

## CHAPTER 5

### LIQUIDITY MANAGEMENT

#### Objectives

After reading this chapter you will be able to:

- Understand the tools of liquidity management
- Review the major forecasting techniques used by cash managers
- Examine the issues that are important in short-term borrowing and investing
- Identify the elements that influence investment and borrowing rates
- Learn how to compare different instruments and their effective yields or costs

#### Introduction

Seasonal cash flows are a problem facing many of GETDOE's divisions. Over 70% of sales occur during a three-month period. Treasurer Bill Fold is hopeful that reorganization of the cash management department into a centralized unit will uncover excess cash that can be used to even out the liquidity problems of these cyclical businesses. Bill understands that a good forecasting system is necessary to manage liquidity effectively, and asks his cash manager, Ann I. Shade, to review the current system and make recommendations.

Ann's challenge is to institute a new company-wide cash management forecasting system that will:

- Accurately predict expected cash inflows and outflows for all business units
- Be flexible enough to reflect changes in the market or competitive environment
- Provide early identification of expected deficits or surpluses so that reasonable credit terms can be negotiated

Ann is also refining the company's liquidity management guidelines for the new centralized organization. She has suggested that Bill prepare formal policies on short-term investment and borrowing. The document will specify GETDOE's financing objectives, acceptable instruments, maturities, appetite for risk, diversification and acceptable counterparties.

## Liquidity Management

*Liquidity* refers to a company's cash position and its ability to meet obligations when due. A key role of all cash managers in ensuring liquidity is the daily monitoring of working capital and to optimally manage the company's resources by accelerating inflows and controlling outflows. If there is an excess of cash in the daily position, the cash manager has to determine the best use for that surplus. If there is a deficit, the cash manager must find a source of funds. Exhibit 5.1 illustrates the liquidity management cycle.

[Insert Exhibit 5.1 here]

Cash managers control liquidity by ensuring that they have a sufficient reserve of liquid assets or access to borrowing facilities to cover the company's immediate cash requirements. A *liquid asset* is one that can be easily and rapidly converted into cash without loss of value. The goal is to provide a safety net in the event of a shortfall in cash, as well as providing a resource for future acquisitions or capital expenditures.

Solvency and liquidity are different concepts. *Solvency* is an accounting term that refers to the net position of a company's assets minus liabilities. It is possible for a solvent company (i.e. one that has more assets than liabilities on its books) to go bankrupt. It is equally possible for an insolvent company, when protected by the bankruptcy laws that freeze liabilities, to build up liquidity through ongoing operations and the sale of assets.

### Sources and Users of Liquidity

There are three major sources and uses of liquidity. The sources are:

1. Business flows: Cash generated by the business
2. Internal sources: Cash on deposit or invested in liquid instruments
3. External sources: Cash raised from sources such as the Commercial Paper market or from banks

The uses are:

1. Business flows: Outflows generated by the business
2. Internal uses: Investments or purchase of assets
3. External uses: Repayment of debt

A company must have sufficient reserves not only for expected outflows but also for unanticipated shortfalls; for example, a customer payment not being received when expected, or a check being returned for insufficient funds. There are also occasions when a business opportunity arises

unexpectedly, such as an offer of excess inventory at distressed prices. Liquidity allows a company to take advantage of such opportunities.

### Managing Liquidity

The cash manager's task is to determine exactly the right amount of liquidity to maintain given the company's business, operations and cash flow patterns. Too much liquidity results in cash being used inefficiently, which may result in a loss of earnings, also known as opportunity cost. Too little liquidity can have consequences ranging from small to considerable such as:

- Extra fees or interest costs for late payments
- Using more expensive funds transfer methods
- Higher cost of borrowing
- Lost trade discounts
- Lost business opportunities
- Legal fees
- Tarnished business reputation
- Loss of customers
- Bankruptcy and liquidation

Accuracy in cash forecasting will directly impact the cash manager's ability to invest and borrow short-term funds on favorable terms. The best time to invest or borrow funds is early in the morning, when the money markets are active and liquid. Towards the end of the day investment and borrowing opportunities become fewer and rates are less attractive. Cash managers who can predict a shortfall well in advance are more likely to negotiate a line of credit. One of the most expensive forms of funding is last minute, unanticipated borrowing. Controlled disbursement products (discussed in Chapter 4) are specifically designed to provide cash managers with disbursement information early in the day so that any surpluses or shortfalls can be covered or invested when markets are still active.

### Cash Forecasting

Cash forecasting is used to estimate the liquidity position of the company for periods ranging from the current day up to one year. Short-term forecasts (0 - 3months) are used primarily for managing liquidity. Operational forecasts (1 – 12 months) are used for medium term working capital and financing requirements. The long-term forecasts (1 – 5 years) are used for planning strategic financial goals. Forecasting methods used by cash managers are discussed in the sections that follow.

## Cash Budgeting

The simple cash budget, or forecast, combines what is known about expected receipts, e.g., collections from customers, interest, and maturing investments, with expected disbursements, e.g., expected check presentments, payroll, taxes, interest and loan repayments. The result is then adjusted for other factors, including the certainty and reliability of these estimates.

This forecast is done on a daily, weekly or monthly basis and is used to estimate anticipated cash shortfalls or excesses. Many of the bank services described in Chapters 3 and 4 are designed to assist the cash manager in forecasting receipts and disbursements. Exhibit 5.2 illustrates a cash budget. The "funds for investment" and "financing required" are assumed to be settled by the end of each month.

[Insert Exhibit 5.2 here]

## The Distribution Method

With sufficient historical data on patterns of cash flows, the cash manager can prepare a distribution forecast based on day-of-the-week patterns of activity. Some distribution forecasts combine day-of-the-week with day-of-the-month, when there is a predictable pattern of intramonth cash activity. Exhibit 5.3 illustrates a schedule that would be used to predict the clearing of payroll checks. The combined percentages would be applied to the total disbursement to allow the cash manager to anticipate cash outflows.

[Insert Exhibit 5.3 here]

## Cash Modeling

Cash modeling can provide a forecast to be used for a longer-time horizon. Using historical data, it is possible to extrapolate relationships between certain elements of the profit and loss statement and the balance sheet. For example, the revenue associated with sales will have a direct correlation with the cost of goods sold, levels of inventory, payables and receivables. Similarly, the amount and contractual interest rate of a company's debt will determine interest payment obligations.

The cash manager can prepare a projected financial statement based on the company's forecast for elements such as sales, expense levels debt, and dividends for the following year. Exhibit 5.4 illustrates an analysis based on projected levels of activity, including a 15% increase in sales and a reduction in long-term debt. The resulting pro forma statement will indicate whether the forecast for the next year will result in a surplus or

deficit. In the example, the forecast projects a surplus of 59. The treasurer can now make decisions concerning adjustments that need to be made to debt, investments, dividends, inventory levels, and other assets or liabilities for the next year.

[Insert Exhibit 5.4 here]

### Regression Analysis

Regression analysis is a more complex statistical technique, usually performed using a computer. The procedure determines the relationship between the variable being forecast (the dependent variable) and various independent variables. Data concerning the independent elements provides a basis for predicting the value of the variable to be forecast.

For example, a regression analysis of retail sales activity (the dependent variable) may determine that there is a significant correlation with three factors (the independent variables): the day of the week, prices charged, and advertising within the past week. A regression analysis takes the relevant factors into account to forecast daily sales.

### The Choice of Forecasting Method

In considering which forecasting techniques to use, the cash manager has to weigh a number of factors.

- Availability of data. Using information that is readily available makes it possible for the cash manager to produce a timely forecast. Unfortunately, businesses typically do not maintain data in formats that allow access for statistical analysis.
- Reliability of timing. In producing the forecast the cash manager will have to assess the probability of being correct about the timing of cash flows.
  - Assured cash flows; e.g., tax payments, dividends, debt repayments, and maturing investments. These can be forecast with a very high degree of reliability.
  - Reliable cash flows, e.g., collections from credit sales, total hourly payroll, and vendor payments. These can be predicted within an acceptable range of accuracy.
  - Uncertain flows, e.g., foreign currency collections, the outcome of pending lawsuits, and costs of work stoppages. The timing and the value of these flows are extremely difficult to forecast.

- Unanticipated flows, e.g. cash inflows or outflows resulting from totally unexpected circumstances such as a the outbreak of war in an area where the company is doing business, or the opportunity to buy up inventory due to a competitor going out of business

The nature of the flow and past experience will help the cash manager assign a probability factor to individual elements in the forecast.

- Time horizon. The more distant in time the forecast, the less accurate and the less useful it becomes to the cash manager. Five-year forecasts are very rarely revisited after the initial effort, and quickly become outdated unless they are continuously revised. Cash managers need to make sure that the time horizon for their forecast is appropriate for the intended purpose.
- Sensitivity. Things change, and the cash manager must be prepared to review, refine and adjust the forecast frequently in light of internal and external amendments.

### Instruments For Short-Term Investing

Cash managers frequently have temporary short-term surpluses for investment in appropriate vehicles. These surpluses arise from cash flows from the business, variable sales pattern, the sale of assets or investments, and from raising capital or debt. Market conditions will sometimes dictate when a company raises funds, which may be sooner than the anticipated outflow, resulting in a temporary surplus.

The return or yield on an investment is influenced by many factors, but is primarily a reflection of the risk associated with the specific issuer. The market recognizes three broad categories of issuers, listed in order of increasing default risk.

### Government Instruments

- U.S. Treasury securities are considered by the markets to be risk-free as direct obligations of the Treasury, backed by the full faith and credit of the U.S. government. Treasury Bills (T-Bills) are the most liquid due to their credit quality and short-term maturities, ranging from three months to one year. Treasury Notes have maturities from one to ten years. Treasury Bonds are issued for maturities of greater than ten years. T-Bills and Treasury Bonds are available either as fixed rate or inflation-indexed investments.

- Agency securities are also considered to be very low credit risk investments, although only two of them are backed by the full faith and credit of the U.S. government; the Government National Mortgage Association (Ginnie Maes) and the Department of Veterans Affairs (Vinnie Macs). These instruments are generally very liquid and many of them are partially exempt from state and local income taxes. Other agency securities include the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac).
- State and local governments issue municipal obligations. The risk of the instrument depends on the condition of the issuer, the purpose of the debt, and the time to maturity. Most municipal issues are *revenue securities*, backed by the revenue streams and future earnings generated by specific projects such as tolls from roads or rental income from leased facilities, such as a new airport. General obligation securities, which are backed by the full faith and credit of the issuer, are repaid from taxes and any other source of income to meet the debt payments. Not all authorities, however, have the power to tax. Municipalities also issue certificates of participation where securities are issued for large capital investments, which in turn are pledged as collateral for the issue.

Municipal obligations are generally exempt from federal taxes.

### Bank Instruments

Bank instruments typically offer a higher yield than U.S. Treasuries due to the perceived greater bank risk and lower liquidity. A distinction is made between investments with banks located in the U.S. and banks that are offshore. A deposit placed with a bank in New York City will be considered less risky and will, therefore, pay a lower rate of interest than a deposit placed with that same bank's Cayman Island or London branch. The following are some of the principal bank-issued investments.

- Time deposits. Time deposits are fixed period, fixed rate, short-term bank deposits, although banks will often allow early termination with an interest penalty. Time deposits are also known as savings accounts and certificates of deposit (CDs). Eurodollar time deposits are full liability U.S. dollar-denominated deposits in an offshore branch of a U.S. bank, a foreign bank or in an International Banking Facility (IBF). A majority of money in the Eurodollar market is held in Eurodollar time deposits.
- Certificates of deposit. CDs are interest-bearing time deposits with maturities ranging from seven days to a few years. They are often

negotiable and sold on the secondary market. CDs are available in fixed or floating rate form. Yankee CDs are U.S. dollar-denominated CDs sold by foreign banks in the US. Banks outside the United States issue Eurodollar CDs.

- Bankers' acceptances (BAs). BAs are short-term bank obligations that arise from a commercial trade transaction. BAs facilitate loans particularly between importers and investors. They arise when a loan is made by a bank in the form of a short-term negotiable discount time draft drawn on and accepted by the issuing bank. BAs usually arise from a letter of credit transaction; see Chapter 7. The bank sells the instrument to investors in the secondary market at a discount and accepts the responsibility for repaying the loan, thus shielding the investor from importer default risk. In the U.S., most BAs are issued for less than 180 days in order to remain eligible for discount treatment at the Fed.
- Repurchase agreements (repos). Repos are transactions between the dealer (a securities dealer or bank investment department) and the investor. The dealer sells a security to the investor with an agreement to repurchase the security on a certain date in the future at a predetermined price, usually the next day. The custody arrangements used with repos are important in assessing overall risk of the investment. Repos may become unsecured transactions if the investor does not have a secured interest in the collateral. In addition to the dealer risks, the investor also has the additional risk in the value of the collateral dropping below the value of the repo.
- Sweeps. Sweep accounts were introduced in the 1980s to overcome the Regulation Q prohibition on paying interest on corporate demand deposit accounts; see Chapter 8. Transaction balances in DDAs are swept on an overnight basis into an interest bearing account. These balances are often maintained offshore to increase returns or invested in overnight repos. Balances are returned to the DDA as the first transaction of the following day.

The rate paid on sweep accounts is usually fairly low, reflecting the late notice and overnight nature of the funds. There is often a charge for a sweep account and sometimes only the excess over a required target balance is swept. However, sweeps offer the cash manager the opportunity to earn a return on otherwise idle funds and the rates will usually be higher than the alternative earnings credit rate (see Chapter 8).



## Corporate Instruments

Although corporate obligations are considered to have a higher risk of default than government or bank instruments, many of these risks can be mitigated using credit-enhancement techniques. Some of the obligations considered to be most suitable for short-term investment portfolios are:

- Commercial paper (CP). Commercial paper is an unsecured promissory note, issued for a specific amount and repayable on a specific date in the future. To avoid registration with the Securities and Exchange Commission, maturities can be from 1 to 270 days, although most CP is issued for 180 days or less. CP issues are often sold on a revolving basis, renewable at each maturity date. Sales are either directly to investors or through dealers, such as banks and securities companies.
- Preferred stock. Preferred stock allows a company to benefit from the intercorporate dividend deduction. Provided a stock is purchased before the ex-dividend date and is held, unhedged, for a minimum of 45 days, the corporate investor can exclude up to 70% of dividends received from income.
- Money market mutual funds (MMF). MMFs are large pools of short-term financial instruments, from which shares are sold to investors. One of the greatest benefits of MMFs is that they allow investors to earn money market yields for small individual amounts of investment. MMFs are typically highly liquid and diversified, and can respond quickly to market changes to provide investors with above average yields.

## Interest Rates

Most short-term investment issues (other than U.S. governments) are rated by one of the credit rating agencies, e.g. Moody's or Standard & Poor's. The rating reflects the creditworthiness of the issuer, the amount being raised given existing debt, collateral or backup credit facilities, and the general level of interest rates. Besides the issuer default risk, a number of other factors influence the overall rate or yield on an instrument. When deciding between various investment options, the cash manager needs to convert all of the rate information to an annualized yield so that the returns are comparable.

After default risk, the most important factors influencing rates are:

- Term. Length of time to maturity. Longer-term instruments are perceived as carrying greater risk of volatility than shorter-term due

to the potential deterioration in value of the future stream of interest and the principal payments due to inflation.

- Depth of the market. Active markets are more attractive and investments are easier to sell than those in thinly traded markets.
- Tax status. Some investments are paid on a tax-free or partially tax-exempt basis. Yields must be adjusted to reflect the tax effect.
- Yearly basis. A year is calculated on a 360 or 365-day basis. Short-term instruments one year or less are often calculated on the basis of 360 days. Longer-term investments usually use 365 days. A 365-day basis provides a higher yield.
- Discount or interest bearing. Discount instruments will have a higher yield factor than the stated discount rate or simple interest rate.
- Compounding or simple interest. Instruments that compound interest have a higher effective yield than simple interest investments.

### Issues in Short-Term Investing

The cash manager has three objectives when investing funds in short-term instruments:

- Retaining value. Protecting the principal amount is the primary objective of a cash manager. Temporary short-term surpluses need to be invested in instruments that have little or no risk of losing value. The company's investment policy will specify acceptable instruments and level of risk. Most cash managers will be conservative in investing liquidity reserves.
- Raising cash quickly. The second objective of short-term investing is to ensure that there is sufficient liquidity to cover the company's financial obligations. This means having a reserve of assets that can be converted into cash, quickly and without significant loss in value. To accomplish this objective, the investment market needs to be active and deep, i.e., with many buyers and sellers at any moment in time.
- Realizing income. The third objective is to optimize the return on any short-term surpluses. Investment guidelines will identify the level of risk that a company is prepared to tradeoff for higher returns.

## In the Real World

Robert Citron, the ex-treasurer for Orange County in California, made headlines by investing the county's liquidity funds in high risk, volatile derivative instruments. Their lack of liquidity cost the county \$1.7 billion, plunging it into bankruptcy late in 1994. The irony is that eventually the investments returned a handsome profit, but derivatives are an inappropriate vehicle for liquidity reserves.

## Investment Policies

Most companies have written policies that clearly define the parameters of acceptable risks, instruments, counterparties and maturities for investments. These guidelines establish a company's position between risk aversion and profit potential. Each company will have a different profile reflecting its appetite for risk and expectations on return.

A committee made up of senior managers will normally draft an investment policy. Exhibit 5.5 outlines the issues that an investment policy should address.

There should also be a provision for a periodic review of the policy to reflect current market conditions and Board of Directors' concerns.

EXHIBIT 5.5  
Investment Policy Guidelines

Investment objective	What is the company's acceptable level of risk and yield, and in particular, the importance of yield given the safety of principal and liquidity?
Investment authority	Who within the company is authorized to implement the above policy, make investments on behalf of the company, and to what limits, and in which instruments?
Audit trails	What type and frequency of reporting and audit trails will be required to monitor compliance with the investment policy?
Permitted or restricted instruments	Which investment instruments (bank, corporate or government issues) are permitted or prohibited in the portfolio? What is the accepted credit quality and marketability?
Maturity	What maturities are acceptable in terms of risk and liquidity?
Diversification of investments	What are the maximum allowable positions in different types of investments, with regard to issuers, industry, and country of issuer?
Counter parties	Who are the acceptable dealers and issuers with whom the company is prepared to deal and in what amounts?
Safekeeping	What custodial arrangements are required, both to safeguard the company's investment and to facilitate audit requirements?

Passive and Active Strategies

A cash manager can choose to take a passive or active approach to managing short-term investments.

- A *passive* strategy, often used by smaller companies, involves matching maturities to the timing of when funds will be needed; or using a sweep account, where the funds are invested automatically on an overnight basis. Both of these approaches are very conservative and may not maximize investment returns.
- An *active* strategy, used by larger companies, can increase yield. However, there is more risk to the principal as well as higher costs. An example of an active strategy is riding the yield curve, which

involves mismatching the maturity date to the time when funds will be needed to take advantage of the differences in rates at varying maturities.

Exhibit 5.6 illustrates two types of yield curve: a normal curve, where interest rates rise as the maturity date extends; and an inverted yield curve, where interest rates are higher in the short-term than in the long-term.

[Insert Exhibit 5.6 here]

Inverted yield curves are usually short-lived and self-correcting; although in recent times there have been examples of inverted yield curves lasting for more than a year. Using an active approach to investment in a normal curve environment, a cash manager with a temporary surplus for six months can place the money for one year to earn the higher rate of interest, and then sell after six months. In an inverted yield curve market, the cash manager will place the funds for one month and keep reinvesting through the six-month period.

In both cases, the strategy is most successful if the market is stable and the shape of the yield curve constant. In the first example -- the normal curve -- there is a danger that if interest rates rise, the price (and liquidation value) of the instrument will fall. In the second example -- the inverted yield curve -- the cash manager may find that when it is time to reinvest the funds that the curve has normalized and short-term rates are lower than the long-term rates.

### In the Real World

The majority of small to medium-sized companies find that sweeps are the most cost-effective way to invest surplus cash. Active management is both time consuming and expensive. Sweeps have a small administrative monthly charge (usually between \$100- \$150) and are an entirely automated bank service. Before making any investment decisions, the cash manager needs to determine whether this is really the best use of the funds. Paying down debt may be the optimal use of temporary surpluses.

### Borrowing

The cash manager's responsibilities include ensuring that there are sufficient unused borrowing facilities in place to cover any temporary shortfalls in working capital. These facilities are an essential part of the liquidity management equation.

The need to borrow will be influenced by seasonal factors, the timing of cash flows, and general business conditions. If the cash forecasting of these elements has been accurate, the cash manager will be positioned to make arrangements well in advance and at favorable rates.

In addition to arranging for adequate credit to be available, the cash manager has also to ensure that the terms are not onerous as to restrictions and covenants, and that the cost is reasonable. Just as the cash manager has many options to consider in investing funds, there are a large number of choices for funding. The optimal selection depends on the exact requirements and use of the funds.

### Lines of Credit

The most important form of borrowing facility is a line of credit. The borrower has access to a defined amount of money over a specific period of time. The cost of a credit line depends on a number of factors, primarily the bank's assessment of the company's financial health.

The characteristics of a line of credit are:

- Unsecured or secured. In order to reduce assessed risk and consequently, the cost of a line of credit, the lender might require some form of collateral, such as a company's accounts receivable. Unsecured lines are uncollateralized and are, therefore, more expensive.
- Committed or uncommitted. With a committed line of credit, the lender is obligated to make the funds available upon demand as long as the borrower meets all the conditions and terms of the agreement. An uncommitted line is a less formal agreement, with the lender under no obligation to make funds available when requested. Uncommitted lines are best used for occasional needs and for very short periods when other sources of funding are also available. An uncommitted line will be less expensive than a committed one, which will often include a commitment fee payable whether the line is used or not.
- Revolving. The borrower can continuously borrow and repay up to the credit limit during the life of the loan.
- Clean-up period. Because lines of credit are intended for use as short-term funds, lenders often require that loans be repaid in their entirety for one or two months, called the "clean-up period". This is

to prove that credit lines are not being used as part of the company's long-term funding.

### Other Credit Facilities

Other sources of short-term credit include:

- Commercial paper. A company that has a sufficiently high credit rating can go directly to the money market to issue commercial paper (CP). CP is a promissory note issued for a specific amount for a period ranging from one to 270 days. Publicly traded issues are usually rated by the major credit rating agencies; privately placed CP is not. Costs of CP include the broker/dealer fee and the expense for any credit enhancement, such as a standby letter of credit.
- Asset-based financing. When unsecured lending is not feasible, companies have a variety of asset-based borrowing to consider. Usually, the lender will finance only a percentage of the value of the assets. There are two major types of asset-based financing:
  - Accounts receivable. Accounts receivable may be used for asset-based financing, commonly known as “factoring”, with or without recourse.
    - With recourse: the lender provides financing on the receivable and collects from the customer. If the customer defaults, the borrowing company is liable for that portion of the loan. The cost is low because the borrower accepts all risk. The factor pays the borrower about 96-97% of the billed price, collects 100%, and pockets the difference as a fee for the loan.
    - Without recourse: the lender collects from the customer and accepts the risk of default. The effective cost of the loan is considerably higher because the lender has significantly greater risk.
  - Inventory financing. Loans are secured by the pledge of inventory. One specialized type of inventory financing is floor planning which is used to support the inventory of dealers who sell high-ticket durable goods, such as farming equipment and automobiles.

- Asset-backed securities. Securitization can help a company obtain inexpensive credit and improve its financial ratios by providing off-balance sheet financing. A pool of receivables with a predictable cash flow e.g., mortgages, loans, leases, can be used to support the issue of debt securities .The cash flow pays the interest charges and is used to retire the security issue. Asset-backed securities are less expensive than bank loans and broaden the market for a company's debt. However, there are various costs in using securitization: attorneys and accountants to prepare the agreements and filings; investment bankers to place the transaction; and income servicers to collect payments and remit to investors.

### Tips and Techniques

Before borrowing from external sources, a cash manager should also explore all internal sources of funds. These could include increasing sales, accelerating accounts receivable and collections, reducing inventory, improving accounts payable management, reducing expenses and selling non-essential assets.

The factors that influence the final cost of borrowing include:

- Credit risk. The perceived risk of default by the borrower will determine the interest cost at which a lender will lend funds.
- Rate basis. Loans are often priced as a spread above a certain index rate. Some of the common index rates used are the prime rate (traditionally the rate at which U.S. banks lend money to their most creditworthy clients); the London Interbank Rate (LIBOR, set in London on a daily basis); or federal funds (the rate at which commercial banks lend excess reserves to each other as set by the Federal Reserve).
- Fixed or variable. Depending on current and expected future market conditions, a rate can be fixed for the entire time of the loan, or be adjusted at regular intervals.
- Tax basis. Interest paid on debt is usually deductible from income, reducing the effective overall cost of debt.
- Number of days: 360 or 365. A 365 basis will result in a higher cost of debt.
- Maturity. Under normal yield curve conditions, borrowers will pay more for longer-term debt.
- Discount or interest bearing. Discount instruments result in less available funds at the outset of the loan but an equivalent amount of interest over the life of the instrument.
- Secured or unsecured. Collateralized borrowing will result in lower fees.



- Credit enhancement. The cost of adding a backup line of credit or standby letter of credit can add significant cost to the financing.
- Credit rating. The issuing company pays the cost of the credit rating valuation.
- Other fees and costs. Many instruments have additional dealer or broker fees. Some banks will require an interest-free compensating balance.

The cash manager must factor in all of the elements that impact the cost of borrowing to make a fair assessment of the total cost of short-term debt.

### Summary

Managing liquidity is vital to a company's financial health. The first step is to find an appropriate forecasting system, suitable for the business and for the time horizon. The selection will also be governed by the type of information that is readily, and reliably available. The more accurately the cash manager is able to analyze historical trends and project them in the light of the current environment, the better prepared the company will be to manage excesses when they occur, make them part of the liquidity reserve and available to fund the shortfalls when necessary. Provision should also be made for adequate external sources of funding.

Ann developed a series of short-term forecasts to help her better manage the centralized liquidity in the company. By estimating the shortfalls for GETDOE's seasonal businesses, she is now able to cover the deficits in the cash poor divisions with excess cash in others. She was also able to put lines of credit in place at acceptable terms to cover the eventuality of a shortfall. To her surprise, Ann discovered that the company has excess temporary surpluses that are now being invested according to the policy developed by Bill and the management committee.