess cash.

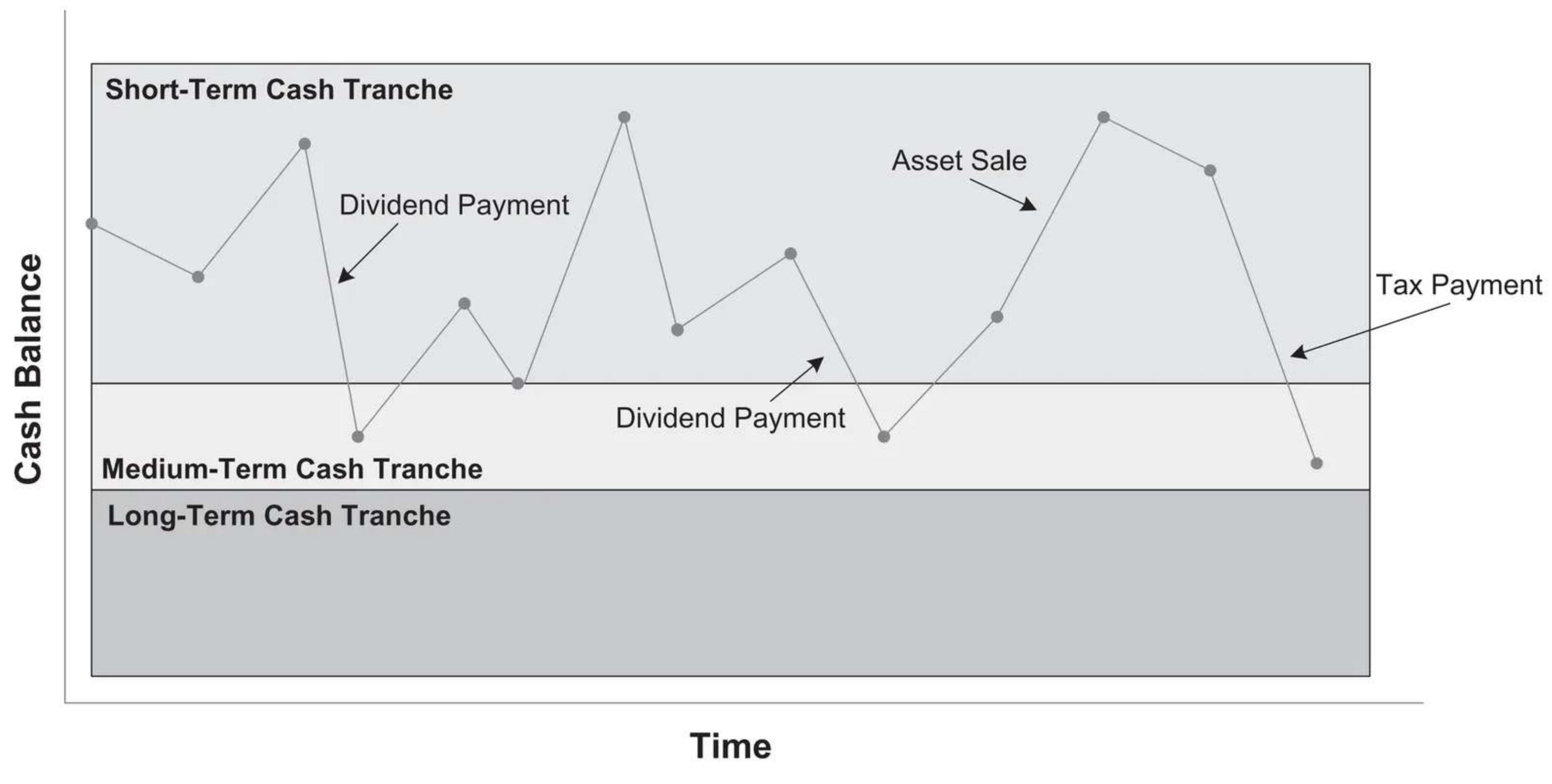
A *laddering strategy* involves creating a set of investments that have a series of consecutive maturity dates. For example, ABC Company's cash forecast indicates that \$150,000 of excess cash will be available for the foreseeable future, and its investment policy forbids any investments having a

duration of greater than three months. The treasurer could invest the entire amount in a three-month instrument, since this takes advantage of the presumably somewhat higher interest rates that are available on longer-term investments. However, there is always a risk that some portion of the cash will be needed sooner. In order to keep the investment more liquid while still taking advantage of the higher interest rates available through longer-term investments, the treasurer breaks the available cash into thirds, and invests \$50,000 in a one-month instrument, another \$50,000 in a two-month instrument, and the final \$50,000 in a three-month instrument. As each investment matures, the treasurer reinvests it into a three-month instrument. By doing so, ABC always has \$50,000 of the invested amount coming due within one month or less. This improves liquidity, while still taking advantage of longer-term interest rates.

A *tranches cash flow strategy* requires the treasurer to determine what cash is available for short, medium, and long-term investment, and to then adopt different investment criteria for each of these investment tranches. The exact investment criteria will vary based on a company's individual needs, but here is a sample of how the tranches might be arranged:

- The short-term tranche is treated as cash that may be needed for operational requirements on a moment's notice. This means that cash flows into and out of this tranche can be strongly positive or negative. Thus, return on investment is not a key criterion—instead, the treasurer focuses on very high levels of liquidity. The return should be the lowest of the three tranches, but should also be relatively steady.
- The medium-term tranche includes cash that may be required for use within the next 3 to 12 months, and usually only for highly predictable events, such as periodic tax or dividend payments, or capital expenditures that can be planned well in advance. Given the much higher level of predictability in this tranche, the treasurer can accept longer-term maturities with moderate levels of volatility that have somewhat higher returns on investment.
- The long-term tranche includes cash for which there is no planned operational use, and which the treasurer feels can be safely invested for at least one year. The priority for this tranche shifts more in favor of a higher return on investment, with an attendant potential for higher levels of volatility and perhaps short-term capital loss, with a reduction in the level of liquidity.

Portrayed graphically, the tranches would appear as noted in Exhibit 8.2. The corporate cash balance should rarely decline into the long-term tranche, with occasional forays into the medium-term tranche, while the cash level will vary considerably within the short-term tranche.

Exhibit 8.2 Investments by Cash Flow Tranches

An example of the numerical result of a tranched cashflow strategy is shown in Exhibit 8.3, which assumes a baseline return to be the return on one-month Treasuries, with a target of increased basis points (BPs) above that standard for the medium-term and long-term tranches.

To engage in the tranched cash flow strategy, the treasurer should regularly review the cash forecast, and adjust the amounts of cash needed in each of the three tranches. Inattention to these adjustments could result in an unanticipated cash requirement when the cash in the company's long-term tranche is tied up in excessively long-term, illiquid investments.

The preceding strategies were mechanical; the treasurer analyzes cash flows and engages in investments based on cash availability. The next two strategies are more speculative, since the treasurer is guessing at the possible direction of future yields.

Riding the yield curve is a strategy of buying longer-term securities and selling them prior to their maturity dates. This strategy works when interest rates on short-term securities are lower than the rates on longer-term securities, which is normally the case. An example of an upward-sloping yield curve is shown in Exhibit 8.4, which is based on the Constant Maturity Treasury rates in May 2009. In such an environment, the longer-term securities with their higher interest rates that are held by the company will increase in value over time. For example, ABC Company has \$75,000 of cash available for investment for a three-month period of time. The treasurer invests in a six-month security and sells it after three months, achieving a higher-than-usual rate of return. However, if the yield curve had changed during the interim, so that short-term rates were higher than long-term rates, then

Exhibit 8.3 Returns from Tranched Cash Flow Strategy

	Baseline Return	+	Additional Basis Points	Percent of Portfolio	Return Enhancement
Short-term tranche	1-month Treasuries	+	0	50%	0 BPs
Medium- term tranche	1-month Treasuries	+	15	40%	+6 BPs
Long-term tranche	1-month Treasuries	+	60	10%	+6 BPs
Total Incremental Return					<u>+12 BPs</u>

the treasurer would have sold the security and earned a below-market return on the investment.

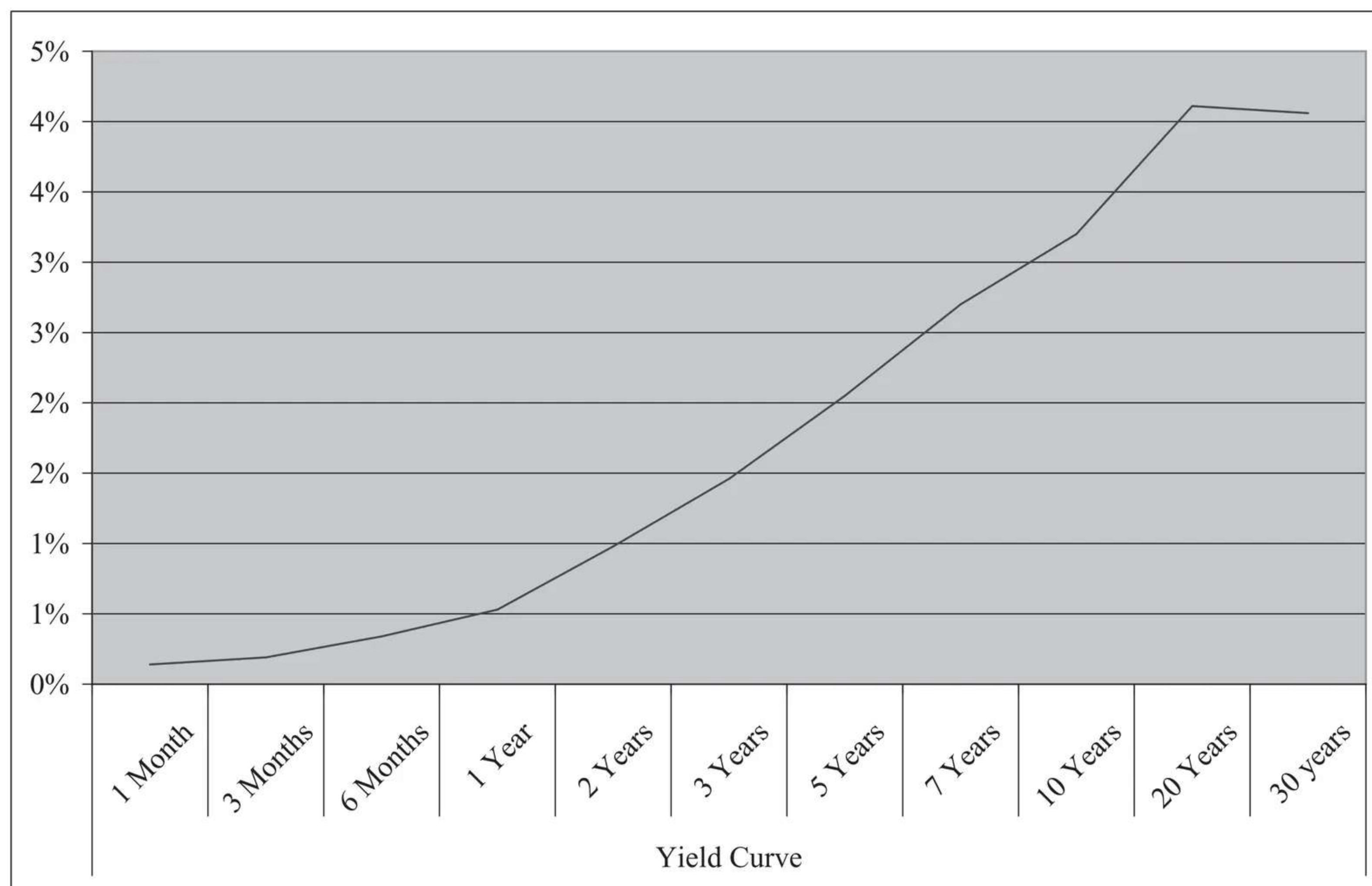
Under a *credit-rating strategy*, the treasurer buys the debt of a company that may be on the verge of having its credit rating upgraded. By doing so, the investment ends up earning a higher interest rate than would other investments with a comparable credit rating. This strategy works best when the treasurer is very familiar with the debt issuer and has some confidence in his credit assessment. However, the company's stated investment policy may prevent the treasurer from buying debt below a fairly high credit rating, which eliminates this strategy from consideration. Also, it is difficult to time a possible credit-rating upgrade to be within the term of an investment. And finally, delving into lower-grade debt increases the risk of an outright default on payments by the debtor.

For all of the investment strategies noted here, the treasurer must closely monitor the credit rating of the debt issuer. A credit downgrade can result in a substantially lower return to the company if the treasurer needs to sell the debt prior to its maturity date.

The strategies outlined here involve a broad range of ongoing investment activities; the more active ones call for additional staffing that a treasury department may not have available. If so, outsourcing investment management, as noted in the next section, may be a viable alternative.

OUTSOURCED INVESTMENT MANAGEMENT

A treasurer may conclude that investment management is not a core competency, or have little funding for a professional in-house investment staff. If so, it is possible to shift cash into a separate account that is managed by outside investment advisors. Under this arrangement, the outside firm invests the cash under the terms of a customized investment agreement with the company. The company can choose from a variety of possible investment strategies, as well as restrict investments to certain classes of assets.

Exhibit 8.4 Upward Sloping Yield Curve

This approach gives the company access to an experienced group of investment managers that presumably uses strong systems of control when initiating and tracking transactions. The fees a company incurs through an outsourcing arrangement can be quite competitive in comparison to the cost of maintaining a similarly experienced in-house staff.

RISK-REDUCTION STRATEGIES

A simple risk-reduction strategy is to avoid investments in the securities of any single entity, in favor of investments solely in one or more money market funds. These funds provide instant diversification across a multitude of issuers, with the attendant risk being constantly reviewed by a staff of risk management professionals. The use of money market funds is especially cost-effective for smaller treasury departments that cannot afford the services of an in-house investment manager.

The FDIC insures a bank customer's deposits at the bank against the failure of the bank, up to a maximum reimbursement of \$100,000; types of deposits covered by the insurance include certificates of deposit, checking accounts, and money market accounts. This protection is minimal for the deposits of all but the smallest companies; however, it is possible to place a much larger amount of funds with the Certificate of Deposit Account Registry Service (located at www.cdars.com), which maintains the FDIC coverage on

up to \$50 million of deposits. It achieves this coverage by splitting larger deposits into amounts of just under \$100,000, and spreading the deposits over a network of more than 2,000 banks. Under this system, customers select a single bank in the network as their primary bank, which in turn issues them a statement listing each holding. There is no depositor fee for this service, though the network banks pay CDARS to be listed in the network. A possible risk with CDARS is that, if the primary bank were to fail, a depositor's funds could be tied up by the FDIC during its recovery period. Of course, a treasurer could simply shop for a large number of CDs with different banks, and manually track the investments, but the CDARS system is simpler to administer.

In order to invest funds, cash must be physically shifted out of a company's cash concentration account (see Chapter 4) and into the investment. This physical shift is required by the Federal Reserve's Regulation Q, which prohibits banks from paying interest on demand deposits. A common method to circumvent this restriction is to create a *sweep account*, where funds are automatically swept out of the concentration account at the end of each business day and moved into an interest-earning account. The interest earned is less than what may be available from other investments, since the bank charges a sweeping fee. However, a sweep is still a good option for smaller amounts of cash that would not otherwise be actively managed.

The overnight sweep can be set up as a *one-to-one sweep*, where the company's funds are used to buy a specific asset. An alternative is for the bank to pool funds from multiple customers and buy an asset in the bank's name, which it liquidates in the morning and apportions back to its customers. This is called a *one-to-many sweep*. The one-to-one sweep is safer for the company if its bank enters bankruptcy, since the asset was purchased in the company's name, and the company therefore has title to the asset. The one-to-many sweep is more risky in the event of a bankruptcy, since the asset was purchased in the name of the bank, which leaves the company having a claim to the asset, along with all other creditors.

This section noted three risk-reduction strategies. Using the inherent diversification of money market funds is the simplest means for reducing risk. Setting up a CDARS account can greatly improve the amount of FDIC insurance coverage of a company's investments, while the use of one-to-one sweeps provides extra protection in the event of a bank's bankruptcy.

ACCOUNTING FOR INVESTMENTS

A company will normally invest in *marketable securities*, so that it can more easily liquidate its investments. Marketable securities are investments that can be easily liquidated through an organized exchange, such as the New York Stock Exchange. For accounting purposes, marketable securities must be grouped into one of the following three categories at the time of purchase

and reevaluated periodically to see if they still belong in the designated categories:

1. *Available for sale.* This category includes both debt and equity securities. It contains those securities that do not readily fall into either of the following two categories. These securities are reported on the balance sheet at their fair value, while unrealized gains and losses are charged to an equity account and reported in other comprehensive income in the current period. The balance in the equity account is only eliminated upon sale of the underlying securities. If a permanent reduction in the value of an individual security occurs, the unrealized loss is charged against earnings, resulting in a new and lower cost basis in the remaining investment. Any subsequent increase in the value of such an investment above the new cost basis cannot be formally recognized in earnings until the related security is sold, and so the interim gains will be temporarily “parked” in the unrealized gains account in the equity section of the balance sheet.

All interest, realized gains or losses, and debt amortization are recognized within the continuing operations section of the income statement. The listing of these securities on the balance sheet under either current or long-term assets is dependent upon their ability to be liquidated in the short term and to be available for disposition within that time frame, unencumbered by any obligations.

2. *Held to maturity.* This category includes only debt securities for which the company has both the intent and ability to hold them until their time of maturity. Their amortized cost is recorded on the balance sheet. These securities are likely to be listed on the balance sheet as long-term assets.

If marketable securities are shifted into the held-to-maturity category from debt securities in the available-for-sale category, their unrealized holding gain or loss should continue to be stored in the equity section, while being gradually amortized down to zero over the remaining life of each security.

3. *Trading securities.* This category includes both debt and equity securities that the company intends to sell in the short term for a profit. They are recorded on the balance sheet at their fair value. This type of marketable security is always positioned in the balance sheet as a current asset.

No matter how an investment is categorized, a material decline in its fair value subsequent to the balance sheet date but prior to the release of the financial statements should be disclosed. Further, clear evidence of permanent impairment in the value of available-for-sale securities prior to the release date of the financial statements is grounds for restatement to recognize permanent impairment of the investment.

Example*Available-for-Sale Transactions*

The Arabian Knights Security Company has purchased \$100,000 of equity securities, which it does not intend to sell in the short term for profit, and therefore designates as available for sale. Its initial entry to record the transaction is as follows:

	Debit	Credit
Investments—available for sale	\$100,000	
Cash		\$100,000

After a month, the fair market value of the securities drops by \$15,000, but management considers the loss to be a temporary decline, and so does not record a loss in current earnings. However, it must still alter the value of the investment on the balance sheet to show its fair value, and report the loss in Other Comprehensive Income, which requires the following entry:

	Debit	Credit
Unrealized loss on security investment (reported in Other Comprehensive Income)	\$15,000	
Investments—available for sale		\$15,000

Management then obtains additional information indicating that the loss is likely to be a permanent one, so it then recognizes the loss with the following entry:

	Debit	Credit
Loss on equity securities	\$15,000	
Unrealized loss on security investment (reported in Other Comprehensive Income)		\$15,000

Another month passes by and the fair value of the investment rises by \$3,500. Since this gain exceeds the value of the newly written-down investment, management cannot recognize it, even though the new value of the investment would still be less than its original amount. Instead, the following entry is used to adjust the investment value on the balance sheet:

	Debit	Credit
Investments—available for sale	\$3,500	
Unrealized gain on security investment (recorded in Other Comprehensive Income)		\$3,500

Example***Trading Transactions***

The Arabian Knights Security Company purchases \$50,000 of equity securities that it intends to trade for a profit in the short term. Given its intentions, these securities are added to the corporate portfolio of trading securities with the following entry:

	Debit	Credit
Investments—held for trading	\$50,000	
Cash		\$50,000

After two months, the fair value of these trading securities declines by \$3,500. The company recognizes the change in current earnings with the following entry:

	Debit	Credit
Loss on security investment	\$3,500	
Investments—held for trading		\$3,500

Later in the year, the fair value of the securities experiences a sudden surge, resulting in a value increase of \$5,750. The company records the change with the following entry:

	Debit	Credit
Investments—held for trading	\$5,750	
Gain on security investments		\$5,750

Transfers between Available-for-Sale and Trading Investments

An investment designated as a trading security can be shifted into the available for sale portfolio of investments with no recognition of a gain or loss on the value of the investment, since this type of investment should have been adjusted to its fair value in each reporting period already. If a gain or loss has arisen since the last adjustment to fair value, this amount should be recognized at the time of the designation change.

If an investment designated as an available-for-sale security is shifted into the trading portfolio of investments, any gain or loss required to immediately adjust its value to fair value should be made at once. This entry should include an adjustment from any prior write-down in value that may have occurred when securities were classified as available for sale.

Example*Transfer from the Trading Portfolio to the Available-for-Sale Portfolio*

The Arabian Knights Security Company owns \$17,500 of equity securities that it had originally intended to sell for a profit in the short term, and so had classified the investment in its trading portfolio. Its intent has now changed, and it wishes to hold the securities for a considerably longer period, so it must shift the securities into the available-for-sale account. It had marked the securities to market one month previously, but now the securities have lost \$350 of value. The company records the following entry to reclassify the security and recognize the additional loss:

	Debit	Credit
Investments—available for sale	\$17,150	
Loss on equity securities	350	
Investments—held for trading		\$17,500

Example*Transfer from the Available-for-Sale Portfolio to the Trading Portfolio*

The Arabian Knights Security Company finds that it must liquidate \$250,000 of its available-for-sale portfolio in the short term. This investment had previously been marked down to \$250,000 from an initial investment value of \$275,000, and its value has since risen by \$12,000. The incremental gain must now be recognized in current income. The entry is as follows:

	Debit	Credit
Investments—held for trading	\$262,000	
Investments—available for sale		\$250,000
Gain on security investments		12,000

Accounting for Investments in Debt Securities

A debt security can be classified as either held for trading or available for sale (as previously defined for equity securities), or as held to maturity. The held-to-maturity portfolio is intended for any debt securities for which a company has the intent and ability to retain the security for its full term until maturity is reached. An investment held in the held-to-maturity portfolio is recorded at its historical cost, which is not changed at any time during the holding period, unless it is shifted into a different investment

portfolio. The only exceptions to this rule are (1) the periodic amortization of any discount or premium from the face value of a debt instrument, depending on the initial purchase price; and (2) clear evidence of a permanent reduction in the value of the investment.

Example

Held-to-maturity transactions

The Arabian Knights Security Company purchases \$82,000 of debt securities at face value. The company has both the intent and ability to hold the securities to maturity. Given its intentions, these securities are added to the corporate portfolio of held-to-maturity securities with the following entry:

	Debit	Credit
Investment in debt securities—held to maturity	\$82,000	
Cash		\$82,000

The fair value of the investment subsequently declines by \$11,000. There is no entry to be made, since the investment is recorded at its historical cost. However, the company receives additional information that the debt issuer has filed for bankruptcy and intends to repay debtholders at 50 cents on the dollar. Since management considers this to be a permanent reduction, a charge of \$41,000 is recorded in current income with the following entry:

	Debit	Credit
Loss on debt investment	\$41,000	
Investment in debt securities—held to maturity		\$41,000

The company subsequently learns that the debt issuer is instead able to pay 75 cents on the dollar. This increase in value of \$20,500 is not recorded in a journal entry, since it is a recovery of value, but is instead recorded in a footnote accompanying the financial statements.

Transfers of Debt Securities among Portfolios

The accounting for transfers between debt securities portfolios varies based on the portfolio from which the accounts are being shifted, with the basic principle being that transfers are recorded at the fair market value of the security on the date of the transfer. The treatment of gains or losses on all possible transfers is noted in Exhibit 8.5.

Exhibit 8.5 Accounting Treatment of Debt Transfers between Portfolios

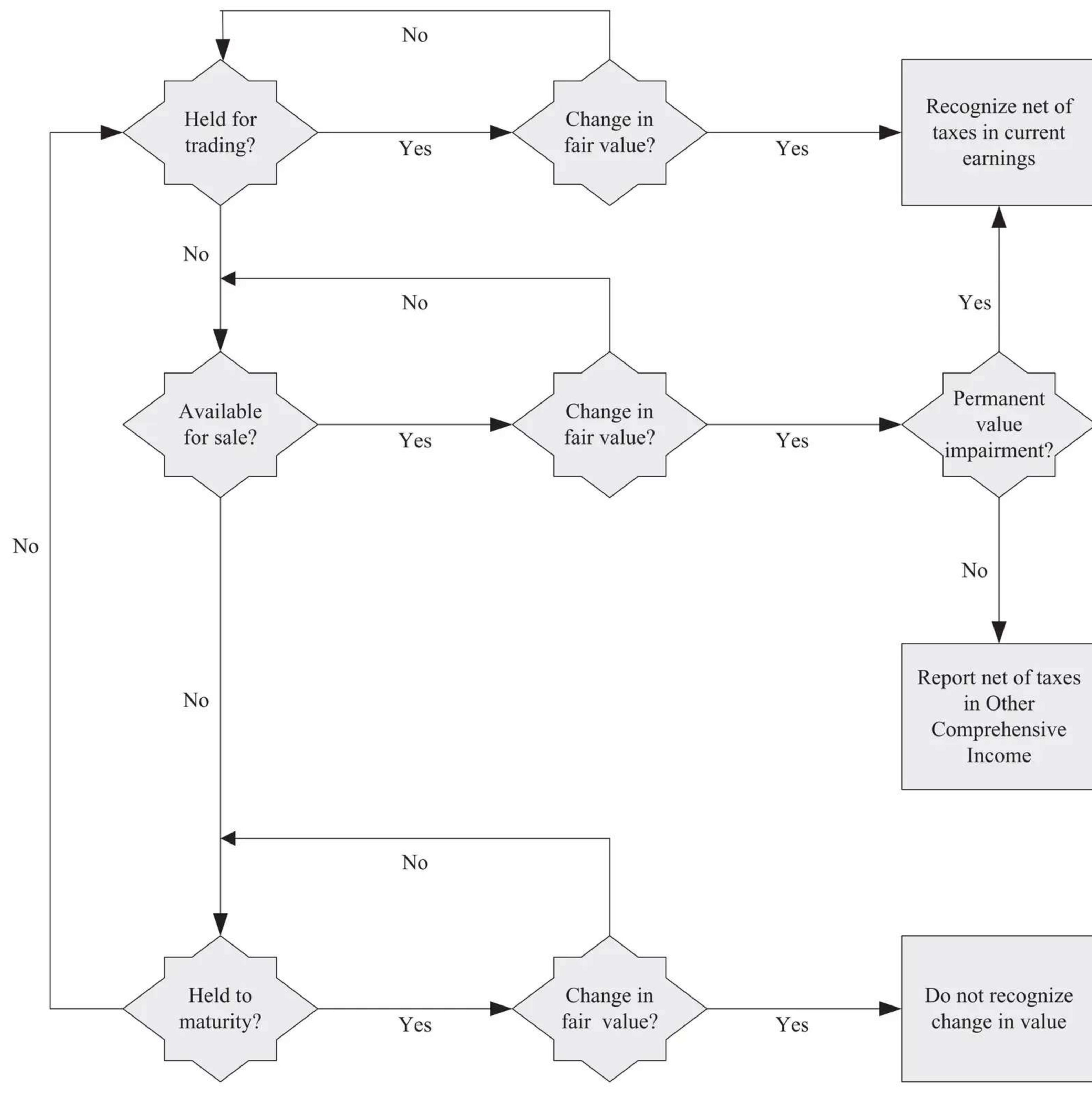
“From” Portfolio	“To” Portfolio	Accounting Treatment
Trading	Available for sale	No entry (assumes gains and losses have already been recorded)
Trading	Held to maturity	No entry (assumes gains and losses have already been recorded)
Available for sale	Trading	Shift any previously recorded gain or loss shown in Other Comprehensive Income to operating income.
Available for sale	Held to maturity	Amortize to income over the remaining period to debt maturity any previously recorded gain or loss shown in Other Comprehensive Income, using the effective interest method.
Held to maturity	Trading	Record the unrealized gain or loss in operating income.
Held to maturity	Available for sale	Record the unrealized gain or loss in the Other Comprehensive Income section of the income statement.

The offsetting entry for any gain or loss reported in the Other Comprehensive Income section of the income statement goes to a contra account, which is used to offset the investment account on the balance sheet, thereby revealing the extent of changes in the trading securities from their purchased cost.

The flowchart shown in Exhibit 8.6 shows the decision tree for how gains and losses are handled for different types of securities portfolios. The decision flow begins in the upper left corner. For example, if a security is designated as available-for-sale and there is a change in its fair value, then the decision tree moves to the right, asking if there is a permanent value impairment. If so, the proper treatment matches that of a loss for a held-for-trading security; if not, the proper treatment is listed as being reported in the Other Comprehensive Income section of the income statement.

Recognition of Deferred Tax Effects on Changes in Investment Valuations

A deferred tax benefit or tax liability should be recognized alongside the recognition of any change in the fair value of an investment listed in either a trading or available-for-sale portfolio or of a permanent decline in the value of a debt security being held to maturity. The tax impact varies by investment type, and is noted as follows:

Exhibit 8.6 Accounting for Gains or Losses on Securities

- *Gains or losses on the trading portfolio.* The deferred tax effect is recognized in the income statement. If there is a loss in value, then debit the deferred tax benefit account and credit the provision for income taxes account. If there is a gain in value, then debit the provision for income taxes account and credit the deferred tax liability account.
- *Gains or losses on the available-for-sale portfolio.* The same treatment as noted for gains or losses on the trading portfolio, except that taxes are noted in the Other Comprehensive Income section of the income statement.

- *Gains or losses on the held-to-maturity portfolio.* There is no tax recognition if changes in value are considered to be temporary in nature. If there is a permanent reduction in value, the treatment is identical to the treatment of losses in the trading portfolio, as just noted.

INVESTMENT JOURNAL ENTRIES

This section contains all of the journal entries that should be needed to account for investments, including the acquisition of an investment, recognition of any gains or losses, and transfers of the investments among various investment categories.

Accounting for Marketable Equity Securities

Initial investment designated as held for trading: To record an investment that management intends to trade for a profit in the short term.

	Debit	Credit
Investment in equity securities—held for trading	••	
Cash		••

Initial investment designated as available for sale: To record an investment that management intends to hold as a long-term investment.

	Debit	Credit
Investment in equity securities—available for sale	••	
Cash		••

Gain or loss on investment designated as held for trading: The first entry shows the immediate recognition in the current period of a loss due to a drop in the value of an investment designated as a trading security, as well as the related tax effect. The second entry shows the immediate recognition in the current period of a gain due to an increase in the value of an investment designated as a trading security, as well as the related tax effect.

	Debit	Credit
Loss on equity security investment	••	
Deferred tax benefit	••	
Investment in equity securities—held for trading		••
Provision for income taxes		••

	Debit	Credit
Investment in equity securities—held for trading	••	
Provision for income taxes	••	
Gain on equity security investments		••
Deferred tax liability		••

Gain or loss on investment designated as available-for-sale: The first entry shows an unrealized loss in the other comprehensive income account on an investment designated as available for sale, as well as the related tax effect. The second entry shows an unrealized gain in the other comprehensive income account on an investment designated as available for sale, as well as the related tax effect. In both cases, the tax effect is netted against the investment account, rather than a provision for income taxes account).

	Debit	Credit
Unrealized loss on equity security investment	••	
Deferred tax benefit	••	
Investments in equity securities—available for sale		••
Investment in equity securities—available for sale	••	
Unrealized gain on equity security investment		••
Deferred tax liability		••

Impairment in value of equity investments classified as available-for-sale: When a drop in the value of an available-for-sale investment is judged to be other than temporary, the first journal entry should be used to recognize the drop in value. The entry includes the initial recognition of a related income tax benefit on the transaction. If one had previously recognized an income tax benefit associated with the loss but prior to its classification as a permanent decline in value, the offset to the deferred tax benefit would have been the investment account itself. If so, shift the offset from the investment account to an income tax liability account, as shown in the second journal entry.

	Debit	Credit
Loss on equity securities	••	
Deferred tax benefit	••	
Unrealized loss on available-for-sale securities		••
Provision for income taxes		••
Loss on equity securities	••	
Unrealized loss on available-for-sale securities		••
Provision for income taxes		••

Transfers of Equity Securities between Available-for-Sale and Trading Portfolios

Shift investment designation from a trading security to an available-for-sale security: To shift the designation of a security currently recorded as a trading security to that of an available-for-sale security. The journal entry includes provisions for the recognition of any gains or losses on the fair value of the securities transferred since they were last marked to market.

	Debit	Credit
Investments—available for sale	••	
Loss on equity securities	••	
Investments—held for trading		••
Gain on equity securities		••

Shift investment designation from an available-for-sale security to a trading security: To shift the designation of a security currently recorded as an available-for-sale security to that of a trading security, which requires the recognition of all unrealized gains or losses. The first entry assumes the recognition of unrealized losses on securities, while the second entry assumes the recognition of unrealized gains.

	Debit	Credit
Investments—held for trading	••	
Loss on equity securities	••	
Investments—available for sale		••
Unrealized loss on available for sale securities		••
Investments—held for trading	••	
Unrealized gain on available-for-sale securities	••	
Investments—available-for-sale		••
Gain on equity securities		••

Accounting for Investments in Debt Securities

Initial investment designated as held for trading: To record an investment in debt securities that management intends to trade for a profit in the short term.

	Debit	Credit
Investment in debt securities—held for trading	••	
Cash		••

Initial investment designated as available-for-sale: To record an investment in debt securities that management intends to hold as a long-term investment.

	Debit	Credit
Investment in debt securities— available for sale	••	
Cash		••

Initial investment designated as held-to-maturity: To record an investment in debt securities that management has the intent and ability to hold to the debt maturity date.

	Debit	Credit
Investment in debt securities— held to maturity	••	
Cash		••

Gain or loss on debt investment designated as held for trading: The first journal entry records the immediate recognition in the current period of a loss due to a drop in the value of a debt investment designated as a trading security. The second journal entry records the immediate recognition of a gain due to an increase in the value of a debt investment designated as a trading security.

	Debit	Credit
Loss on debt security investment	••	
Investment in debt securities— held for trading		••
Investment in debt securities— held for trading	••	
Gain on debt securities—held for trading		••

Gain or loss on debt investment designated as available for sale: The first journal entry records the immediate recognition in the current period of a loss due to a drop in the value of a debt investment designated as an available-for-sale security, which is reported in the Other Comprehensive Income section of the income statement. The second journal entry records the immediate recognition of a gain due to an increase in the value of a debt investment designated as an available-for-sale security.

	Debit	Credit
Unrealized loss on debt security investment	••	
Deferred tax benefit	••	
Investments in debt securities— available for sale		••
Investment in debt securities— available for sale	••	

	Debit	Credit
Unrealized gain on debt security investment		..
Deferred tax liability		..

Impairment in value of debt investments classified as held to maturity: To record a loss on a held to maturity debt investment, which only occurs when management considers a drop in value to be permanent in nature.

	Debit	Credit
Loss on debt investment		..
Investment in debt securities—held to maturity	..	

Transfers of Debt Securities among Portfolios

Shift investment designation from the available-for-sale debt security portfolio to the trading debt security portfolio: Any debt security shifted from the available-for-sale portfolio to the trading portfolio must be recorded at its fair market value on the date of the transfer. The first journal entry records the recognition of a loss on the transfer date, while the second entry records a gain.

	Debit	Credit
Investment in debt securities—held for trading	..	
Loss on debt securities	..	
Investment in debt securities—available for sale		..
Unrealized loss on debt securities—available for sale		..
Investment in debt securities—held for trading	..	
Unrealized gain on debt securities—available for sale	..	
Investment in debt securities—available for sale		..
Gain on holding debt securities		..

Shift investment designation from the available-for-sale debt security portfolio to the held-to-maturity debt security portfolio: Any debt security shifted from the available-for-sale portfolio to the held-to-maturity portfolio must be recorded at its fair market value on the date of the transfer. The first journal entry records the recognition of a loss on the transfer date, while the second entry records a gain.

	Debit	Credit
Investment in debt securities— held to maturity	••	
Loss on debt securities	••	
Investment in debt securities— available for sale		••
Unrealized loss on debt securities—available for sale		••
Investment in debt securities— held to maturity	••	
Unrealized gain on debt securities—available for sale	••	
Investment in debt securities— available for sale		••
Gain on holding debt securities		••

Shift investment designation from the held-to-maturity debt security portfolio to the available-for-sale debt security portfolio: To record any accumulated gain or loss on a held-to-maturity debt security being transferred into the available-for-sale portfolio, which is recorded in other comprehensive income. The first entry records a loss on the transaction, while the second entry records a gain.

	Debit	Credit
Investment in debt securities— available for sale	••	
Unrealized loss on holding debt securities	••	
Investment in debt securities— held to maturity		••
Investment in debt securities— —available for sale	••	
Investment in debt securities— held to maturity		••
Unrealized gain on holding debt securities		••

Shift investment designation from the held-to-maturity debt security portfolio to the held-for-trading debt security portfolio: To record any accumulated gain or loss on a held-to-maturity debt security being transferred into the held-for-trading portfolio, which is recorded in earnings. The first entry records a loss on the transaction, while the second entry records a gain. There are no unrealized gains or losses to recognize, since no gains or losses are recognized for held-to-maturity debt investments.