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TREASURY MANAGEMENT

The Practitioner's Guide

STEVEN M. BRAGG

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WILEY

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Preface

A treasurer has a broad range of responsibilities in the modern corporation, ranging from cash management to risk management. Further, the treasurer is responsible for the proper movement of potentially large amounts of funds and the construction of hedges, which call for the integration of a comprehensive set of controls into a broad-based procedural framework. *Treasury Management: The Practitioner's Guide* shortens the treasurer's learning curve for all aspects of the position, with chapters clustered into the general categories of cash management, financing, risk management, and treasury systems.

The book is divided into four sections. In Part One, we address the various methods by which a company transfers cash, both on paper and by electronic means, and then show how to create a cash forecast and monitor its accuracy. We then cover several methods for aggregating cash from a multitude of locations, so that funds can be more effectively dispositioned. Finally, a separate chapter addresses the components of working capital and how they may be altered, thereby impacting cash flow planning.

In Part Two, we cover what the treasurer does to raise debt and equity, as well as how to invest funds. This includes a discussion of the various kinds of debt and key characteristics of each one, how to deal with credit rating agencies, and the intricacies of equity offerings. The coverage of investments includes investment criteria, types of available investments, and investment and risk reduction strategies.

Part Three addresses an increasingly important aspect of the treasurer's responsibilities, which is risk management. This includes the objectives and strategies of both interest rate and foreign exchange risk management, as well as the available risk mitigation tools that are available to the treasurer.

Finally, Part Four describes the technology that drives many treasury transactions. This includes an overview of the clearing and settlement systems used in the United States, the functions of a treasury management

system, and a discussion of how corporations can access the Society for Worldwide Interbank Financial Telecommunication (SWIFT) network.

These chapters are liberally sprinkled with examples to clarify concepts. Particular attention has also been paid to the specific accounting requirements of key treasury transactions, as well as related controls, policies, and procedures, with the intent of providing a treasurer with a complete framework for setting up and operating the treasury department.

The book answers a multitude of questions involved in running a treasury department, such as:

- How do I calculate the cost-effectiveness of a lockbox?
- How do I create a cash forecast?
- How do I set up a cross-border cash pool?
- How does notional pooling work?
- What policy changes can I implement to alter the investment in working capital?
- How can I securitize my accounts receivable?
- What types of exemptions are available from the stock registration rules?
- How do I set up a tranching cash flow strategy?
- How do I integrate risk mitigation into my investment strategy?
- How do I use forwards, futures, swaps, and options within my hedging strategy?
- How does the continuous link settlement system reduce settlement risk?
- What features should I look for in a treasury management system?

In short, *Treasury Management: The Practitioner's Guide* is the ideal sourcebook for the mechanics of how to run all aspects of the modern treasury department.

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Centennial, Colorado

About the Author

Steven Bragg, CPA, has been the chief financial officer or controller of four companies, as well as a consulting manager at Ernst & Young and auditor at Deloitte & Touche. He received a master's degree in finance from Bentley College, an MBA from Babson College, and a bachelor's degree in economics from the University of Maine. He has been the two-time president of the Colorado Mountain Club and is an avid alpine skier, mountain biker, and certified master diver. Mr. Bragg resides in Centennial, Colorado. He has written the following books:

Accounting and Finance for Your Small Business

Accounting Best Practices

Accounting Control Best Practices

Accounting Policies and Procedures Manual

Advanced Accounting Systems

Billing and Collections Best Practices

Business Ratios and Formulas

Controller's Guide to Costing

Controller's Guide to Planning and Controlling Operations

Controller's Guide: Roles and Responsibilities for the New Controller

Controllershship

Cost Accounting

Essentials of Payroll

Fast Close

Financial Analysis

GAAP Guide

GAAP Policies and Procedures Manual

GAAS Guide

Inventory Accounting

Inventory Best Practices

Investor Relations

Just-in-Time Accounting

Management Accounting Best Practices

Managing Explosive Corporate Growth

Mergers and Acquisitions

Outsourcing

Payroll Accounting

Payroll Best Practices

Revenue Recognition

Run the Rockies

Running a Public Company

Sales and Operations for Your Small Business

The Controller's Function

The New CFO Financial Leadership Manual

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PART ONE

CASH MANAGEMENT

1

Treasury Department

The treasury department is responsible for a company's liquidity. The treasurer must monitor current and projected cash flows and special funding needs, and use this information to correctly invest excess funds, as well as be prepared for additional borrowings or capital raises. The department must also safeguard existing assets, which calls for the prudent investment of funds, while guarding against excessive losses on interest rates and foreign exchange positions. The treasurer needs to monitor the internal processes and decisions that cause changes in working capital and profitability, while also maintaining key relationships with investors and lenders. This chapter explores these and other responsibilities of the treasury department, as well as such key issues as treasury centralization, bank relations, outsourcing, and performance metrics.

ROLE OF THE TREASURY DEPARTMENT

Ultimately, the treasury department ensures that a company has sufficient cash available at all times to meet the needs of its primary business operations. However, its responsibilities range well beyond that single goal. It also has significant responsibilities in the following areas:

- *Cash forecasting.* The accounting staff generally handles the receipt and disbursement of cash, but the treasury staff needs to compile this information from all subsidiaries into short-range and long-range cash forecasts. These forecasts are needed for investment purposes, so the treasury staff can plan to use investment vehicles that are of the correct duration to match scheduled cash outflows. The staff also uses the forecasts to determine when more cash is needed, so that it can plan to acquire funds either through the

use of debt or equity. Cash forecasting is also needed at the individual currency level, which the treasury staff uses to plan its hedging operations. This topic is covered in Chapter 3, Cash Forecasting.

- *Working capital management.* A key component of cash forecasting and cash availability is working capital, which involves changes in the levels of current assets and current liabilities in response to a company's general level of sales and various internal policies. The treasurer should be aware of working capital levels and trends, and advise management on the impact of proposed policy changes on working capital levels. This topic is addressed in Chapter 5, Working Capital Management.
- *Cash management.* The treasury staff uses the information it obtained from its cash forecasting and working capital management activities to ensure that sufficient cash is available for operational needs. The efficiency of this area is significantly improved by the use of cash pooling systems. This topic is addressed in Chapter 4, Cash Concentration.
- *Investment management.* The treasury staff is responsible for the proper investment of excess funds. The maximum return on investment of these funds is rarely the primary goal. Instead, it is much more important to not put funds at risk, and also to match the maturity dates of investments with a company's projected cash needs. This topic is addressed in Chapter 8, Investment Management.
- *Treasury risk management.* The interest rates that a company pays on its debt obligations may vary directly with market rates, which present a problem if market rates are rising. A company's foreign exchange positions could also be at risk if exchange rates suddenly worsen. In both cases, the treasury staff can create risk management strategies and implement hedging tactics to mitigate the company's risk. This topic is addressed in Chapter 9, Foreign Exchange Risk Management, and in Chapter 10, Interest Risk Management.
- *Management advice.* The treasury staff monitors market conditions constantly, and therefore is an excellent in-house resource for the management team should they want to know about interest rates that the company is likely to pay on new debt offerings, the availability of debt, and probable terms that equity investors will want in exchange for their investment in the company.
- *Credit rating agency relations.* When a company issues marketable debt, it is likely that a credit rating agency will review the company's financial condition and assign a credit rating to the debt. The treasury staff responds to information requests from the credit agency's

review team and provides it with additional information over time. This topic is addressed in Chapter 6, Debt Management.

- *Bank relationships.* The treasurer meets with the representatives of any bank that the company uses to discuss the company's financial condition, the bank's fee structure, any debt granted to the company by the bank, and other services such as foreign exchange transactions, hedges, wire transfers, custodial services, cash pooling, and so forth. A long-term and open relationship can lead to some degree of bank cooperation if a company is having financial difficulties, and may sometimes lead to modest reductions in bank fees. This topic is addressed further in the Bank Relations section of this chapter.
- *Fund raising.* A key function is for the treasurer to maintain excellent relations with the investment community for fund-raising purposes. This community is composed of the *sell side*, which are those brokers and investment bankers who sell the company's debt and equity offerings to the *buy side*, which are the investors, pension funds, and other sources of cash, who buy the company's debt and equity. While all funds ultimately come from the buy side, the sell side is invaluable for its contacts with the buy side, and therefore is frequently worth the cost of its substantial fees associated with fund raising. This topic is addressed in Chapter 6, Debt Management, and Chapter 7, Equity Management.
- *Credit granting.* The granting of credit to customers can lie within the purview of the treasury department, or may be handed off to the accounting staff. This task is useful for the treasury staff to manage, since it allows the treasurer some control over the amount of working capital locked up in accounts receivable. This topic is addressed in Chapter 5, Working Capital Management.
- *Other activities.* If a company engages in mergers and acquisitions on a regular basis, then the treasury staff should have expertise in integrating the treasury systems of acquirees into those of the company. For larger organizations, this may require a core team of acquisition integration experts. Another activity is the maintenance of all types of insurance on behalf of the company. This chore may be given to the treasury staff on the grounds that it already handles a considerable amount of risk management through its hedging activities, so this represents a further centralization of risk management activities.

Clearly, the original goal of maintaining cash availability has been expanded by the preceding points to encompass some types of asset management, risk management, working capital management, and the lead role

in dealing with banks and credit rating agencies. Thus, the treasury department occupies a central role in the finances of the modern corporation.

TREASURY CONTROLS

Given the large sums of cash involved in many treasury transactions, it is important to have a broad set of controls that help to ensure that transactions are appropriate. The following chapters contain sections on controls related to those chapter topics. At a more general level, it is critical that duties be properly *segregated* among the treasury staff, so that anyone concluding a deal never controls or accounts for the resulting cash flows. For example, trading activities should be separated from confirmation activities, so that someone fraudulently conducting illicit trades cannot waylay the confirmation arriving from the counterparty. In addition, a senior-level treasury manager should approve all trades, yet another person (possibly in the accounting department, in order to be positioned out of the departmental chain of command) should reconcile and account for all transactions.

It is also useful for someone outside of the trading function to regularly compare brokerage fees or commissions to reported transactions, to see if there are any unauthorized and unrecorded trades for which the company is paying fees.

Treasury is also an excellent place to schedule internal audits, with the intent of matching actual transactions against company policies and procedures. Though these audits locate problems only after they have occurred, an adverse audit report frequently leads to procedural changes that keep similar problems from arising in the future.

In addition to segregation controls and internal auditing, the treasurer should impose *limit controls* on a variety of transactions. These limits can prohibit or severely restrict the treasury staff from investing in certain types of financial instruments (such as some types of financial derivatives) that present an unduly high risk of capital loss. Another limitation is on the amount of business a company chooses to do with a specific counterparty, which is designed to reduce company losses in the event of a counterparty failure. Limitations can also apply to certain currencies if there appears to be some risk that a country's leaders may impose currency controls in the near future. Finally, there should be monetary caps on the transaction totals to which anyone in the treasury department can commit the company. Even the treasurer should have such a limitation, with some major transactions requiring the approval of the company president or board of directors.

The controls noted here are only general concepts. For more detailed itemizations of specific controls, please refer to the Controls sections of each of the following chapters.

Exhibit 1.1 Treasurer Job Description

Reports to: CFO

Basic function: This position is responsible for corporate liquidity, investments, and risk management related to the company's financial activities.

Principal accountabilities:

1. Forecast cash flow positions, related borrowing needs, and available funds for investment.
2. Ensure that sufficient funds are available to meet ongoing operational and capital investment requirements.
3. Use hedging to mitigate financial risks related to the interest rates on the company's borrowings, as well as on its foreign exchange positions.
4. Maintain banking relationships.
5. Maintain credit rating agency relationships.
6. Arrange for equity and debt financing.
7. Invest funds.
8. Invest pension funds.
9. Monitor the activities of third parties handling outsourced treasury functions on behalf of the company.
10. Advise management on the liquidity aspects of its short- and long-range planning.
11. Oversee the extension of credit to customers.
12. Maintain a system of policies and procedures that impose an adequate level of control over treasury activities.

TREASURER JOB DESCRIPTION

Within the organizational hierarchy, the treasurer usually reports to the chief financial officer (CFO). The treasurer's job description, as noted in Exhibit 1.1, essentially establishes responsibility for the tasks noted in the preceding sections.

POSITION OF TREASURY WITHIN THE CORPORATE STRUCTURE

In a small company, there is no treasury department at all, nor is there a treasurer. Instead, treasury responsibilities are handled by the accounting

department and are under the supervision of the controller. This is an adequate situation if there are just a few bank accounts, foreign exchange exposures are minor, and there is not an excessive need for investment or borrowing expertise. However, as a company grows, the need for a specialized treasury staff increases. This typically begins with a treasurer, who personally handles all of the responsibilities of the department, and gradually includes specialized staff to handle more complex transactions, such as cash pooling and hedging. Personnel are added either as transaction volume increases or when management decides to centralize more activities under the treasurer, as described in the next section.

Once the treasurer position is created, the treasurer usually reports directly to the CFO, and may also be asked to deliver occasional reports to the board of directors or its various committees.

TREASURY CENTRALIZATION

The treasury department deals with a number of highly regimented processes, which are noted in the Procedures sections of each of the following chapters. Given the very large amounts of funds that the treasury incorporates into its transactions, it is critical that all procedures be performed precisely as planned and incorporating all controls. Procedural oversight is much easier when the treasury function is highly centralized and progressively more difficult when it is distributed over a large number of locations. Centralization is easier, because transactions are handled in higher volumes by a smaller number of highly skilled staff. There is generally better management oversight, and the internal audit staff can review operations in a single location more easily than in a distributed environment. Further, treasury activities frequently involve complicated terminology that is incomprehensible to nontreasury specialists, so it makes sense to centralize operations into a small, well-trained group.

Another reason for using treasury centralization is the presence of an enterprise resources planning (ERP) system that has been implemented throughout a company. An ERP system processes all of the transactions used to run all key operations of a company, so all of the information needed to derive cash forecasts and foreign exchange positions can be derived from a single system. If this system is available, then a centralized treasury group will find that all of the in-house information it requires is available through the nearest computer terminal. Conversely, if a company has many subsidiaries, each of which uses its own ERP or accounting system, then it becomes increasingly difficult for a centralized treasury staff to access information. Instead, it may make more sense to assign a small treasury staff to each subsidiary that is an expert in using the local system to extract information.

Exhibit 1.2 Stages in Treasury Centralization

Stage 1: Complete decentralization	Individual locations manage their own bank accounts, foreign exchange transactions, customer credit, payables, borrowings, and investments.
Stage 2: Centralized netting and hedging	A central staff nets payments between subsidiaries and hedges major foreign exchange and interest rate risks. Local locations still manage their own bank accounts, customer credit, payables, borrowings, and investments.
Stage 3: Centralized investments	In addition to prior centralization, a central treasury staff consolidates and manages all bank accounts, including pooling of funds and investment of those funds. Local locations still manage customer credit and payables.
Stage 4: Centralized working capital management	In addition to prior centralization, the central treasury staff centralizes credit granting and uses a payment factory for centralized payables management.

If a company operates in just one or a small number of countries, then banking relationships are relatively few, and can be handled by a centralized staff. However, if it operates in a multitude of countries, especially in developing countries where there may be currency controls, then there is a greater need for local treasury staff that can maintain local banking relationships and monitor local regulations that may impact treasury operations.

The preceding discussion certainly favors a centralized treasury function. However, in a company's early years, it is common to pass through a series of phases, where centralization gradually occurs over time. Exhibit 1.2 shows some typical stages in the gradual transition from dispersed to centralized treasury functions.

The transition from Stage 1 to Stage 2 may be triggered by a large loss on a foreign exchange position that could have been prevented by a proper hedge transaction, while the additional transition to Stage 3 usually arises when it becomes apparent that the increased scale of company operations has resulted in so many bank accounts that cash is not being effectively pooled and invested. In Stage 3, it is common to first create local cash pools by country, then to progress to an international cash pool in order to further aggregate cash for investment purposes. Stage 4 involves the complete integration of the accounts receivable and payable portions of working capital into the treasury department. In many companies, there is considerable resistance to Stage 4, on the grounds that working capital should remain under the control of local managers, and that centralization calls for the

prior installation of an enterprise resources planning system. Thus, many companies stop at Stage 3 and do not fully centralize their treasury activities.

Even a fully centralized treasury department may find that it needs to maintain a regional treasury center in the major time zones in which it operates, so that some treasury personnel are always available during the business hours of subsidiaries located in their regions. This typically means that a company operates a regional treasury center in one of the major money center cities of the European time zones, such as Amsterdam, Brussels, London, or Zurich. Similarly, a treasury center in Chicago or New York can cover the American time zones, while an office in Singapore or Tokyo can address the needs of the Asian time zones.

Consequently, treasury centralization is usually a gradual process that progresses through several decision points as a company increases the geographic scope and scale of its operations.

TREASURY COMPENSATION

The treasury staff should not operate under a bonus plan that issues compensation based on unusually high rates of return on investment, nor for gains from active speculation in other currencies. A company's board of directors should be much more interested in conserving a company's excess cash than in putting it at risk in exchange for the possibility of improving returns by a few percentage points. Thus, it makes considerably more sense to create a compensation plan that rewards the treasury staff for its exact adherence to a detailed set of investment guidelines.

If anything, risky investment activities should result in the *opposite* of a bonus—censure and possibly termination—even if the activities resulted in outsized earnings for the company.

BANK RELATIONS

A key part of the treasury's responsibilities includes the management of a company's banking relationships. A large company may deal with dozens of banks, so it makes sense for the treasurer to gradually reduce the total number of banks with which the treasury department transacts business. By doing so, the relationship task can be refined down to only a core group of key banks. The following subsections note key aspects of bank relations.

Relationship Bank Relations

The treasurer is responsible for maintaining relations with a company's banks. There may be a number of banks to deal with, but the most critical

one is a company's *relationship bank*. This is a company's designated long-term partner, with whom the company does the bulk of its business. The bank maintains its checking and zero-balance accounts there, and may have negotiated overdraft privileges, cash pooling, and a line of credit and possibly long-term debt. A company may rely heavily on a high-quality relationship bank, so the treasurer should maintain frequent and open discussions with his counterpart at this bank.

The treasurer should be thoroughly familiar with the monthly account analysis statement that is provided by the company's bank, since it itemizes the company's transactions with the bank and the cost of the bank's processing of those transactions and other services.

Bank Account Analysis

The treasurer should receive an account analysis statement from each of the company's banks shortly after the end of each month. The statement contains a summarization of the bank's fees for services rendered and the company's usage volume for each of those fees. Fee structure will vary by bank. Exhibit 1.3 shows a rough breakdown of the types of fees to be expected.

Exhibit 1.3 Types of Fees

General Category	Services Provided
General account services	Monthly account fees for checking, zero-balance, and concentration accounts, as well as the account analysis statement fee.
Depository services	Fees on an individual basis for domestic deposits, international deposits, scanned checks, electronic payment direct sends, and fees for the electronic clearing agent. If a check scanner is used, there is also a monthly fee for that service.
Paper disbursement services	Fees on an individual basis for paper checks paid.
General ACH services	Fees on an individual basis for ACH debit and credit transactions.
Wire and other funds transfer services	Fees on an individual basis for both incoming and outbound wire transfers. There may also be a monthly fee to maintain an on-line wire transfer capability.
Information services	Monthly fee to provide reporting services, to which may be added line item fees for each transaction listed in the reports.
Investment/custody services	Monthly investment sweep fee.

In addition, the account analysis statement contains an analysis of an *earnings credit allowance*, which is used to offset service charges. It is calculated using a monthly earnings credit rate, multiplied by the average collected balance in the account for the month. Because the earnings credit rate is low, the amount of credit earned to offset service charges will be minimal, unless the treasurer chooses to retain large cash balances in the account. Also, the earnings credit allowance can be used only to offset service charges incurred in the reporting period. If the earnings credit is higher than the service charges, then the company loses any unused earnings credit. Since any other type of investment carries a higher interest rate than the earnings credit allowance, it is generally better to shift funds to an investment account elsewhere and simply pay the bank its service charges.

The treasurer should compile the per-unit and per-month charges listed in the account analysis statement, and use this information to periodically conduct a comparison to the fees charged by other competing banks. While it is quite time-consuming to switch a company's account-level banking business to a new bank, the analysis can be useful for negotiating down those existing fees having the largest impact on the company's total service charges.

Bank Account Management

One of the most inefficient activities in bank relations is maintaining up-to-date lists of bank account signatories—that is, authorized check signers. The typical bank requires not only a signature card containing the signatures of all signatories, but also a board resolution approving the check signers. Further, each bank wants the same information, but in a different format, so there is no way to standardize the reporting required by each bank. This can be a real problem when a company has hundreds of bank accounts that are spread among multiple banks, since ongoing personnel turnover is bound to result in a continuing authorization updating process. There are more efficient methods being discussed for electronic bank account management (eBAM), but these discussions have only just begun to translate into commercial products. In the meantime, the treasury staff should have a quarterly procedure to review and update authorized signatories.

In addition to signatory management, the treasury staff must integrate information from bank accounts into its treasury management system, so that it has immediate access to bank transactional information. This integration process can take months to set up communication channels, exchange encryption and signing keys, configure formats, and test the interface. Given the large number of bank accounts used by larger companies, and ongoing account turnover, a treasury staff is constantly monitoring the progress of these integration efforts by its information technology staff.

Loan Covenants

The treasurer should have an excellent knowledge of the loan covenants imposed on the company by its banks, and be in frequent communication with them regarding any approaching covenant violations. A treasurer who spends considerable time with his banking counterparts is much more likely to be granted a waiver of a covenant violation than one who suddenly springs a violation on bankers whom he barely knows. However, a prolonged violation is likely to yield additional covenants, higher fees, or an interest rate increase. Also, if a loan was originally priced below the market rate, a lender will more likely impose fees in response to a covenant breach, simply to improve its rate of return on the loan.

Another factor related to covenant violations is the length of a company's relationship with a lender. If the treasurer dropped the offer of a relationship bank in favor of lower-priced offer from a new lender, he may find later that the new lender set tight covenants in hope of a violation, so that it could ratchet up its fees.

Collateral

When dealing with lenders, the treasurer should use great caution in allowing company assets to be used as collateral on various loans. A lender will always attempt to maximize its access to company assets through broad-based collateral provisions, but this leaves little room for the use of those assets for additional loans at some point in the future. If a treasurer allows this situation to occur, then the result is a senior lender who has a collateral position in virtually all company assets, and any number of junior lenders whose collateral positions fall behind the senior lender's and who accordingly charge much higher rates of interest to offset their increased risk. A better scenario is to fight off demands for broad-based collateral agreements, instead of apportioning out specific assets, so that the corporate asset base can be stretched as far as possible among multiple loans. This approach requires considerable negotiation skill with bankers and is more achievable if a company is reporting excellent financial results.

TREASURY OUTSOURCING

There are several levels of outsourcing that can be applied to the treasury department, ranging from relatively minimal technology outsourcing to a broad transfer of the bulk of the department's activities to a third party.

It is possible to shift a company's treasury management system (TMS) to a third party under an application service provider (ASP) arrangement. Not only does this allow a company to eliminate the capital cost of acquiring the software and hardware needed for a TMS, but it also eliminates the need

for in-house maintenance staff to operate the system. Further, the ASP should have a considerable array of controls installed around its system to limit access, provide disaster recovery services, and so on. Many companies consider these added controls to be of considerable value, especially those public companies whose managers must personally certify their systems of internal control. Under this outsourcing scenario, the in-house treasury staff is retained, but the computer systems it uses are now accessed through the Internet, rather than through a local server.

A more expansive form of outsourcing is to retain a treasurer on the corporate staff, while shifting most other treasury functions to a third party. This means that functions such as cash flow management, foreign exchange deal execution and confirmation, cash pool management, netting, and reporting are provided by the third party. The treasurer reviews the performance of the third party against the benchmarks itemized in a service-level agreement, and sets up policies, conducts bank relations, acquires new funding, and develops the strategic direction of the department. The problem is that nearly all expertise has now left the company, which can be a problem if the company chooses to end the outsourcing arrangement and reconstitute the department in-house.

Outsourcing cannot always be proven to provide significant cost savings since the third party must also build an adequate profit into its service fee. Thus, a key reason for shifting to outsourcing may simply be that a company has experienced problems in the past with controls, transactional errors, or fraud, and so prefers to shift the function to a group of outside professionals who are presumably more competent.

Outsourcing is an especially viable option for smaller companies having smaller cash balances, banking relationships, and foreign exchange transactions. For these companies, it can be expensive to maintain a group of specialists to engage in and monitor a relatively low volume of transactions. However, as a company and its financing activities grow, it may become more cost-effective to transition the treasury function back in-house.

Treasury Metrics

Many treasury departments find that their performance falls outside of a company's normal set of performance metrics. The standard of performance is earnings before interest, taxes, depreciation and amortization (EBITDA), which essentially focuses on operational results. However, since the treasury department's primary impact is on interest expense, foreign exchange exposure, and liquidity, it does not fall within the EBITDA metric. Thus, even a stellar treasury performance may go unnoticed! The treasury department needs to look outside of EBITDA for performance measures that reveal its true effectiveness. The following subsections describe possible metrics for the treasury function.

Earnings Rate on Invested Funds

A company's investments can include interest income or an increase in the market value of securities held. The *earnings rate on invested funds* is a good measurement for tracking investment performance. To calculate it, summarize the interest earned on investments, as well as the change in market value of securities held, and divide by the total amount of funds invested. Since the amount of funds invested may fluctuate substantially over the measurement period, this can be an average value. The amount of interest earned should not be based on the actual interest paid to the company, but rather on the accrued amount (since the date of actual payment may fall outside of the measurement period). The formula is as follows:

$$\frac{\text{Interest Earned} + \text{Increase in Market Value of Securities}}{\text{Total Funds Invested}}$$

Example

The Rake and Mow Garden Centers corporate parent is earning a considerable return from its chain of small-town garden centers. Its treasurer wants to know its earnings rate on invested funds during the past year. It had \$5,500,000 of invested funds at the beginning of the year and \$6,200,000 at the end of the year. It earned \$75,000 in interest income, and had a net gain of \$132,000 on its short-term equity investments. Its total earnings rate on invested funds was as follows:

$$\begin{aligned} & \frac{\text{Interest Earned} + \text{Increase in Market Value of Securities}}{\text{Total Funds Invested}} \\ = & \frac{\$75,000 \text{ Interest Earned} + \$132,000 \text{ Increase in Market Value of Securities}}{(\$5,500,000 + \$6,200,000)/2} \\ & = \underline{\underline{3.5\%}} \text{ Earnings Rate on Invested Funds} \end{aligned}$$

A company can place too great a degree of reliance on this measurement, resorting to increasingly risky investments in order to achieve a higher earnings rate. The board of directors must realize that a reasonable, but not spectacular, amount of return is perfectly acceptable, because a company should also focus its investment strategy on other goals, such as liquidity and minimal loss of principal, which tend to result in lower rates of return. Thus, the rate of return metric must be evaluated alongside a summary of the *types* of investments that the treasury staff engaged in to achieve the calculated results.

Borrowing Base Usage Percentage

The *borrowing base usage percentage* is an excellent measure for keeping track of the amount of debt that a company can potentially borrow, based on that portion of its accounts receivable, inventory, and fixed assets that are not currently being used as collateral for an existing loan. A treasurer should have this information available on all standard internal accounting reports, so that the company's available debt capacity is easily available. It is particularly useful when employed within a cash budget, so that one can see at a glance not only the amount of any potential cash shortfalls, but also the ability of the company to cover those shortfalls with collateralized debt from existing assets.

To calculate the borrowing base usage percentage, multiply the current amount of accounts receivable, less those invoices that are more than 90 days old, by the allowable borrowing base percentage (as per the loan document). Then multiply the current amount of inventory, less the obsolescence reserve, by the allowable borrowing base percentage (as per the loan document). Add the results of these two calculations together and divide the sum into the amount of debt outstanding. It is also possible to include in the denominator the amount of fixed assets (net of a borrowing base percentage), but many lenders do not allow a company to use fixed assets as part of its collateral, on the grounds that fixed assets are too difficult to liquidate. The formula is as follows:

$$\frac{\text{Amount of Debt Outstanding}}{(\text{Accounts Receivable} \times \text{Allowable Percentage}) + (\text{Inventory} \times \text{Allowable Percentage})}$$

Example

The Spinning Wheel Company, maker of heirloom-quality spinning wheels, has been in a breakeven cash flow situation for a number of years. The market for its products is gradually declining, and the president is searching for alternative products that will shift the company into a more profitable situation. In the meantime, she needs to know the proportion of debt available under the company's borrowing arrangement, in order to see how much funding is available to start new lines of business. Under the terms of the loan, the borrowing base percentage for accounts receivable is 70 percent, 50 percent for inventory, and 20 percent for fixed assets. According to the company's balance sheet, it has the following assets and liabilities:

Account	Amount
Accounts receivable	\$350,000
Inventory	\$425,000
Fixed assets	\$205,000
Accumulated depreciation	-\$65,000
Loans	\$250,000